education
Department: Education
GAUTENG PROVINCE

GUIDELINES ON THE MANAGEMENT AND USAGE OF ICTs IN PUBLIC SCHOOLS IN GAUTENG

Guidelines developed by the eLearning Directorate, GDE, 2011

TABLE OF CONTENTS

GUIDELINES ON THE MANAGEMENT AND USAGE OF ICTS IN PUBLIC SCHOOLS IN GAUTENG

1. DEFINITIONS

1.1 ACRONYMS

The following acronyms have been used in this document:

TABLE 1: ACRONYMS

Abbreviation	Meaning
ACE	Advanced Certificate in Education
BEd (HONS)	Bachelor of Education, Honours Degree
CAD	Computer Aided Design
CAT	Computer Applications Technology
CD	Compact Disk
FET	Further Education and Training Band, incl Grades 10 – 12
GDE	Gauteng Department of Education
GET	General Education and Training Band, incl Grades R – 3 (Foundation Phase) Grades 4 – 6 (Intermediate Phase) Grades 7 – 9 (Senior Phase)
GoL	Gauteng-on-Line
HO	Head Office (Provincial level)
ICTs	Information and Communication Technology (including tools and methodologies)
IT	Information Technology
LTSM	Learning and Teaching Support Materials
MS	Microsoft
PC	Personal computer
SA-SAMS	South African Schools Administration Management System
SGB	School Governing Body
SMT	School Management Team

1.2 COMMON ICT TERMINOLOGY

Explanations have been provided for some of the terminology used in this document. Words and phrases have been clustered together so that concepts are understood in context.

TABLE 2: COMMON ICT TERMINOLOGY

Terminology	Meaning
Basic computer skills	*"Computer skills"* are related to the ability to use software and hardware of a computer. Basic *hardware* skills in the schools environment include: ▪ Knowing how to switch on the computer ▪ Being able to use a mouse to interact with elements on the screen ▪ Being able to use the computer keyboard ▪ Being able to close down the computer after use Basic *software* skills in the schools environment include being able to use the following: ▪ Word processor ▪ Email ▪ Spreadsheets ▪ Databases ▪ The internet
Computer literacy	Computer literacy can refer to the comfort level someone has with using computer programmes and other applications that are associated with computers. If teachers and learners are to use computers as a medium for teaching and learning, then they need a level of comfort in using the technology. "***Computer Literacy***" can also be regarded as a separate subject or learning area and the school timetable should then reflect times for classes to be in the computer laboratory or to be using other resources to specifically learn computer skills.
Basic infrastructure to support ICT	Infrastructure: "The most basic level of organizational structure in a complex body or system that serves as a foundation for the rest" The basic infrastructure to be provided by the GoL project includes: • Laboratories with 24 computers linked to a server, including a range of software (mainly MS products) and also including teacher development and ICT training courseware. • Internet connectivity with email and website capability • A call centre to provide technical support to schools • Computer literacy training to educators, administrators and learners • A central data centre to support online curriculum development • Integration of existing GDE systems and processes and the provision of integrated portal networks. • Buses (mobile laboratories) with 20 workstations, TV & satellite connectivity, powered by own generators

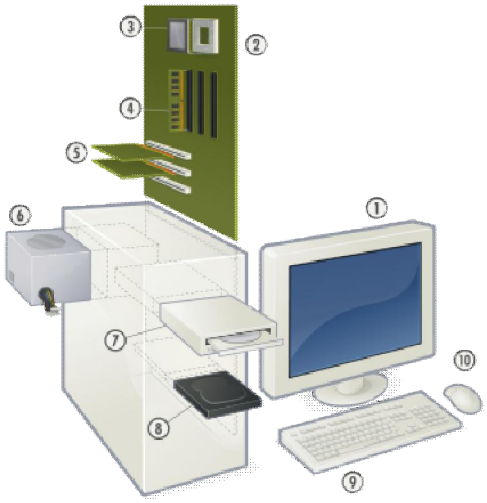
Terminology	Meaning
Digital resources	Refers to equipment that processes, stores, transmits or displays data electronically. The word *digital* is most commonly used in computing and electronics Eg A **digital camera** is a camera that takes video or still photographs, or both, by recording images via an electronic image sensor. Digital cameras can do things film cameras cannot: displaying images on a screen immediately after they are recorded, storing thousands of images on a single small memory device, recording video with sound, and deleting images to free storage space.
e-Learning **e-Education**	Both terms refer to using ICTs in the teaching and learning environment
e-Maturity	E-Maturity measures **the extent of use of ICTs** by a school. It assesses the different levels of use by learners, teachers, and school management.
e-Readiness	E-Readiness measures **the capacity of a school to use ICTs** by assessing the physical, management, social, and educational conditions in place that lead to receptiveness to the introduction of ICTs.
ICT culture	Beliefs, practices and attitudes that support the use of ICTs in the school
ICTs for schools	Technology (machines, devices, equipment and systems) that can be used in schools as media for information and communication purposes. This includes devices such as • Computers • Cameras • TVs • Video, CD and DVD players, MP3 and MP4 p;ayers • CDs and DVDs • Overhead projectors • Data projectors • Electronic whiteboards • Cell phones • Memory devices • Printers It also includes programmes or software that can be used with the equipment.
ICTs for curriculum delivery	Technology is used to *teach* subjects or topics
ICTs for teaching and learning **ICT integration into teaching and learning**	Both phrases mean that technology is used for teaching and learning. *ICTs for teaching*: The teacher uses ICT equipment as the medium or methodology for teaching a particular concept or topic. Eg this could be using a computer and a data projector to project a presentation to teach a topic, instead of using a “talk and chalk” method

Terminology	Meaning
	ICTs for learning: The learner uses ICT equipment as the medium or methodology for learning a particular concept or topic – eg this could include the learner doing research on the internet, doing calculations on a spreadsheet, or using a digital camera to take photographs for a project The first step in using ICTs is to know how the technology itself works – eg to know how to connect a data projector to a computer; to know how to use the presentation programme to put together a presentation; to know how to switch on the computer and connect to the internet to do research on a topic, etc. *Integration* assumes that both teacher and learner have some skills in how to operate the technology and that they are using it as part of their teaching and learning activities. In the beginning the two aspects may have to be combined – ie making sure that the learner develops the computer competencies while he/she is also dealing with the content of the lesson. For example a learner having to produce a piece of creative writing using a computer rather than a workbook, will have to give attention to language structure and use – and will also have to learn how to use the word package, how to do basic typing, including capital letters, spacing, underlining, undoing, spell check, saving files, printing, etc
PC, laptop, desktop, thin client	***PC***: A personal computer may be a home computer, or may be found in an office. The distinguishing characteristic is that the computer is used only by one person at a time, in a very interactive fashion, with no significant delay between an operator action and response by the computer. A PC is often connected to a local area network. ***Desktop***: A personal computer that is designed to fit conveniently on top of a typical office desk. ***Laptop***: A personal computer that is designed to be easily transportable and usable in any location. Also known as a 'notebook'. A **thin client** is a computer or a computer program which depends heavily on some other computer (its *server*) to fulfill its traditional computational roles. This stands in contrast to the traditional *fat client*, a computer designed to take on these roles by itself. The computers in the GoL laboratories are thin clients, depending on the software and computational power of the server.
Server	A **server** is a computer that links other computers or electronic devices together. A server often has programmes and data loaded onto it that other computers can access either over the internet or over a local network. Previously computers had to be physically linked to the server with cables, but now this linkage is usually through wireless technology, telecommunications

Terminology	Meaning
	lines or satellites. In the GoL laboratories, there is a server with programmes loaded onto it and the 24 linked computers can read what is on the server and use the programmes there. The teacher can work from the server to see what the learners are doing on their computers. The school server can link to other servers outside of the school via an internet link. In this way, central servers at the GoL Data Centre can store data that is needed by all schools (eg curriculum material) and the school servers can access it. This means that new data or upgrades just have to be loaded in one place, and are immediately available to all schools.
Connectivity	**Connectivity** is the ability to communicate with another system or piece of hardware or software, or with an Internet site
Networks	When a number of computers and servers are connected with each other we call this a **network**.
LAN	A **local area network (LAN)** is a computer network that connects computers and devices in a limited geographical area such as home, school, computer laboratory or office building. A LAN can be set up as a centralized **server based network** where individual computers access data and services from a centralized server. A LAN can also be set up as a **peer to peer network,** where each computer works individually, storing its own data and having direct access to printers and other peripherals, but the computers can "talk" to each other and access each other's file and printers. FIGURE 1: EXAMPLES OF LAN NETWORKS  CENTRALIZED SERVER-BASED MODEL A PEER-TO-PEER SYSTEM WITHOUT CENTRAL INFRASTRUCTURE
WAN	A **wide area network** (**WAN**) is a computer network that covers a broad area (ie, any network whose communications links cross city, regional, or national boundaries). WANs are used to connect LANs and other types of networks together, so that users and computers in one location can communicate with users and computers in other locations.

Terminology	Meaning

Internet/intranet	Many WANs are built for one particular organization and are private – this is sometimes referred to as an "**intranet**".
	
	Other WANs provide connections from an organisation's LAN to the Internet.
	
	The **Internet** is a global system of interconnected computer networks to serve billions of users worldwide. It is a *network of networks*. The Internet carries a vast range of information resources and services, such as the inter-linked documents of the World Wide Web (www) and the infrastructure to support electronic mail (email).
	
	There are different ways of being connected to the internet. For home and office use in South Africa you would typically use an internet service provider such as Telkom or MWeb, who would provide some sort of technology for connection – eg
	• Broadband wireless access
	• Cable Internet
	• Dial-up
	  ○ ISDN
	  ○ Modem
	• DSL
	• FTTH
	• Wi-Fi
	• Satellite
	In Gauteng schools it is the role of Gauteng Online to ensure that school networks are connected to the internet.

Online/offline	We use the term "online" to indicate connectivity (usually to the internet or World Wide Web), while "offline" indicates a disconnected state.
Hardware	**Hardware:** Computer equipment and peripherals  **Hardware** of a Personal Computer: 1. Monitor (display screen)

Terminology	Meaning
	2. Motherboard (basic circuitry and components) 3. CPU (central processing unit. Also called processor or microprocessor. This is where the instructions of a computer's programs are carried out) 4. RAM (memory) 5. Expansion cards (circuitry designed to provide expanded capability to a computer) 6. Power supply 7. Optical disc drive (needed to play DVDs and CDs) 8. Hard disk drive (unit that stores and provides access to data) 9. Keyboard (primary text input device, with alphabetic, numeric and function keys) 10. Mouse (a small device that a computer user pushes across a desk surface in order to point to a place on a display screen and to select one or more actions to take from that position) **Peripherals** are devices attached to a host computer, but not part of it, and more or less dependent on the host. Examples are • Printers • Image scanners • Tape drives • Microphones • Loudspeakers • Web or digital cameras
Software **Applications**	**Software:** The collection of computer programmes or applications that provide the instructions telling a computer what to do. • **System software** is needed to operate the computer hardware and to provide and maintain a platform for running applications. Eg Microsoft Windows, Mac OS X and Linux • **Application software**, also known as an **application** or an "**app**", is designed to help the user to perform specific tasks. It helps to solve problems in the real world. Examples include ○ enterprise software (eg PERSAL for government personnel records) ○ accounting software (eg Pastel) ○ office suites (eg Microsoft Office, with Word, Excel, PowerPoint and Outlook) ○ database packages (eg SA SAMS) ○ graphics software (to handle visual material such as photographs) ○ media players (for music or videos) • ***Educational software*** includes applications where the content and/or features have been adapted for use in schools by educators or learners. For example, it may deliver evaluations (tests), track progress through material, or include collaborative capabilities. In GDE special “resource packs” have been developed for learners – these

Terminology	Meaning
	packs include activities for learners (eg for a young learner this might be a game that teaches the concepts of counting and colour) that the learner can use on a computer or that can be printed out by the teacher and used as a manual worksheet. The software is available on CD (for use in individual PCs) or online via the GoL Data Centre.
Software image	• **"Standardised software image"** for GoL refers to the standard set of software packages or applications that are loaded onto servers in the computer laboratories.
Open source software	• Commercial companies (eg Microsoft) develop software packages such as MS Office (with Word, Excel, PowerPoint and Outlook) and have rules relating to their use, including copyright and licenses. Some software is produced through the collaboration of groups of individuals who then make their software available to the public at no cost or through a broad general type of software license that has relaxed or non-existent copyright restrictions. This is referred to as "open source" software. A feature of open source is that there are no restrictions on the use or distribution by any organization or user. Gauteng Province has elected to move to open source software in the GoL laboratories. This means that there will be programmes for word processing, spreadsheets and presentations, but these will not be the Microsoft Word, Excel and PowerPoint programmes that were available previously. Some schools may elect to combine commercial software together with open source options.
World Wide Web (www) **The Web**	The terms Internet and World Wide Web are often used in every-day speech without much distinction. However, the Internet and the World Wide Web are not one and the same. The Internet is a global system of interconnected computer networks. In contrast, the Web is one of the services that runs on the Internet. It is a collection of interconnected documents and other resources. In short, the Web is an *application* running on the Internet. A user can connect to the Web via the internet and browse through the documents that are available from across the world to find information – also called "surfing the web". The web is thus a powerful resource for teaching and learning.

2. GUIDELINES ON THE MANAGEMENT AND USAGE OF ICTS

The use of ICTs, and computers in particular, can no longer be regarded as optional for teaching and learning – it is a requirement that learners become ICT capable.

e-Education requires that teachers, managers and administrators in public schools have the knowledge, skills and support necessary to integrate ICTs into teaching, learning and administration. The requirement to effectively manage ICT demands and resources has become a major responsibility for SGBs and SMTs in public schools.

These guidelines are being provided to schools to assist them in this task.

The following areas will be covered:

- Goals and objectives for ICT usage in the school
- The application of ICTs to support management and administration in the school
- The application of ICTs to support curriculum delivery in the school
- The management and physical usage of ICTs in the school
- Roles and responsibilities
- A framework for a school ICT policy
- A framework for a school ICT development plan
- Guidance in setting up a timetable for school computer laboratory/ies
- Examples of school ICT policies and additional policies related to ICT usage in schools

In managing the use of ICTs, schools should keep in mind the general provisions and regulatory frameworks that apply to schools and education.

In addition, it will be important to take an honest look at the current ICT status at that school and to decide on how best to make use of what already exists. It is important to be realistic about what can and cannot be done – while at the same time keeping in mind where the school wants to go next.

Sustainability is an important element. ICTs cannot be successfully integrated into schooling without careful planning and consideration of what can realistically be sustained financially and in terms of infrastructure and human resource capacity.

2.1 SETTING GOALS AND OBJECTIVES FOR ICT USAGE IN THE SCHOOL

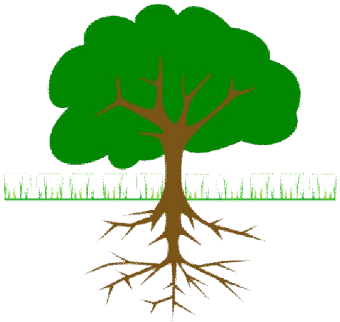
Schools are in different stages of embracing ICTs and have different skills and resources available to access possible technology solutions.

In assessing the status of a school in terms of how well it is doing in terms of using ICTs it is necessary to look at two main areas:

- The **conditions in place** at the school that will support the use of ICTs. How "ready" or receptive is the school to the introduction and use of ICTs in the school?
- The **extent of use of ICT** by a school, including its management, administrators, teachers and learners. This gives an indication of "maturity" in ICT usage.

These concepts are illustrated by the analogy of a tree (SAIDE, 2010, p 15)[1] in Figure 2 below:

FIGURE 2: TREE ANALOGY FOR E-READINESS AND E-MATURITY



E-Maturity: The evidence of growth and fruit-bearing of the tree over time.

E-Readiness: The fertility of the soil, which would determine how well the tree takes root and develops.

"A tree cannot grow if it is planted in infertile soil. E-Readiness examines the factors in place when the technology is placed in a school. …. Just as a tree may shrivel and die, a school's e-maturity may degenerate if e-readiness factors are not maintained." (SAIDE, 2010, p 15)

An example may clarify these concepts:

Consider that both Schools A and B have GoL laboratories, each with 24 computers and a server and connection to the internet.

- In School A, the principal and teachers are not computer literate. They are concerned that the computers will be broken or damaged, so the laboratory is generally kept locked and there is no timetable to schedule class time in the laboratory.
- In School B, the principal and teachers have attended the training provided by GoL and they have time to practice their skills in the laboratory. The teachers are encouraged to use the internet to look for material for their lessons and to use spreadsheets/SA-SAMS to record assessment results. A timetable has been set up for these teachers to take their classes to the laboratory to teach learners some elementary computer skills.

School A is not "e-Ready" and the usage of computers is likely to be low. School B may be said to be more "e-Ready" than School A, and it is more likely that usage of computers will grow – we would then say that School B is also becoming more "e-Mature".

Some terms have been proposed to describe levels of e-Readiness:

[1] *e-Maturity and e-Readiness Assessment Report*. Prepared for the Gauteng Department of Education, 31 May 2010. South Africa Institute for Distance Education (SAIDE)

1. **Entry** - "Starting point"
2. **Adoption** - "The process of taking on or accepting something"
3. **Adaptation** - "The process or state of changing to fit a new environment or different conditions"
4. **Appropriation** - "Taking something for own use"

These levels describe a process of a school starting to use ICTs, then becoming more comfortable or accepting of their use, then making changes in behaviour, systems and approach to use ICTs more effectively, and finally fully adopting them as the means to achieve objectives.

Table 3 below considers these four core levels of achievement. Schools can use these definitions to rate themselves and to list the steps they will take to improve their current level of achievement.

TABLE 3: DIMENSIONS AND LEVELS OF E-READINESS AND E-MATURITY

Level	Applied to the School
Entry ("Starting point")	Represents a scenario dominated by *lack of readiness* for technology adoption in that *serious shortcoming* in one or more of the dimensions indicates that the school lacks the capacity for successful use.
Adoption ("The process of taking on or accepting something")	The school has sufficient, but limited, capacity to adopt technology, may already be using ICT on a small scale, and has identified areas in which it needs to develop in order to sustain and grow use. The school will not have measures in place to sustain technology at this stage, but has a strategy to develop such capacity.
Adaptation ("The process or state of changing to fit a new environment or different conditions")	Measures are in place and the school has adapted to the extent that placing technology in this school will represent an investment with a low risk of failure, provided that the capacity does not diminish. The school has some experience of managing ICT well.
Appropriation ("Taking something for own use")	The school has a strong base of readiness components which are ideal for the growth in maturity levels in teaching and learning, as defined in the teaching and learning dimensions. The school has considerable capacity and a proven track record of effective use of ICT.

In deciding how to rate itself, a school may also use the **E-Readiness index** which was developed by SAIDE as part of the research which was commissioned by the GDE. Most schools in the province have been rated against this index and can perhaps use this rating as a baseline for policy and planning.

The dimensions that make up the index are as follows:

- Mins per learner per computer per day
- Mins per teacher per computer per day
- Mins per admin staff per computer per day
- School has an ICT co-ordinator
- School has an ICT policy / plan
- School has at least 1 printer
- Frequency of internet connectivity
- Teacher confidence
- Learner access to computers outside class
- SMT use of ICT
- School has some form of ICT support

Ideal scores on these dimensions have been provided so that schools can identify areas of strength and weakness.

Examples of ratings for different schools are given in Table 4 below:

Table 4: Ratings of schools on e-Readiness components

School	E-Readiness score	Mins per learner per computer per day	Mins per teacher per computer per day	Mins per admin staff per computer per day	School has an ICT co-ordinator	School has an ICT policy / plan	School has at least 1 printer	Frequency of internet connectivity	Teacher confidence	Learner access to computers outside class	SMT use of ICT	School has some form of ICT support
	Ideal = 100%	Ideal = 40 Prim / 45 Sec School	Ideal = 160	Ideal = 420	Ideal = 1	Ideal = 1	Ideal = 1	Above 75% = 1	Ideal = 2	Ideal = 3	Ideal = 1	Ideal = 2
1	14%	0	0	210	0	0	1	0	0.69	0	0.2	0.00
2	73%	43	124	525	1	1	1	1	0.77	1.5	0.4	0.67

In the above example,

- **School 1** has scored only 14% on the overall score and is indicating zero usage of computers by learners and teachers. There is some usage of ICTs for administration, but there is little evidence of support for ICTs as there is no ICT Co-Ordinator, no policy, no connectivity, etc.

  School 1 seems to be at the **Entry level** of ICT achievement and may want to develop to the Adoption level. It may set the goal of ensuring that certain teachers (eg all teachers currently teaching Maths and English) and certain learners (eg all learners in grade 7) have access to computers and that they develop basic literacy skills by the end of the following year. This school may also set the goal of investigating reasons for poor connectivity and plan to appoint an ICT co-ordinator. It may plan to make use of the GOL Mobile Lab until its own infrastructure and support is in place.

- **School 2** has scored 73% overall and most elements of support seem to be in place. It may be at the **Adaptation level** and wants to move to the Appropriation level. This school's development plan will therefore be quite different to that of School 1.

  It may plan to improve teacher confidence (eg through advanced training programmes) and the amount of time that teachers have access to computers (eg by adding special time slots in the laboratory timetable for teacher usage or by encouraging teachers to acquire personal laptops). This school may also plan to improve SMT usage of ICTs (eg by using ICTs to develop the school timetable and to manage the school finances, or to use ICTs in reports and communication with District, etc).

Other dimensions that a school may consider in rating itself include:

- Does the school have a timetable for the use of the computer laboratory?
- How many ICT resources does the school have – eg total no of computers, data and overhead projectors, TVs, radios, DVD players, printers, scanners, photocopiers, smart boards, etc
- What computer software programmes, CDs, DVDs does the school have?
- What partnerships does the school have with the community regarding the utilisation of ICTs?
- How many of the staff/learners have received basic training in computer literacy?
- How many of the staff/learners have received basic training in the use of other ICTs?

2.2 USING ICTS TO SUPPORT MANAGEMENT AND ADMINISTRATION IN THE SCHOOL

ICTs can be used to help schools to work more efficiently. An important part of ensuring that ICTs are used effectively for management, administration and communication is that the school leadership decides to do so and commits to a budget, training and management support.

Management and administration
The main ICT tool to be used in management and administration is likely to be the computer, together with basic software packages especially MS Word, Excel, PowerPoint, or the equivalent open source packages, and access to email and the internet.

School principals have also been given cell phones which have email, internet, instant messaging and other software and will allow reliable communication between head office and district offices and public schools on important matters.

In addition there are software packages designed specifically for school management and administration, including timetabling, databases for learner records, systems for the recording of school development plans, syllabus completion reports, test data, school based assessment records, financial records, etc. The package supported by the GDE is the SA SAMS (South African Schools Administration Management System).

Most schools have computers that are dedicated to administrative purposes and there is a general expectation that office staff should be able to use them efficiently. An indicator of management use of computers may be that the principal and SMT members have their own PC or laptops.

Plans to develop administrator skills and to extend the range of items to be dealt with electronically can be added to the school's overall development plan. Equally important will be a plan to increase the skills of SMT members so that they support and use the technology.

Communication
ICTs can be used very effectively for communication with staff, parents, SGB members, other community members, District officials, Head Office officials, etc.

Some examples include:

- Using emails to communicate with parents, staff, SGB members, District officials, etc
- Using an intranet and/or a school website so that people can search for information that they need (eg a school's policies can be loaded onto the intranet or website and staff members, parents, etc can access them if required).
- Using a school website that is accessible by the public via the internet so that learners, parents, other stakeholders and community members can access it for information about the school and its activities
- Using SMS (directly from a cell phone or landline to another individual cell phone or landline)
- Using bulk SMS (sent via cell phone, landline or directly from a computer to multiple other cell phones or landline numbers)
- Using peer-to-peer networks to communicate with other schools
- Using some or all of the above methods to communicate management information between schools and districts

2.3 USING ICTS TO SUPPORT TEACHING AND LEARNING IN THE SCHOOL

The purpose of introducing ICTs, and particularly computers, into the learning environment is not just about using them to become computer literate. Basic computer skills are not enough. It is necessary to learn how to use ICTs as a tool for teaching, learning and working more efficiently.

Teachers and learners are expected to use ICTs for teaching and learning purposes. Teachers will be guided on how to use ICTs in teaching and learning, including examples of lesson plans. However, teachers are encouraged to continuously decide on their own the variety of ICTs they can use to enhance curriculum delivery within a particular context.

However good the ICT infrastructure in a school may be and however wide the range of software the school has, these are only as good as the teacher using them.

A school may use the **scores for teacher usage of ICTs** which was developed by SAIDE as part of the research commissioned by the GDE. Most schools in the province have been rated against this index, and the scores may be regarded as a baseline for planning.

The following Table 5 gives some examples of schools and shows both the overall e-Readiness score as well as incidence of teacher usage of ICTs for administration, preparation, teaching and learning:

TABLE 5: EXAMPLES OF TEACHER USAGE OF ICTS

School	Overall E-Readiness score (%)	Teacher usage of ICTs			
		Admin	Prep	Teaching	Learning
1	48	10%	26%	4%	25%
2	50	32%	26%	24%	26%
3	14	5%	3%	0%	0%
4	49	37%	23%	7%	2%
5	23	3%	9%	1%	1%
6	45	18%	19%	10%	18%
7	52	6%	22%	5%	4%
8	42	51%	21%	19%	14%
9	73	40%	25%	13%	16%
10	81	84%	57%	44%	33%
	Average for these 10 schools	28%	23%	13%	14%

The average results for these 10 schools show quite clearly that usage by teachers for teaching (13%) and learning (14%) - ie integration of ICTs in teaching and learning - is significantly lower than usage for administration (28%) and preparation of lessons (23%). This is true even for schools with high overall scores (eg see schools 9 and 10 above).

A school can use these scores to plan exactly where teacher development is required in the school.

Developing teacher confidence in using ICTs for teaching and learning requires that they progress through the following four steps and that they have the necessary support to do so (SAIDE, 2005, p96)[2]:

TABLE 6: STEPS IN TEACHER DEVELOPMENT FOR ICT USAGE

Step	Steps in teacher development	Support required
1	Teachers understand the concepts and the basics of how to use hardware and key software	Basic training
2	Teachers are fluent in the use of computers, especially for core software such as word processing and use of the internet	Practice
3	Teachers are able to begin the classroom implementation process and develop an understanding of specific educational software – what is available, how does it work, how can it be used?	Subject specialist professional development
4	Teachers are able to use relevant educational software and general computer skills in their teaching and learning	Understanding of learning and how to mediate it

Schools (and Clusters and Districts) will need to identify the need for each teacher and ensure that the necessary support is provided:

Eg

- If a teacher does not yet have the basic literacy skills, then it may be necessary to plan some basic training – this could be a repeat of the basic training provided by GoL, or provided by another teacher or the ICT Co-ordinator; even an ICT intern can be delegated to help.

- If a teacher has had basic training but is not yet applying skills in the classroom, confidence may need to be developed through more practice. This will require that the school makes computers (or other materials) available to the teacher. This can be done by allocating a certain number of time slots in the GoL laboratory timetable for teacher use, or by encouraging the teacher to acquire a personal laptop or by the school budgeting for additional laptops for teacher use. Additional training in the use of generic software and hardware may be appropriate – eg have the ICT Co-Ordinator arrange afternoon classes on word processing, spreadsheets or presentations or on the use of electronic whiteboards or data projectors.

- If a teacher is fairly confident in the use of hardware and generic software, educational software specific to the teacher's needs can be introduced. This will require that schools have budgeted for and acquired such software and that there are lesson plans that demonstrate integration. Equipment should be available – either to be dedicated to that teacher or to be booked out for a specific purpose. Teachers may require help from curriculum specialists in knowing what is available and how to use the materials effectively. This may include introduction to material included in resource packs provided by the GDE, materials available on the Thutong website[3] or information about teaching and review of topics on TV channels, on DVD or CD.

Professional development of teachers is an ongoing process and can be achieved through

[2] *Managing ICTs in South African Schools – A Guide for School Principals,* National Department of Education, developed by SAIDE, 2005

[3] National Department of Basic Education website: http://www.thutong.doe.gov.za. Free educational resources, information on policy, school curriculum, teacher development, school administration, and management to the South African schooling and FET College community.

- In-service training (eg training of teachers at their workstations in the use of smart boards or data projectors, attendance at training sessions for basic computer skills or training in specific lesson plans to integrate ICTs into teaching and learning)

- Formal training leading to improved teacher qualifications (eg formal ACE or Bed (Hons) qualifications), which meet longer term needs for research, innovation and pedagogical skills

- Formal or informal training by ICT Coordinators, other teachers, community members (parents, local businesses, etc)

- Personal exposure and practice (which implies access to ICTs, either personally owned or at school)

- Membership of relevant ICT Bodies, attendance at conferences, symposiums and other professional forums

The responsibility for identifying current needs in schools as well as identifying potential training and support solutions is shared by the school itself, cluster and district officials and head office. However school management is responsible for ensuring that teachers actually attend training programmes and that they have access to the appropriate ICTs at school.

Table 3 in Section 2.1 of this document referred to four levels of e-Readiness for schools. Table 7 below

- Considers the same four levels applied to teachers
- Gives some examples of what the practical manifestation of these levels may be
- Matches the levels to steps in teacher development, and
- Indicates the support that teachers would require at each step

Schools can use these definitions to rate their teachers and to list the steps they will take to improve their current level of achievement.

TABLE 7: LEVELS AND DIMENSIONS OF E-READINESS AND E-MATURITY APPLIED TO THE TEACHER AND TEACHER DEVELOPMENT

Level of e-Readiness and e-Maturity	**Applied to the Teacher**	**Examples (applied to the use of computers)**	**Steps in teacher development**	**Support required**
Entry ("Starting point")	The teacher is computer literate and is *able to use computers*. However, frustrations and insecurities are common in the introduction of ICT. At this level, teachers are likely to *lack confidence*.	Can perform basic tasks such as typing, saving and printing a worksheet, can enter assessment records using a spreadsheet, can save and retrieve files, can send emails and knows how to access the internet.	Teachers understand the concepts and the basics of how to use hardware and key software	Basic training

Level of e-Readiness and e-Maturity	Applied to the Teacher	Examples (applied to the use of computers)	Steps in teacher development	Support required
Adoption ("The process of taking on or accepting something")	The teacher is able to use various ICTs, including computers, to *support traditional management, administration, teaching and learning,* and is able to teach learners how to use ICT.	Comfortable and competent using word processing, spreadsheets, presentations, emails and internet. **Admin:** Routinely uses typed material for tests and worksheets; uses email for communication with learners and parents; uses Excel/open source to perform basic calculations such as percentages, averages, ranking, graphing of results **Preparation:** Accesses information via the internet for lesson preparation **Teaching**: Uses PowerPoint /open source presentations for teaching **Learning:** Expects learners to perform basic tasks such as using a mouse, typing, doing calculations, accessing the internet during a lesson, and can help them to do so.	Teachers are fluent in the use of computers, especially for core software such as word processing and use of the internet	Practice

Level of e-Readiness and e-Maturity	Applied to the Teacher	Examples (applied to the use of computers)	Steps in teacher development	Support required
Adaptation ("The process or state of changing to fit a new environment or different conditions")	The teacher is able to use ICT to support everyday classroom activities at an appropriate NCS level, assess the learning that takes place, and ensure progression. He/she is able to reflect critically on how *ICT resources can enable him/her to redesign the teaching and learning processes* and to use ICT systems for management and administration. Productivity increases at this level.	Routinely integrates ICTs, including computers, into day to day work. **Admin:** Most routine admin tasks associated with pupil records, management reports and general communication are completed using programmes such as MS Office or Open Source and specialised programmes such as SA SAMS **Preparation:** Knows what specific educational software is available (eg literacy or mathematical programmes) and plans to use these programmes where appropriate for teaching and learning and to monitor and track learner progress. Uses the internet and other resources as the source for own research. **Teaching**: Uses a combination of ICTs incl presentations, CDs, DVDs, TV, specialised educational software, and materials researched via the internet for teaching **Learning:** Exposes learners to a variety of ICT based learning materials and expects them to interact with this material – eg by completing exercises and tasks and self scoring them, or by using a word processing package as the medium for delivering a piece of creative writing.	Teachers are able to begin the classroom implementation process and develop an understanding of specific educational software – what is available, how does it work, how can it be used?	Subject specialist professional development

Level of e-Readiness and e-Maturity	Applied to the Teacher	Examples (applied to the use of computers)	Steps in teacher development	Support required
Appropriation ("Taking something for own use")	The teacher has a *holistic understanding* of the ways in which ICT can contribute to teaching and learning. He/she has the experience and confidence to *reflect* on how ICT can influence teaching and learning strategies, and to *use new strategies*. If necessary, the teacher is able to develop entirely new learning environments that use ICT as a flexible tool, so that learning becomes collaborative and interactive.	The teacher will integrate ICTs as for the above level. In addition the teacher will monitor the effectiveness of a variety of approaches to teaching and learning and make changes or adjustments and use the ICTs considered to be the most appropriate to ensure best results	Teachers are able to use relevant educational software and general computer skills in their teaching and learning	Understanding of learning and how to mediate it

A school can consider the above definitions and rate each of its teachers. These ratings, together with the SAIDE scores for overall teacher usage of ICTs or the school can be used as the starting point for policy development and ICT planning for each school.

2.4 MANAGING ICTS IN THE SCHOOL

Provision of computer technology, connectivity and infrastructure to schools is primarily the responsibility of Gauteng-on-Line.

In addition, the "Teacher Laptop Initiative" launched by the National Department of Education, aims to ensure every teacher owns and uses a laptop in their teaching and for administration. Cell phones will also be allocated to school principals.

Schools need to manage these resources and also need to plan for and acquire additional resources.

Some or all of the following items may need to be considered.

2.4.1 PLAN TO MANAGE HARDWARE AND SOFTWARE

a. Maintenance of an **assets register** for all equipment, whether supplied by GoI, other provincial or national initiatives, or from the school's own funding, donations or Public Private Partnerships.

b. **General management** (eg cleaning of the laboratory and replenishment of consumables). This includes assigning responsibility for **maintenance of equipment** and allocation of costs for such maintenance. This should include following up on warranties and maintenance and support agreements that may have been agreed at the time of procurement or delivery

c. **Booking arrangements** so that equipment, software, laboratory time can be booked by teachers for specific periods of time or for certain classes, etc

d. **Security** arrangements, including

i. **Storage** arrangements, procedures for gaining access to ICTs and the names of staff members responsible for security of particular items. This includes arrangements for secure storage of peripheral equipment (eg printers, data projectors, interactive whiteboards, etc) as well as portable devices such as notebooks, hand-held computers, digital cameras, cell phones with web access, as well as MP3 and MP4 players.

ii. **Community involvement** such as community policing forums to assist in security of laboratories.

iii. An **emergency and hazard prevention plan** with details of how emergencies such as fire and floods are to be dealt with.

iv. Recommendations about steps to be taken during **electric storms** and what equipment should be switched off at night

v. **Insurance cover** for valuable items, including arrangements to be made when items are removed from the school premises

vi. Rules regarding the use of **private equipment** or devices brought onto school property (including cell phones of staff and learners, personal laptops and 3G cards, etc)

e. Guidelines for **handling sensitive equipment**

i. Examples of this include not eating or drinking near computers and other equipment, making sure that air conditioners remain on and that doors and windows are kept closed in the GoL laboratories so that the temperature remains at about 22 degrees, allowing data projectors to cool down before switching them off to prolong light bulbs, etc

ii. The manufacturer's instructions will usually provide information about specific requirements for protecting ICT equipment

f. **Venues** for the location of computers and other ICT devices. Issues to be taken into consideration include:

i. The need for teachers to have access to computers for administrative tasks, preparation for lessons and own skills development. Workstations may be considered in staff rooms, work rooms or their own classrooms. In classrooms they should be connected to data projectors and interactive whiteboards, where possible, for teaching.

ii. Workstations for learners may be set up in laboratories when the school first starts using ICTs for teaching and learning. Over time, provision may be made for workstations to be available for small groups in resource centres, libraries, classrooms, science laboratories, workshops and studios

iii. Placement of equipment should take into account the learning activities that may be associated with it and allow sufficient access for both teaching and learning. For example electronic whiteboards should be placed high enough to be seen by the class but not too high for the teacher and pupils to operate them. If desktop computers are required for group-work, then there must be sufficient space between them to allow for this.

iv. Rules regarding the booking out or allocation of portable items such as TVs, data projectors, CD and DVD players, CDs and DVDs, cameras, laptops, etc

g. Management of the **Laptops-for-teachers** initiative within the school

i. Tracking and recording the acquisition of laptops and 3G cards to teachers in the school

ii. Tracking and reporting on the usage of these laptops by teachers, as set out in the Govt Gazette No 32207 of 8 May 2009 and any subsequent guidelines

h. Management of **cell phones** issued to schools

i. Tracking and recording the provision of cell phones to principals and teachers in the school

2.4.2 PROCESS FOR ACQUISITION OF HARDWARE AND SOFTWARE

a. The Province (including the e-Learning Department, the IT Department and LTSM) will provide guidelines from time to time regarding the acquisition of hardware and software (additional to that supplied by Gauteng-on-Line). These guidelines will give attention to compatibility issues as well as economies of scale in purchasing.

b. In general decisions regarding acquisition of hardware should take into account compatibility with existing resources and should meet minimum specifications for usage for schools. This includes reference to on-site support and warranties on equipment. (Guidelines for selection of hardware appropriate to specific requirements of the schools are included in *"Guidelines for Schools: ICT Hardware Specifications"* issued by the National Department of Education, and available on the Thutong website.)

c. Schools should outline the approach they will take to procuring additional software, including how this will be included in LTSM allocations, when own funds or donations will be used, who will be involved in making the decisions, how they will liaise with the Province, where priority will be given (eg certain grades, learning areas/subjects, special needs, administrative tasks, etc)

d. Schools should identify the appropriate staff member/s that will be responsible for the evaluation and selection of software and curriculum resource packs, and also set up the appropriate internal structures to assist in this task (eg a school ICT committee including the HOD of the specific learning area). When in doubt, or if the school does not have the necessary expertise, they should consult with their ICT facilitators at District or Provincial level.

e. All items procured, from whatever source, should be included in the assets register.

2.4.3 BUDGETING AND COSTING

Extra line items may need to be added to current budgeting and costing systems to provide for

a. Ongoing running expenses, including
   - Maintenance
   - Technical support
   - Printing and consumables
   - Connectivity

b. Insurance

c. Software and hardware not supplied by GDE

d. A school website

e. Staff development, outside of that provided by GoL or the GDE.

2.4.4 TIMETABLING FOR GOL AND OTHER LABORATORIES

Timetabling arrangements to ensure that laboratories are used effectively will include:

a. Deciding whether basic computer literacy skills or *"Computer Literacy"* will be deliberately taught as a specific learning area, or whether computer literacy will be integrated into the teaching of another subject such as English or Mathematics. If it is to be a specific learning area then appropriately trained or dedicated teachers will also have to be identified.

b. Determining priorities for the use of the laboratory (eg Gateway subjects will have priority or certain grades will have priority) based on the school circumstances as well as the priorities identified by the Province

c. Setting up a timetable for the laboratory itself

d. Adding slots to teachers' timetables for the use of laboratories for integration of computers with other subjects

e. Designing an after-hours booking system so that learners and teachers who do not have private access to computer resources can complete work or projects or develop their own skills during breaks and outside of school hours

f. Identifying where it would be appropriate to make use of the GOL mobile labs
   - Where the school laboratory is overbooked
   - Where there is no GOL laboratory at the school
   - Where the GOL laboratory is not functioning due to poor connectivity, vandalism, damage to equipment, etc

A framework for developing a laboratory timetable is provided as **Section 5** of this document.

2.4.5 DATA MANAGEMENT

a. Copyright, intellectual property and piracy

The school policy should set out clear rules regarding enforcement of licensing agreements for software and providing for steps to be taken in the event of piracy, or the abuse of copyright or intellectual property. This will include rules about plagiarism and the need to acknowledge sources of information.

b. Acceptable use policy for internet and web usage

- Schools using the Internet should have in place an Acceptable Use Policy which lays down the conditions under which the Web and email may be used, and sets standards of acceptable behaviour in the computer lab and when using the Internet. Child safety on the Internet should be guaranteed by including a set of rules in this policy to prevent learners from divulging personal information which could be used to locate or identify them, and to control access to undesirable sites. In the same way, if a school has a website, care should be taken to protect the identities and personal details of learners who may be featured on the site for achievement and other reasons.

- These conditions of use should be extended to cover learners and staff members who use their own web-enabled cell phones or 3G cards and can access internet sites.

- It will be important to ensure that there is a firewall service as part of the general setup in the school. Schools can set up their own white and black lists for internet browsing and should set the rules regarding protection of privacy balanced by ownership of all material on school equipment.

- Specific controls should be put in place to prevent the spread of viruses. This may include special conditions related to using own memory sticks/flash drives or CD's and

DVDs in school equipment. The same type of conditions may be required to ensure that school memory sticks, CDs, etc are not used in privately owned PCs and laptops.

c. Management of confidentiality

The school policy should clearly spell out how information such as examination papers will be protected – eg through the use of passwords. Also important is for all users to understand issues of confidentiality around other people's usernames, emails, files and documents.

2.5 ROLES AND RESPONSIBILITIES

Management of ICT demands, resources and infrastructure is the responsibility of all stakeholders, including the GoL, GDE, including the e-Learning Directorate, Districts, individual schools' management teams, educators, learners, parents and communities.

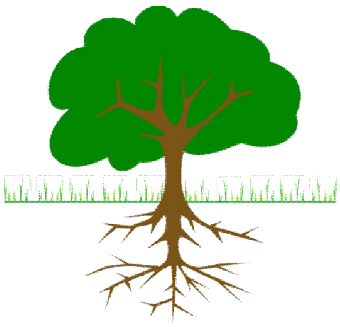
School responsibilities have been divided into the following categories:

- Management
- ICT Committee
- ICT Co-ordinator
- Teachers

2.5.1 MANAGEMENT RESPONSIBILITIES (SMT AND SGB)

The overall responsibilities for school managements are that they manage both the "e-Readiness" and the "e-Maturity" of their schools. This was illustrated earlier by the tree analogy.

FIGURE 3: TREE ANALOGY FOR E-READINESS AND E-MATURITY



E-Maturity: The evidence of growth and fruit-bearing of the tree over time.

E-Readiness: The fertility of the soil, which would determine how well the tree takes root and develops.

"E-Readiness" relates to the responsibility to provide and maintain the basic infrastructure that supports ICT usage in the school.

"E-Maturity" relates to the responsibility to support the progressive increase in the usage of ICTs in the school.

An important indicator of whether or not ICTs will be successfully integrated into the school context is the attitude of leaders in the school towards ICTs. Leaders' perceptions of the importance of ICTs,

their own use of ICTs and their ability to create a supportive and enabling environment for effective use of ICTs in the school are critical.

A. PROVIDING AND MAINTAINING THE BASIC INFRASTRUCTURE THAT SUPPORTS ICT

a. Technology management (security, availability, maintenance, asset management). See **Section 4.4** above for details on this.

b. Including ICT usage in timetabling
   - For the development of basic ICT literacy for learners and teachers
   - For learners studying special courses such as CAT and IT
   - For integration with curriculum
   - For preparation and administration by teachers

c. Budgeting, costing and procurement

d. Making facilities and resources available during school hours and after hours
   - GoL and other laboratories clean, operational
   - Utilising GoL mobile Labs (as extra facilities for schools with GoL labs or as an only facility for schools without GoL labs)
   - Laptops and other ICTs available (eg on a booking system)
   - Interns managed if deployed to the school

B. SUPPORTING USAGE OF ICTS FOR MANAGEMENT, ADMINISTRATION, TEACHING AND LEARNING

b. Developing a vision for ICT usage in the school, based on current and future levels of e-readiness and e-maturity and including steps to achieve this vision in the school's development plan

c. Developing and implementing an ICT policy specific to the school

d. Ensuring optimal usage of resources
   - Ensuring that GoL and other laboratories are actually used
   - Ensuring that other ICT resources are used on a regular basis (eg whiteboards, digital cameras, TVs, CDs and DVDs, educational software, resource packs)

e. Ensuring that all stakeholders develop basic computer literacy skills
   - SMT, SGB, administrative staff, teachers, learners

f. Ensuring that management and administrative tasks are progressively more computerised. This includes
   - Office tasks of administrative staff, incl databases
   - Administrative tasks of teachers, such as assessment schedules and reports
   - Management tasks of SMTs and SGBs, such as communication with parents, Districts or HO, school planning, finances, timetables

g. Integrating ICTs into current teaching and learning practices

- Encouraging teachers to use technology for preparatory work (eg developing worksheets and surfing the web for information)
- Encouraging teachers to integrate technology into curriculum delivery (eg using PowerPoint presentations, using videos or CDs, using resource packs)
- Encouraging teachers who lack confidence to improve their skills
- Monitoring and evaluating integration of ICTs into teaching and learning
    - Setting criteria for usage
    - Classroom observation
    - Feedback and reflections from teachers
    - Impact of ICT usage on learner progress
    - Incorporating feedback into planning

h. Appointing ICT Co-ordinator/s for the school. This includes
- Deciding on roles to be fulfilled
- Deciding on skills required
- Deciding on authority levels
- Deciding on whether the Co-Ordinator should be full time or part time (in which case other workloads must be taken into account)

i. Scheduling and managing ICT related training
- For school management teams and governing bodies
- For administrators
- For teachers
- For learners

j. Involving the community and parents
- SGB's being involved in ICT planning and decision making
- Parents/community providing training and/or technical support
- Businesses providing financial assistance, expertise or resources
- Parents/businesses making use of school ICT resources
- Parents/community being involved in security arrangements for the school

2.5.2 SCHOOL ICT COMMITTEE

The School ICT Committee can be made up of SMT and other staff members, including the ICT Co-Ordinator and subject specialists or HODs. Its responsibilities include:

a. ICT planning for the school
- Probably on an annual basis
- Identifying funding sources for resourcing ICT plans (GOL, GDE and other sources)
- Designing and implementing a plan to improve the school's e-maturity level

b. Working with the SMT to develop and implement an ICT policy for the school

c. Scheduling and monitoring training

d. Identifying, evaluating and selecting educational software
- This is likely to be done together with the subject specialist or HOD in the school

e. Representing the school in all e-Learning activities at District or Cluster level

f. Representing the school at district or ICT forums and sharing information from these meetings to the school

g. Promoting ICT integration in teaching and learning, eg by
   - Assisting teachers with lesson plans
   - Informing teachers of tools and materials that are available
   - Recommending appropriate ICT tools for particular teaching and learning purposes

h. Monitoring and evaluating the effectiveness of ICT use in the school, including
   - Attendance at training programmes
   - Access to computers – for teachers and learners
   - Use of ICTs for administrative and management purposes
   - Levels of computer literacy - SMT, SGB, teachers, learners
   - Extent of integration of ICTs into teaching and learning (incl the use of CDs, DVDs, TV, etc)
   - Implementation of timetabling plans
   - Meeting provincial priorities

i. Design and implementation of monitoring and review processes to deal with the following questions:
   - How is current practice monitored to ensure that the existing policy is implemented?
   - How is ICT teaching monitored?
   - How is ICT planning monitored?
   - How is ICT use monitored?
   - How is marking monitored?
   - How are work programmes reviewed and developed?
   - How are staff development needs identified?
   - What account is taken of learners' use of ICT at home?
   - How and when will the ICT policy be reviewed, and by whom?

2.5.3 ICT CO-ORDINATOR/S

Roles:

The roles and responsibilities of the ICT Co-Ordinator/s will depend to a large extent on the following:

- The level of e-Readiness and e-Maturity of the school
- What is contained in the school policy, particularly in relation to the level of authority that will be associated with the role
- The availability of staff members with the appropriate skills
- Whether or not an ICT Committee has been established for the school.
    - If there is no such committee, then some of those responsibilities may also be allocated to the ICT Co-Ordinator
- Whether or not interns have been allocated to the school to assist in ICT tasks

Schools may also appoint more than one ICT Co-Ordinator. In some cases this may be to share the load. In other cases there is a distinct separation of responsibilities, eg with one being the "ICT Manager" with responsibility for ICT budgets and presenting ICT issues at management level, while the other is the ICT or Laboratory Co-Ordinator, and is involved in timetabling for the laboratory and providing support to teachers and learners.

Skills required:

Many Co-Ordinators are selected on the basis of their technical skills, and they see their role as providing technical back-up, troubleshooting and training. This selection will be appropriate for schools where the focus is on ensuring that learners and teachers become computer literate. In some cases the ICT Co-Ordinator is also used to provide computer literacy training for learners, either as part of the timetabling or on an ad hoc basis.

Where schools have moved to a position where they wish to more fully integrate ICTs into the teaching and learning processes, the ICT Co-Ordinator may require knowledge of pedagogical and instructional design for ICTs.

Especially when the school is at the entry level for ICT implementation, enthusiasm and energy will be specific attributes required of the ICT Co-Ordinator.

Responsibilities:

Typically, the following responsibilities may be associated with the ICT Co-Ordinator, and the school policy should clearly indicate which of these will be allocated to the responsible person:

a. Being the "champion" of ICT in the school and driving its use
    - Encouraging the use of ICTs for teaching and learning
    - Encouraging the use of ICTs for management and administration

b. System maintenance

- Being the "stock taker",
- Maintaining asset registers
- Being a technical expert
  - Making sure that the system is working
  - Troubleshooting when there are system or equipment problems
  - Reporting broken, faulty or stolen equipment or systems to GOL or GDE at District or HO level

c. Managing the computer laboratory/ies, including
   - Timetabling
   - Informal use of the computer laboratories outside of school hours
   - Enforcement of the rules around use of equipment, virus protection, internet usage, etc
   - Managing ICT interns

d. Managing other ICTs in the school

e. On-site user support
   - Assisting learners, teachers and administrative staff with technical queries
   - Assisting teachers to develop documents or resources for their lessons

f. Providing training for teachers and administrative staff in using ICTs
   - On request / in response to technical queries
   - In a structured manner
   - Generally on usage of packages such as Word or Excel, use of cameras, data projectors, etc

g. Providing training for learners
   - Usually for computer literacy rather than integrated into the curriculum
   - Can be part of the timetabling for learners

2.5.4 TEACHERS

Teachers should take responsibility for becoming ICT literate, for using ICTs for administrative tasks and for integrating ICTs into teaching and learning.

Skills

Some of the skills required by teachers are:

- Computer literacy – ie knowing how the hardware works, knowing how the software works
- Technical support skills – ie knowing how to do basic troubleshooting (eg rebooting a computer, re-setting a DVD player, clearing photos from a digital camera)
- Finding and evaluating information on the internet
- Planning projects and lessons that integrate ICTs – for teaching (eg preparing a Powerpoint /Open Source presentation for a lesson) and for learning (eg having learners do a mathematical calculation in the GoL laboratory, using Excel or equivalent Open Source programme)

- Knowing what TV resources are available and using them / recommending them to learners and other teachers
- Using ICTs for administration – eg typing examination papers, storing assessment results electronically, using email to communicate with learners and parents

Responsibilities

a. Becoming ICT literate

- Making use of the formal training that is available
- Asking for help from others (ICT Co-Ordinator, intern, other teachers, parents, friends)
- Accessing and utilising online professional development modules
- Learning by exploration and practice
- Knowing / finding out what ICTs are available in the school and how they can be used

a. Integrating ICTs into teaching and learning

- Using ICTs for lesson preparation
- Using ICTs for lesson delivery
- Having learners use ICTs during a lesson as part of their learning of a topic
- Evaluating effectiveness of ICT usage for teaching
- Evaluating effectiveness of ICT usage for learner progress

b. Using ICTs for administrative tasks

- Having worksheets, examination papers, etc typed
- Keeping electronic copies of syllabus completion reports, test data, assessment results, etc
- Using email for routine communication, eg with District and Cluster staff
- Using specialised programmes such as SA SAMS for data management

3. WRITING A SCHOOL ICT POLICY

3.1 PREAMBLE

There are several levels of policy – ranging from a document that states the vision, the beliefs that underpin it and the plan for implementation of ICTs in the school to a document that simply sets out the rules and procedures for using computers and other ICTs in the school.

In general it can be said that a *policy* describes the general organisational attitude or approach to a particular issue. A policy can be supported by a number of *procedures* which define the rules, regulations, methods, timing, place and people responsible for implementing the policy. These procedures can be incorporated into the policy itself or they can be recorded as separate documents that simply refer to the specific part of the policy. This latter approach allows for periodic updates to procedure without having to also adapt the policy which is usually more long term in nature.

Each public school should develop its own ICT policy to cover

- Goals and objectives for ICT usage in the school
- The application of ICTs to support both administration and curriculum delivery in the school.
- The management and physical usage of ICTs in the school, which includes management of assets and data, as well as planning and budgeting
- Roles and responsibilities

In developing an ICT policy for a school it will be important to take an honest look at the current ICT status at that school and to decide on how best to make use of what already exists and how to progress further. The results of the SAIDE survey undertaken in 2009[4] may be used to establish the baseline for each school. The levels of readiness of the school and teachers, described in Sections 4.1 and 4.3 of this document, may also assist a school to understand its current status.

It is important to be realistic about what can and cannot be done – while at the same time keeping an eye on where the school wants to go next. Sustainability is an important element. ICTs cannot be successfully integrated into schooling without careful planning and consideration of what can realistically be sustained financially and in terms of infrastructure and human resource capacity.

It should be noted also that the school's policy is not the same as its development plan, which should contain specific details of the current and projected status for the use of ICTs on an annual basis.

A proposed framework for a policy is given below. Only those elements that actually apply to the particular school and its circumstances should be included in its policy.

The conventions usually applied to the writing of policies for a particular school should be used – eg in the way the policy is numbered, reference numbers, details of dates and manner of acceptance, review process, etc. The examples given below have used the framework recommended by the Province.

Two examples of a school policy have been provided and schools may want to simply adapt these for their own use (Attached as **Annexures 1 and 2** of this document):

4 *e-Maturity and e-Readiness Assessment Report*. Prepared for the Gauteng Department of Education, 31 May 2010. South Africa Institute for Distance Education (SAIDE)

- **Example 1** is based on the results of a Quintile 2 school that scored 41% in the SAIDE survey. It is probably appropriate for a school that is already using ICTs in the school and has a strong desire to fully integrate ICTs into the day-to-day running of the school ("adoption" level as described in Section 4.1 of this document).

- **Example 2** is based on the results of a Quintile 1 school that scored 23% in the SAIDE survey. It is probably appropriate for a school that is at the "entry" level for ICT usage in the school.

Also attached as annexures are examples of other policies or rules that schools may want to apply:

ANNEXURE 3**: EXAMPLE OF RULES FOR USE OF GOL LABORATORY**

ANNEXURE 4**: EXAMPLE OF POLICY FOR ACCEPTABLE USE OF THE INTERNET AND EMAIL**

APPENDIX 4.1: EXAMPLES OF CYBERBULLYING

ANNEXURE 5**: EXAMPLE OF CELL PHONE POLICY FOR LEARNERS**

ANNEXURE 6 **: EXAMPLES OF ACKNOWLEDGEMENT FORMS**

For schools that are just starting to introduce ICTs, the priorities in the policy will probably be the following:

1. Explanation of overall approach to ICTs in the school, especially the level of management commitment to the use of ICTs
2. Goals for ICT usage in the school – using the SAIDE report as a baseline
3. Priorities and timetabling for the use of the GoL laboratory, together with an indication of funds that will be allocated to maintain and run the laboratory
4. The introduction of ICTs (esp SASAMS)into the school's administration and management functions
5. Roles and responsibilities of an ICT Co-Ordinator
6. Identification of key training needs for teachers, administrative staff, SMT
7. Simple rules or procedures for security and care of equipment

3.2 PROPOSED FRAMEWORK FOR A SCHOOL ICT POLICY

TABLE 8: FRAMEWORK FOR SCHOOL ICT POLICY

No	Heading	Items to be considered
1	**NAME OF POLICY**	Eg "Policy for the use and management of ICTs in the school"
2	**EFFECTIVE DATE**	Start date
3	**DATE OF NEXT REVIEW**	Set date – usually at least annually
4	**REVISION HISTORY**	To be updated whenever policy is reviewed
5	**PREAMBLE**	Provide overall statement of the school's approach to the use of ICTs in the school
6	**PURPOSE**	Reason for writing a policy
7	**DEFINITIONS & ACRONYMS**	Explain terms used if necessary
8	**APPLICATION & SCOPE**	Who is covered by this policy and under what circumstances
9	**LEGISLATIVE FRAMEWORK**	Add list of relevant legislation
10	**RELEVANT POLICIES & PROVINCIAL CIRCULARS**	Add list of related school policies and/or related provincial circulars
11	**POLICY STATEMENTS**	This is the content of the policy. See points 11.1 to 11.10 below
11.1	Goals for ICT usage in the school	Consider current status of school e-readiness and e-maturity Indicate where the school wants to be within the next 1 – 3 years (Use the SAIDE survey results as the baseline) **Note:** This section can also be used as the basis for the School Development Plan
11.2	ICTs for teaching and learning (for teachers and learners)	Provide a list of general principles that will guide decision making regarding how teachers and learners use ICTs. Consider • School expectations of the extent to which teachers will use ICTs • Usage of ICTs by teachers for administrative tasks • Usage of ICTs by teachers for preparation of lessons • Usage of ICTs by teachers for lessons • Teacher skills and confidence levels • Expectation by teachers that learners use ICTs in learning • Use of the school computer laboratory • Learner skills levels • Accessibility of ICTs (what is available, where are items placed or allocated, how can they be accessed, who is responsible for them?) • How the school ensures that all children have opportunities to use ICT according to their needs • How the school manages limited resources for large numbers of learners and teachers • Whether staff are able to take home portable equipment for preparation and practice • Whether there is a loan scheme for portable equipment • Provision for teachers and learners to use ICT equipment outside lessons • Whether learners are able to use ICT equipment unsupervised /conditions that apply • Whether special conditions will be put in place for learners with special needs or gifted learners If dedicated resources are to be made available for teachers to use (eg PCs in staffroom or data projectors in each classroom, or a certain number of hours for training or to access computers) this can be mentioned here.

No	Heading	Items to be considered
11.3	ICTs for management and administration	Provide a list of general principles that will guide decision making regarding how the principal, SMT, SGB and school administrators use ICTs. Consider • Usage of ICTs by SMT members for management tasks • Usage of ICTs by administration staff for administrative tasks • Usage of ICTs by SGB members for management tasks • School/District/Provincial expectations for ICT usage for management and administration • Usage of ICTs in communication with the community, including parents • Skills levels of SMT, SGB and Administrative staff • Attitudes towards the use of ICTs • Issues of privacy and confidentiality (eg when sending mass emails to parents use bcc (blind copy) so that parent email addresses are not made public; when giving information about learners on the school website, be careful that personal details such as addresses or telephone numbers are not made available to non-authorised people) • Security of data, including usage of passwords, back-up protocols • Where both hard copy and soft copy will be required – eg will learner reports be provided to parents in hard or soft copy, or both Indicate which tasks should be undertaken electronically and the level of such usage - eg the school standard may be that all official communication with parents will be electronic – in some schools this may mean that letters to parents will be typed, in other schools this means that communication will be via email or SMS, and in other schools this may refer to the type of information that will be made available on the school website and/or social networks.
11.4	Training and development of staff and SGB in ICT skills	Outline the general philosophy regarding training in ICTs: Consider • Skills levels of the different groupings • Availability of formal training • Availability of informal training (from ICT Co-ordinator, other staff members, parents) • Access to equipment for practice • Availability of specialist software for training • Budget and time constraints • Level of individual responsibility expected for skills acquisition and development
11.5	Management of hardware and software	Consider: • Usage, prioritisation, maintenance and care of the GoL and other computer laboratories • Asset registers and insurance • Licensing requirements • The use of personal devices such as memory sticks, videos and CDs • Acquisition of new hardware and software • Care in the handling of devices • How items may be allocated to specific teachers or others for short or long periods and how this will be tracked • General security measures, including what should be done in the case of fire or other disaster • What happens if there is loss or damage to equipment – no fault / negligence / malicious
11.6	Data management	Consider: • Security of data (protection against viruses and hacking, use of personal devices such as memory sticks and CDs) • Copyright, intellectual property, plagiarism and piracy • Confidentiality and protection of privacy, including usernames, emails, files and documents such as learner records, examination papers, etc • Acceptable use of the internet, incl ▪ learner safety, including ensuring that there is no access to pornographic or

No	Heading	Items to be considered
		other unsuitable sites and that learners are made aware of the potential dangers of providing personal details on the web ▪ providing a firewall service to control internet access ▪ use of personal web-enabled cell phones or 3G cards to access or display data or pictures ▪ use of the school's website, and social networks such as Facebook and Twitter
11.7	Planning and budgeting for ICTs in the school	Consider: • Mechanisms for inclusion of ICTs into the schools planning and budgeting • Items to be included in the budget • Sources of funding • Mechanisms to increase the funding available for ICTs • Whether a certain percentage of the budget will be allocated for ICTs or whether the allocation will be on a needs basis • The source of funding for the following major items • Maintenance of equipment • Connectivity • Hardware • Software • School website • Technical support • Insurance • Staff development • Printing • Priorities in ICT spending (eg priority will be given to learner access to ICTs; or priority will be given to ICTs for administrative use until certain goals are reached; or priority will be given to items that will ensure optimal usage of current resources, etc)
11.8	Roles and responsibilities	Provide a list of roles and responsibilities for the management of ICTs in the school. Consider the roles of • Principal, SMT and SGB • School ICT Committee • ICT Coordinator • Teachers
11.9	Community involvement	Consider the relationship with the community, including involving community in security of schools, using skills and resources of community members, allowing community members access to school ICT resources
11.10	Other	Schools may want to set some special provisions or procedures to cover certain areas. These can be added here or they could be recorded as separate annexures to this policy or as separate "Procedures" documents. Typical examples would include: • Rules for behaviour and use of equipment in GoL laboratories • Rules for use of sensitive equipment (including cameras, TVs, etc) • Procedures for maintenance of equipment and systems • Procedures for booking and use of portable devices (both for use at school and outside of school premises) • Rules for use of the internet and email • Template for asset register • Protocols for data backup and protection of confidentiality • Protocols for the school's website
12	**SHORT TITLE**	Eg "ICT policy"
13	**DATE OF APPROVAL**	Lists sign-off dates by Principal, SGB Chairman, District Official

4. INCLUDING ICTS INTO THE SCHOOL DEVELOPMENT PLAN

4.1 PREAMBLE

Schools may have different formats for their development plans, but they should add a section/s that deals specifically with ICTs in the school. A format has been proposed in Section 4.2. Please note that the same format has been proposed for writing the school policy so that there is no unnecessary duplication of work.

Section 2.1 of this document (*Setting goals and objectives for ICT usage in the school*) can be used as a reference for designing a development plan.

In deciding how to rate itself, a school may use overall descriptions of readiness and maturity:

1. **Entry** - "Starting point"
2. **Adoption** - "The process of taking on or accepting something"
3. **Adaptation** - "The process or state of changing to fit a new environment or different conditions"
4. **Appropriation** - "Taking something for own use"

In addition an **E-Readiness index** was developed by SAIDE[5] as part of the research which was commissioned by the GDE. Most schools in the province have been rated against this index and can perhaps use this rating as a baseline for policy and planning.

The dimensions that make up the index are as follows:

- Mins per learner per computer per day
- Mins per teacher per computer per day
- Mins per admin staff per computer per day
- School has an ICT co-ordinator
- School has an ICT policy / plan
- School has at least 1 printer
- Frequency of internet connectivity
- Teacher confidence
- Learner access to computers outside class
- SMT use of ICT
- School has some form of ICT support
- Overall rating (%)

Schools may add some additional dimensions, such as the following:

- School has a timetable for the use of the computer laboratory
- School has additional policies related to ICTs (eg Learners with cell phones)
- No of ICT resources – eg total no of computers, data and overhead projectors, TVs, radios, DVD players, printers, scanners, photocopiers, smart boards, etc
- No/type of computer software programmes, CDs, DVDs in school
- Partnerships with the community regarding the utilisation of ICTs
- Number of staff/learners who have received basic/ advanced training in computer literacy
- Number staff/learners who have received basic /advanced training in the use of other ICTs

[5] *e-Maturity and e-Readiness Assessment Report*. Prepared for the Gauteng Department of Education, 31 May 2010. South Africa Institute for Distance Education (SAIDE)

4.2 FRAMEWORK FOR DEVELOPMENT PLAN FOR ICT USAGE IN THE SCHOOL

The overall e-Maturity level of the school is **Entry / Adoption / Adaptation / Appropriation** (indicate which is appropriate)

According to the 2009 SAIDE benchmark, the school scored an overall **41%** for e-Readiness. The goal of the school is to regard this score as the baseline and to improve against it on an annual basis.

Details of the school plan are as follows:

TABLE 9: FRAMEWORK FOR DEVELOPMENT PLAN FOR ICT USAGE FOR 2011 - 2012

No	Item	Ideal Score	School score (use SAIDE scores for own school)	General plan for next 2 yrs	Specific plan for 2011	Specific plan for 2012
E-Readiness index dimensions						
1	Mins per learner per computer per day	40 mins (Primary school)	0			
2	Mins per teacher per computer per day	160	54			
3	Mins per admin staff per computer per day	420	630			
4	School has an ICT co-ordinator	1	1			
5	School has an ICT policy / plan	1	1			
6	School has at least 1 printer	1	1			
7	Frequency of internet connectivity	Above 75% = 1	0			
8	Teacher confidence	2	0.6			
9	Learner access to computers outside class	3	0			
10	SMT use of ICT	1	1			
11	School has some form of ICT support	2	0.7			
Other dimensions						
12	School has a timetable for computer laboratory	Yes	Yes/No			

No	Item	Ideal Score	School score (use SAIDE scores for own school)	General plan for next 2 yrs	Specific plan for 2011	Specific plan for 2012
13	School has an ICT Committee		Yes/No			
14	Additional policies / procedures related to ICTs	List required policies / procedures	List available policies / procedures			
15	List of ICT resources		List of hardware and software in the school:			
16	Teacher competency levels		No of teachers at Entry level: Adoption level: Adaptation level: Appropriation level:			
17	Basic training		No who have received basic computer literacy training: Teachers: SMT: SGB: Learners:			
18	Advanced training		No who have received advanced / specialised computer literacy training: Teachers: SMT: SGB: Learners:			
19	"Computer orientation" has been added to school subject list and GoL laboratory	Yes	Yes/No			

No	Item	Ideal Score	School score (use SAIDE scores for own school)	General plan for next 2 yrs	Specific plan for 2011	Specific plan for 2012
	timetable					
20	SA SAMS (or other management package) being used for school administration and management tasks		Describe			
21	Communication with parents via email / website / SMS	Describe	Describe			
22	Partnerships with the community regarding the utilisation of ICTs	Describe	Describe			
23	School website / social networks / blogs	Describe	Describe			
24	Other					

5. DEVELOPING A TIMETABLE FOR GOL LABORATORIES IN SCHOOLS

5.1 ALLOCATING TIME FOR COMPUTER LITERACY

Having a timetable for the use of the GoL Laboratory is the best indicator for its optimal usage. However setting this up is a fairly complex process and many schools have not yet completed this task. The following guidelines may be helpful in assisting them to do so.

There are two major elements to be considered for *learners using computers*, and the GoL laboratory in particular:

1. The first is that learners are comfortable using a computer and, depending on their grade, they have acquired skills at least in the programmes associated with the GoL image – word processing, spreadsheets, presentations – and that they are able to use email for communication and the internet for research purposes. This may be referred to as basic computer literacy.
2. The second is that computers become integrated into the teaching and learning experience – ie learners become accustomed to their teachers using computers as a medium for teaching, and also that they themselves start to use computers as a medium for learning (eg using a spreadsheet to solve a mathematical problem, using email to forward a project to a teacher, using the internet to find information for a project).

"***Computer Literacy***" can be regarded as a separate subject or learning area and the school timetable will reflect times for classes to be in the computer laboratory to specifically learn computer skills.

Computer literacy should also be integrated into the teaching of other subjects – eg the Mathematics teacher will teach the class *how to* use a spreadsheet as well as expecting the learners to *use* the spreadsheet to solve a mathematical problem.

The Province has prioritised the integration of computer literacy into the teaching and learning process. This decision has fundamental implications for the use of the computer laboratory and the overall school timetabling process.

Schools can address this issue in the following ways:

1. Computer literacy will be in*tegrated* into the teaching and learning of other subjects – eg Mathematics or English. This implies that
    - The teachers of these subjects are able to teach the basic computer skills that learners will require for tasks in their subjects.
    - Teachers will deliberately plan lessons that require learners to use computers. The computer laboratory (or other computer resources) will be booked for these lessons.
    - The computer laboratory and/or other computer resources will be available for teachers to do preparation and to practice their own skills if necessary.
    - The computer laboratory and/or other computer resources will be available for learners to practice their skills if necessary. This might include learners working on their own outside of school hours.

2. **"Computer Literacy"** can be taught as a specific learning area and will have time allocated for it in the timetable. This implies that:
    - The current allocation of time in the timetable will be adjusted to accommodate periods for the teaching of "Computer Literacy".
    - Certain teacher/s will have responsibility for teaching basic computer skills.
    - Teachers of other subjects can integrate the use of computers into lessons in their subjects, without having to teach the computer skills required.

3. There can be a combination of the 2 approaches with some time being allocated to "Computer Literacy" as a separate subject/learning area and some time allocated for computer literacy integrated with other subjects.

Some examples of how the timetable can be adjusted to include "Computer Literacy" as a separate subject are the following:

1. In the GET band, "Computer Literacy" could perhaps be included into **Life Skills** programme in the Foundation Phase and into the **Technology** or the **Life Orientation** programmes in the Intermediate and Senior Phases, as part of the following Outcomes:

    - **Technology outcomes:**
        - **a.** Technological Processes and Skills: The learner is able to apply technological processes and skills ethically and responsibly ***using appropriate information and communication technologies.***
        - **b.** Technological Knowledge and Understanding: The learner is able to ***understand and apply relevant technological knowledge*** ethically and responsibly.
        - **c.** Technology, Society and Environment: The learner is able to demonstrate an understanding of the interrelationships between Science, Technology, Society and the environment over time.

    - **Life Orientation outcomes:**
        - a. Personal Development: The learner is able to use acquired life skills to achieve and extend personal potential ***to respond effectively to challenges in his/her world***.

2. In the FET band, schools would have to decide whether time could be taken from any of the subjects for specific teaching of "Computer Literacy", or whether this would have to be incorporated into the teaching of another subject.

5.2 PROVINCIAL PRIORITIES

The original intention for the use of the GoL laboratories was that "all learners, all learning areas and all educators are given approximately equal access to the GoL computer laboratory"[6]. This remains the ideal towards which public schools should aspire.

[6] *Timetable to ensure optimal use of the Gauteng-on-Line Computer Laboratory,* GDE Circular 13 of 2005

However, achieving this ideal depends on a school having sufficient resources. Particularly in schools with large numbers of learners, the numbers of computers and the time available for each learner / class/ teacher may not be sufficient to ensure that basic skills are acquired or that meaningful work can be completed. The province has therefore decided to phase in the use of the GoL laboratories and has identified some priority areas for the next few years. Schools are expected to at least ensure that these areas are covered by a timetable in the school.

The priorities set by the Province for the next few years focus on the *integration of computers into the teaching and learning of Mathematics and English*.

The purpose of this is to ensure that learners acquire core knowledge and skills in Mathematics and English, while using the computer as the medium for learning, and that they develop computer skills at the same time. Priority will also be given to ensuring that teachers of Mathematics and English become more confident in their own computer skills.

The priorities for 2011 – 2013 are set out in Table 10 below.

TABLE 10: PRIORITIES FOR TIMETABLING FOR GOL LABORATORIES 2011 – 2013

Year	Primary schools 1st priority	Primary schools 2nd priority	Secondary schools 1st priority	Secondary schools 2nd priority	Subjects	Time per subject per week
2011	6 & 7	5 (and 4 if possible)	9 and 12	11	English and/or Mathematics	1 hour per subject, preferably in a continuous period
2012	4, 5 & 7	6	9 & 12	11 (and 10 if possible)		
2013	3,4 & 7	6 (and 5 if possible)	9 & 12	11 (and 10 if possible)		

The above 1st priorities should be inserted first into the laboratory timetable. The ideal is that the prioritised grades should have integrated classes in **both English and Mathematics.** However, if resources are too limited, then learners in these grades should have at least 1 hour per week in **either English or Mathematics.**

The school may decide to limit the time given to a 1st priority grade so that a second priority grade can also have time in the laboratory. The second priority grades have been selected so that there can be some consolidation of skills for learners over a number of years.

It should be noted that the province will support these priorities by providing resource packs and by developing lesson plans for the specific grades and subjects. It will provide training sessions for teachers, District officials, school interns and District IT Support Technicians to cover the planned lessons.

In addition, the province will provide guidelines for basic computer orientation requirements per grade. These guidelines will be made available to schools on an ongoing basis.

5.3 POSSIBLE SCENARIOS FOR TIMETABLING FOR THE GOL LABORATORY

Some possible scenarios for schools to adopt to make the best use of the computer facilities available at the school are given as examples below:

i. **Scenario 1 (minimum requirement):**

- The school schedules time in the laboratory for the grades and subjects identified as provincial priorities for the year
- "Computer literacy" will form part of the English or Mathematics lesson in these grades
- Additional time in the laboratory is used on an ad hoc basis by other learners and teachers

ii. **Scenario 2**

- The school schedules time in the laboratory for the grades and subjects identified as provincial priorities for the year
- Additional time in the laboratory during the school day is scheduled as follows:
    - All classes are scheduled for "Computer literacy" for at least one period per week/cycle
    - Any additional time available in the laboratory can be booked by teachers wishing to take other classes to the laboratory
- The laboratory is open for certain hours before and after school, and can be used by teachers and learners on an ad hoc basis or according to a booking schedule

3. **Scenario 3**

- The school schedules time in the laboratory for the grades and subjects identified as provincial priorities for the year
- Additional time in the laboratory during the school day is scheduled as follows:
    - The school will prioritise certain classes / subjects in addition to those prioritised by the Province, and schedule periods for them (eg Gr 12 classes or gateway subjects (Accounting, Physical Science, Life Sciences, Geography))
    - Any additional time available in the laboratory can be booked by teachers wishing to do preparation or administration requiring the use of computers
- The laboratory is open for certain hours before and after school, and can be used by teachers and learners on an ad hoc basis or according to a booking schedule

4. **Scenario 4 (ideal)**

- The school has sufficient resources to schedule equitable time for learners, learning areas and teachers, and will continue to do so, providing that the provincial priority areas are also covered.

Classroom management and resource management will be important to deal with limited resources. Some examples are given below:

- Where there are too few periods available to accommodate all classes, then some classes can be combined

- Where there are more learners per class than there are computers available, the teacher will manage this by setting groups to share a single computer, and will manage these groups to ensure that all individuals have equal access to the computers over time
- Classes may be split – eg in week 1, half of the class goes to the computer laboratory and the other half goes to the library or resource centre; in week 2, the groups are swopped over
- Where there are too few periods available for prioritised classes to have integrated lessons for both English and Mathematics, then the school might for example schedule one subject for Terms 1 and 3, and the other subject for Terms 2 and 4.
- Similarly, the school may schedule 1st priority grades for one or two terms only and allow 2nd priority grades to have the facilities in the other terms

5.4 BASIC ASSUMPTIONS AND PRINCIPLES

Setting up the timetable has to be done in the context of the circumstances of the particular school and will require understanding of and adherence to the following:

1. Basic assumptions
2. Basic principles or rules
3. Applicable variables

a. Basic assumptions

The school should adjust the assumptions below to reflect their own circumstances and also indicate how they will manage them.

TABLE 11: BASIC ASSUMPTIONS UNDERPINNING SETTING UP A TIMETABLE FOR THE GOL LABORATORY

Assumptions	Actual school conditions	Plan to manage situation
100% PC Uptime (ie all computers functional all of the time)		
100% Internet connectivity		
24 learner dedicated PCs per school		
2 teacher dedicated PCs per school		
There is at least one teacher at the school with sufficient computer knowledge to assist other teachers		
There is a dedicated teacher fo “Computer literacy”		
English and Mathematics teachers for priority grades have adequate computer knowledge to integrate Computer orientation into their lessons		
An Intern will be placed at the school / IT Support Technicians are available from the District for basic computer support, and to assist teachers and learners with basic computer skills		
A booking system and laboratory supervisor are in place at the school		
The timetable for the laboratory will be subsidiary to the overall timetable for the school		
Learner: teacher ratio in Primary schools - 40		
Learner: teacher ratio in Secondary schools - 35		

b. Basic principles or rules for the use of the GoL Laboratory

The school should set rules based on their own circumstances and priorities. Some examples are given in Table 12 below:

TABLE 12: EXAMPLES OF BASIC RULES GOVERNING THE SETTING UP A TIMETABLE FOR THE GOL LABORATORY

	Examples of basic rules	Actual school conditions	Plan to manage situation
1	During school hours, learners have priority on lab resources		
2	Outside of school hours, teachers have priority on lab resources		
3	The laboratory will be prioritised for certain subjects and grades as per provincial recommendations, and "Computer literacy" skills will be incorporated into the teaching of these subjects OR The laboratory will be prioritised for certain subjects and grades as per provincial recommendations, and "Computer literacy" skills will be integrated into the teaching of these subjects. In addition "Computer literacy" will be added as an additional subject for all classes in the school OR The laboratory will be prioritised for certain subjects and grades as per provincial recommendations, and "Computer orientation" skills will be integrated into the teaching of these subjects. In addition the school will identify other subjects and/or grades as priority and will schedule these into the laboratory timetable		
5	Integration takes priority over simple skills training (i.e. labs are primarily used as a resource in teaching lessons)		
6	Where "Computer literacy" is to be regarded as an additional subject/learning area, notional time will be adjusted by: • Moving one period per week/cycle from Technology / Life Orientation/ (other subject) to Computer literacy		
7	If class size exceeds the number of PCs available: • the teacher will create groups of learners to team up per PC o the teacher will ensure that the individuals in each group gets adequate exposure to each resource o learners will be grouped by similar skill level or to allow for peer teaching • the class will be split, with some going to the computer laboratory and some going to the		

	Examples of basic rules	Actual school conditions	Plan to manage situation
	library/resource room		
8	It is preferable that double periods are used for high priority lessons		
9	The GoL Lab is not to be used for CAT and IT lessons – additional resources at the school will be used for these subjects		
10	The balance of periods available after allocation of priority classes will be shared equitably across other grades OR The balance of periods available after allocation of priority classes will be left open. The lab may be booked for lessons on a first come first served basis		
11	etc		

5.5 VARIABLES TO CONSIDER

There are many variables that will determine how the laboratory will be utilised. Some of them are the following.

Numbers given are based on averages for the province and ideal numbers proposed in the SAIDE survey. Schools would have to insert their own numbers.

TABLE 13: VARIABLES TO BE CONSIDERED IN SETTING UP A TIMERABLE FOR THE GOL LABORATORY

	Ave for Primary schools	Ave for Secondary schools	School actual
No of learners per school	728	1040	
No of grades per school	7	5	
No of classes per school	20	28	
No of classes per grade	3	6	
No of learners per class	40	35	
No of learner dedicated PCs	24	24	
Desired minutes per learner per week	40	45	
Desired periods per learner per week (for prioritised subjects and grades)	4	4	
No of teacher dedicated PCs	2	2	
No of teachers per school	24	40	
Desired minutes per teacher per week	160	160	
No of teaching periods per week*	46	48	

*Schools have different numbers of teaching periods per week, depending on the number of minutes per period and on the number of days per cycle. The example given above is based on a 5-day cycle and 35 minute periods.

5.6 ACTUAL TIMETABLING

Electronic methods:

Schools may use the SA SAMS or other timetabling software that they have to develop the timetable for the laboratory.

Some hints when using the SA SAMS system:

- Add the GoL laboratory to the rooms list
- If Computer Literacy is to be added as a separate subject add it to the subjects list
- Allocate Computer Literacy periods to Register Class teachers / Technology teachers / ICT Co-Ordinators / dedicated Computer Literacy teachers, depending on the school's circumstances
- If Computer Literacy is to be integrated into the teaching of another subject (eg English or Mathematics) then add these as subjects – eg "English – CL" or "Mathematics – CL"
- Add these additional subjects to the appropriate classes – eg if the priority is for all Grade 7s to have "English – CL" and "Mathematics – CL", then add "English – CL – 7A", "English – CL – 7B", "English – CL – 7C", etc and the same for "Mathematics – CL – 7A",etc
- Indicate the number of periods per week/cycle for these additional subjects (eg for a school that has 35 minute periods then 2 periods per week – preferably as a double period – should be allocated). The same number of periods must be removed from the ordinary English or Mathematics periods.
- Link the class, teacher and room (eg "English – CL -7A" to the English teacher and to the GoL room).

Some examples are given in **section 5.7 below**

Manual methods:

Schools may just want to print out the overall school timetable for each week, together with the teacher timetables for the prioritised subjects and grades. They can then have a blank timetable for the laboratory and manually write in the times for the prioritised subjects from the teacher timetables, ensuring that there are approximately 60 minutes per week per subject for each class (preferably in the form of a double period).

Where there are irreconcilable clashes, adjustments to the main school timetable may be required.

This manual format can then be transferred into a typed format to be posted in the laboratory every week, and can also be used to schedule other classes requested by teachers.

Outside of school hours:

It is recommended that the GoL laboratory be available for teachers and learners outside of school hours – eg for an hour before school, in the afternoon, perhaps over weekends. The school should arrange a booking system for these times as well as supervision by a responsible person.

Steps to be taken for use of laboratory during school hours:

1. Start by scheduling the priority grades and subjects:
   - Count the number of periods per week that are available for the GoL laboratory (eg 29 periods in a Primary school that has 55 minute periods and 53 periods in a school that has 30 minute periods)
   - Calculate the number of periods needed to allow for approximately an hour per week for a priority subject (eg 1 period if the school has 55 minute periods or 2 periods if the school has 30 minute periods)
   - Count the number of classes in the school per priority grade (eg 3 x Grade 6 classes and 3 x Grade 7 classes)
   - Count the number of periods for each priority grade to have the required periods for the priority subjects (eg 2 periods per week for each Grade 6 class for English –CL and 2 periods per week for each Grade 7 class for Maths – CL)
   - Multiply the number of periods required per subject per grade by the number of classes in the grade (eg 3 x Grade 6 classes requiring 2 x 30 minute periods for English –CL = 6 periods; 3 x Grade 7 classes requiring 2 x 30 minute periods for Maths –CL = 6 periods. Total required = 12 x 30 minute periods per week)

2. Calculate how many periods are left after the priority grades and subjects have been allocated (eg the school has 53 x 30 minute periods per week minus the 12 required for the 2 priority grades = 41 x 30 minute periods available)

3. Decide how the school will use these remaining periods. For example
   1 The remaining periods can be allocated to classes identified as 2nd priority by the province
   2 The remaining periods can be left open to be booked by other teachers or learners
   3 The remaining periods can be used for all other classes in the school to be given specific computer skills training (“Computer Literacy”). In this case,
      - Count the number of classes in the school (a typical primary school in Gauteng has approx 750 learners and 21 classes and a typical Secondary school has approx 1200 learners and 30 classes)
      - Calculate whether there are sufficient periods available to accommodate all classes (eg if there are 41 periods available and there are 21 classes in the school, it is possible to accommodate all classes)
      - If there are sufficient periods, then schedule a period for each class into the timetable.
      - If there are not sufficient periods, then the school will have to decide on its own priorities and schedule those.

5.7 EXAMPLES

PRIORITIES

TABLE 14: PRIORITIES FOR TIMETABLING FOR GOL LABORATORIES 2011 – 2013

Year	Primary schools 1st priority	Primary schools 2nd priority*	Secondary schools 1st priority	Secondary schools 2nd priority*	Subjects	Time per subject per week
2011	6 & 7	5 (and 4 if possible)	9 and 12	11	English and/or Mathematics	1 hour per subject, preferably in a continuous period
2012	4, 5 & 7	6	9 & 12	11 (and 10 if possible)		
2013	3,4 & 7	6 (and 5 if possible)	9 & 12	11 (and 10 if possible)		

*To be considered if the school has sufficient resources

PRIMARY SCHOOLS

Example 1

For our first example we are assuming a Primary school with 750 learners and 3 classes per grade from Gr1 to Gr7, and we are allocating the **2011 priorities** of approx 1 hour per week for English – CL" and approx 1 hour per week for "Mathematics – CL" for Grades 6 and 7. Availability of time in the GoL laboratory is as follows:

TABLE 15: 2011 PRIORITIES - GR 6 & 7

	Number of Periods					
	55 minute periods	50 minute periods	45 minute periods	40 minute periods	35 minute periods	30 minute periods
No of periods available in GoL laboratory for the week	**29**	**32**	**36**	**40**	**46**	**53**
No of classes in school	**21**	**21**	**21**	**21**	**21**	**21**
No of periods reqd for approx 1hr per week	1	1	1	2	2	2
English - CL - Gr6 x 3 classes	3	3	3	6	6	6
English - CL – Gr7 x 3 classes	3	3	3	6	6	6
Maths - CL – Gr6 x 3 classes	3	3	3	6	6	6
Maths - CL - Gr7 x 3 classes	3	3	3	6	6	6
Total no of periods required for 1st priority classes	12	12	12	24	24	24
No of periods still available in the GoL lab after allocation of 1st priorities	**17**	**20**	**24**	**16**	**22**	**29**

In the above example it is clear that there are sufficient periods available in the GoL laboratory for the provincial 1st priorities.

In addition, this school could have all other classes (ie excluding Gr 6 and 7) have at least one period per week per class for "Computer Literacy" and still have some periods available for other classes or for teachers to use for research or administration. See calculation below:

No of periods still available in the GoL lab after allocation of 1st priorities	**17**	**20**	**24**	**16**	**22**	**29**
No of classes in school excluding Gr 6 & 7	**15**	**15**	**15**	**15**	**15**	**15**
No of periods still available in the GoL lab if all other classes have 1 period per week for CL	**2**	**5**	**9**	**1**	**7**	**14**

Or, this school could use the remaining periods to schedule approx 1 hour per week for the provincial **2nd priorities** – in this case Gr 5 (and Gr 4 if possible), as follows:

No of periods still available in the GoL lab after allocation of 1st priorities	**17**	**20**	**24**	**16**	**22**	**29**
English or Maths - CL – Gr5 x 3 classes	**3**	**3**	**3**	**6**	**6**	**6**
English or Maths - CL – Gr4 x 3 classes	**3**	**3**	**3**	**6**	**6**	**6**
Total no of periods required for 2nd priority classes	6	6	6	12	12	12
No of periods still available in the GoL lab after allocation to 1st and 2nd priorities	**11**	**14**	**18**	**4**	**10**	**17**

Again, there would still be free periods for other teachers to use for their classes and for preparation and research. To accommodate large class sizes, learners can be grouped to share computers, or the classes can be split with half perhaps going to the library or resource centre as suggested earlier.

Example 2

For this example we are using the same school as for Example 1 (Primary school with 750 learners and 3 classes per grade from Gr1 to Gr7 and we are allocating the **2012** Provincial priorities: Computer integration with both Maths and English for grades 4, 5 and 7. Availability of time in the GoL laboratory is as follows:

TABLE 16: 2012 PRIORITIES - GR 4, 5 & 7

	Number of Periods					
	55 minute periods	50 minute periods	45 minute periods	40 minute periods	35 minute periods	30 minute periods
No of periods available in GoL laboratory for the week	**29**	**32**	**36**	**40**	**46**	**53**
No of classes in school	**21**	**21**	**21**	**21**	**21**	**21**
No of periods reqd for approx 1hr per week	1	1	1	2	2	2
English - CL - Gr4 x 3 classes	3	3	1	6	6	6
Maths - CL - Gr4 x 3 classes	3	3	3	6	6	6
English - CL - Gr5 x 3 classes	3	3	3	6	6	6
Maths - CL - Gr5 x 3 classes	3	3	3	6	6	6
English - CL - Gr7 x 3 classes	3	3	3	6	6	6
Maths - CL - Gr7 x 3 classes	3	3	3	6	6	6
Total no of periods required for 1st priority classes	18	18	18	36	36	36
No of periods still available in the GoL lab after allocation of 1st priorities	**11**	**14**	**18**	**4**	**10**	**17**

In addition, this school may want all other classes (ie excluding Gr 4, 5 and 7) to have at least one period per week for "Computer Literacy":

No of periods still available in the GoL lab after allocation of 1st priorities	**11**	**14**	**18**	**4**	**10**	**17**
No of classes in school excluding Gr 4, 5 & 7	**12**	**12**	**12**	**12**	**12**	**12**
No of periods still available in the GoL lab if all other classes have 1 period per week for CL	**-1**	**2**	**6**	**-8**	**-2**	**5**

From this example it can be seen that there will be pressure on the GoL laboratory and it will not be possible to also allocate a "Computer Literacy" period for each class. In this case the school may decide to

- Schedule "Computer Literacy" just for some grades – eg Gr 6 or Gr 3 classes, **or**

- Leave the remaining periods open for teachers to book for other classes or for preparation and administration, **or**
- Select **either** "Maths – CL" **or** "English – CL" for the 1st priority grades rather than both for each grade.

Similar scenarios would emerge with schools with large numbers of learners and with more than 3 classes per grade. Schools would have to evaluate what was possible for them, using the simple calculation suggested in the tables above, and then add these periods to their timetables for the GoL laboratory.

The point of these examples is to show that where resources are limited, schools will need to become both practical and creative in the way they set up their timetables.

SECONDARY SCHOOLS

Secondary schools tend to have more learners than Primary schools and also more classes per grade, so the time pressure on the laboratory is likely to be greater than for Primary schools.

Example 3:
For this example we are using a Secondary school with 1200 learners, and 31 classes, as follows:

Gr 8	= 6 classes
Gr 9	= 5 classes
Gr 10	= 8 classes
Gr 11	= 7 classes
Gr 12	= 5 classes
Total	**= 31 classes**

We have used a 5-day cycle, and allocated the priority classes to the laboratory as per the **2011** requirement, viz approx 1 hour per week for "English –CL" and approx 1 hour per week for "Mathematics – CL" for grades 9 and 12. Availability of time in the GoL laboratory is as follows:

TABLE 17: 2011 PRIORITIES - GR 9 & 12

	55 minute periods	50 minute periods	45 minute periods	40 minute periods	35 minute periods	30 minute periods
No of periods available in GoL laboratory for the week	**30**	**33**	**37**	**42**	**48**	**55**
No of periods reqd for approx 1hr per week	1	1	1	2	2	2
No of classes in school	**31**	**31**	**31**	**31**	**31**	**31**
English - CL - Gr9 x 5 classes	5	5	5	10	10	10
English - CL - Gr12 x 5 classes	5	5	5	10	10	10
Maths - CL - Gr9 x 5 classes	5	5	5	10	10	10
Maths - CL - Gr12 x 5 classes	5	5	5	10	10	10
Total no of periods required for priority classes	**20**	**20**	**20**	**40**	**40**	**40**
No of periods still available in the GoL lab after 1st priorities have been allocated	**10**	**13**	**17**	**2**	**8**	**15**
2nd priority: Maths or English - CL - Gr11 x 7 classes	7	7	7	14	14	14
No of periods still available in the GoL lab after 1st and 2nd priorities have been allocated	**3**	**6**	**10**	**-12**	**-6**	**10**

In this example, not many periods remain after the Grades 8 and 12 priority periods have been allocated. For schools with 40 and 35 minute periods there are not even enough periods to allocate to the 2nd priority – 7 x Gr 11 classes.

The school may decide to

- Allocate time to **either** English **or** Maths for Grades 9 and 12, rather than both, and use the additional periods for the 2nd priority grade 11, **or**
- Leave the remaining periods open for teachers to book for other classes or for preparation and administration
- Schedule "Computer Literacy" for a single rather than a double period for a few classes only, etc

It is important for schools to look carefully at their own circumstances and to plan how to use scarce resources.

6. ANNEXURES

ANNEXURE 1: EXAMPLE OF ICT POLICY FOR A SCHOOL ALREADY USING ICTS ON A DAY TO DAY BASIS

1. **TITLE OF THE POLICY: "The use and management of ICTs in the school"**

2. **EFFECTIVE DATE: xxxxxxxx**

3. **DATE OF NEXT REVIEW: xxxxxxxx**

4. **REVISION HISTORY**

As amended on: (Specify dates)
1.
2.

5. **PREAMBLE**

The school recognises that today's world is increasingly driven by technology and information and that preparing learners for success in adult life demands that we equip them with the skills for this world. It also means that school management and administration systems need to reflect the world we live in and match the level of usage of technology that is becoming the accepted norm for organisations across the world.

The school will encourage the appropriate use of ICTs where it believes that such use will improve efficiencies and educational outcomes.

The school will therefore make full use of its current ICT resources, and will make provision for maintenance and acquisition of ICTs as well as increased utilisation of ICTs in its development plan and in the school budget. Priorities will be identified on an annual basis, and evaluated and updated quarterly to ensure that goals are achieved.

A system will be applied to ensure that ICTs are used optimally. This will include a timetable for the use of the school computer laboratory and an asset management and booking system for all other items.

The school will encourage community involvement in its use of ICTs in the school. It will keep parents, local businesses and other community members informed of progress and usage and will request technical and professional assistance as well as donations and sponsorships where parents and other community members are able to provide these.

6. **PURPOSE OF THE POLICY:**

The purpose of this policy is to outline the school's approach to the use of ICTs for management, administration, teaching and learning in the school. It will be used

- To ensure all staff understand and agree on the approach to ICT
- To assist planning and promote development
- To explain the school's position to outsiders, including parents
- To assist the school management in the allocation of funds

7. DEFINITIONS AND ACRONYMS

3.1 *Definitions*

Term	Definition
Eg: ICTs	Term used to include devices such as computers, digital cameras, TVs, video or CD players, CDs, MP3 players, overhead and data projectors, electronic whiteboards, cell phones, memory devices and printers. It also includes programmes or software that can be used with the equipment, as well as the use of email and internet services and utilisation of computer laboratories
	Add any further definitions considered necessary

3.2 *Acronyms*

Acronyms	Explanation
Eg: SMT	
	Add any further acronyms considered necessary

8. APPLICATION AND SCOPE OF THE POLICY

This policy applies to the SMT, teachers, administrative staff and learners.

9. LEGISLATIVE FRAMEWORK

This policy is written within the framework of the following Acts that pertain to education in South Africa:

- RSA Constitution Act 108 of 1996 as amended
- School Education Act of 1995
- South African Schools Act 84 of 1996 as amended

10. RELEVANT POLICIES AND PROVINCIAL CIRCULARS

This policy should also be read in conjunction with the following Provincial or internal school circulars, policies and procedures:

- Disciplinary policy
- Asset management policy
- Emergency procedures
- Acceptable use for internet and web usage policy
- Procedures for the removal of school equipment from school property
- Rules for use of GoL Laboratory
- Cell phones for learners policy

11. POLICY STATEMENTS

11.1 Goals for ICT usage in the school

According to the 2009 SAIDE benchmark[7], the school scored an overall **41%** for e-Readiness. The goal of the school is to regard this score as the baseline and to improve against it on an annual basis. Details will be included in the annual school development plan.

[7] *e-Maturity and e-Readiness Assessment Report*. Prepared for the Gauteng Department of Education, 31 May 2010. South Africa Institute for Distance Education (SAIDE)

The baseline scores are as follows:

No	Item	Ideal Score	School score	Comment
1	Mins per learner per computer per day	40 mins (Primary school)	0	Particular attention will be given to ensuring that learners have access to ICTs, especially the computer laboratory, and a timetable will be set up to prioritise usage
2	Mins per teacher per computer per day	160	54	There is very little usage by teachers. Priority will be given to acquiring additional computers that will be available to teachers for administrative tasks and for preparation for lessons. Teachers will be encouraged to acquire their own laptops if possible. In addition, certain classes and subjects will be prioritised to ensure that teachers start using the computer laboratory for teaching and learning
3	Mins per admin staff per computer per day	420	630	Good usage by admin staff. The focus will be on increasing the number of administrative tasks to be completed electronically. Admin staff will also be scheduled to assist teachers with their administrative and preparation tasks
4	School has an ICT co-ordinator	1	1	Roles will be clarified and the focus for the Co-Ordinator will be optimal use of the computer laboratory and hands-on assistance to teachers when required
5	School has an ICT policy / plan	1	1	Review and update annually
6	School has at least 1 printer	1	1	Consider acquiring additional printers for the computer laboratory so that learners and teachers can print out their work. School budget should include printer cartridges and paper, and provision for maintenance
7	Frequency of internet connectivity	Above 75% = 1	0	This is major area of concern and attention will be given to making contact with the Help Desk and to following up on poor service if necessary. We will call on the services of the District IT Support Technicians to assist and will also book the mobile computer laboratories when necessary
8	Teacher confidence	2	0.6	Most teachers have had basic computer literacy training. The focus will be on providing resources to allow them to practice their skills – this is for use of computers as well as other ICTs such as data projectors, TVs, CDs, etc. Assistance will be provided from the ICT Co-Ordinator, the District IT Support Technicians and from training modules available online and on the laboratory server. Teachers who have not had training for basic computer literacy will be scheduled to attend courses for this. Teachers will attend additional training courses where this will assist them in making use of ICTs for administration and/or teaching.
9	Learner access to computers outside class	3	0	The computer laboratory will be open before and after school and during breaks. Teachers will be allocated to supervise during these rimes
10	SMT use of ICT	1	1	The SMT is currently making good use of available computers for management reports, timetabling and school records. The goal is

No	Item	Ideal Score	School score	Comment
				for all correspondence and reporting to the District to be electronic.
11	School has some form of ICT support	2	0.7	We will make use of the District IT Support Technicians and will request that an intern also be deployed to the school. In addition we will request assistance from parents and other community members who may be able to help.

11.2 The use of ICTs in teaching and learning

The baseline scores for usage of ICTs by teachers is as follows:

Teacher usage of ICTs			
Admin	Prep	Teaching	Learning
0%	15%	9%	4%

Teachers will be expected to make use of the training that has already been provided and to improve their own skills in the use of ICTs for administration, lesson preparation and for teaching, and the school will encourage them to do so and assist through training programmes where possible and through making ICTs available and accessible. Teachers who are eligible for laptops and cell phones in terms of GDE policy will be encouraged to make use of the facilities provided.

Required teacher skills include basic computer literacy (ie the ability to use the MS Office suite of Word, Excel and PowerPoint and the ability to access the internet and use email) as well as skills in the usage of other equipment such as data projectors, TVs, DVD's and CD players, etc. They will also be expected to learn how to use educational programmes and systems that are acquired by the school or that are available through the GDE central database or other sources, where such usage is appropriate to the subject matter and where it will benefit learner progress.

Part of classroom assessment of teachers will include an evaluation of their use of available ICTs for teaching and learning.

The school standard is that examination papers, worksheets and assessment reports will be typed where this is appropriate.

It is school policy that all learners will have access to ICTs and that they develop at least the basic computer literacy that would be associated with their grade. Where resources are limited, the school will set the rules to prioritise usage. Usage of school computer laboratories will be governed by timetables during school hours, but will be available for individual learners or groups of learners to use for the hour before the start of the school day, during breaks and after school. Teachers will be allocated to supervise during these times.

The school will give attention to learners who have special educational needs, both to accommodate those with physical disabilities (eg utilising special spaces in laboratories for learners in wheelchairs) as well as accessing specialised software and equipment for those with learning disabilities, providing such acquisitions are approved in the school budgeting process or they can be obtained through donations or partnerships.

11.3 The use of ICTs for management and administration

ICTs will be used for school management and administrative tasks wherever such usage will provide a more efficient and effective service and wherever such usage is financially feasible.

All administrative staff will be expected to be able to use the basic MS Office suite of programmes (Word, Excel and PowerPoint) and will be trained on the usage of the school database programme (eg SA SAMS).

Where a specific system is in place (eg the SA SAMs system) then staff will be required to use this system to ensure conformity, consistency and ease of transfer of information.

Similarly SMT members will be expected to develop the appropriate skills, both to work more efficiently and to provide an example to other teachers. SMT members will be encouraged to acquire their own laptops and will be given assistance to acquire them through Provincial programmes.

The school will provide PCs primarily for the use of SMT members. Where these PCs are not being used by SMT members they may also be used by other teachers for administrative and preparation purposes. These PCs will be located in xxxxx and xxxxx venues and usage can be booked in advance.

All school staff members, including administrators, teachers and SMT members will have an email address and will be able to send and receive e-mails.

School administrative staff will allocate a certain number of hours per week (to be agreed on an individual basis depending on other workloads) to assist teachers by typing material, capturing data, and preparing presentations, worksheets and reports. Requests for such assistance should follow normal school procedures and be submitted via agreed channels and within agreed timeframes.

Where appropriate, all school records will be produced and stored electronically. This includes such items as learner records and reports, minutes of meetings, financial records, school development plans, reports and management information submitted to District and/or Provincial level, etc

Official communication with parents, SGB and other community members and the GDE will be electronic where possible. This includes the use of email and SMS services.

A protocol for backup of this data and for protection of confidentiality and privacy will be drawn up and communicated to all relevant staff members.

11.4 Training and development of teachers, administrative staff, SMT members and SGB in ICT usage

Training in ICTs will be added to the schedule of training for staff members and SGB members. This will include attendance at in-service and formal training provided by the Province to improve skills in ICT usage.

In addition, the school will investigate other ways of providing training to staff members, including appointing an ICT Co-Ordinator with sufficient skills to be able to assist other staff members, making use of District officials with sufficient skills to be able to assist staff members, making use of interns that have been deployed to the district or the school, encouraging staff members to help each other and requesting community members, including parents, with sufficient skills to assist. Specialised or advanced training supplied by external or private companies will only be considered under exceptional circumstances.

The school also expects staff members to take personal responsibility for their own development through practising skills that they have acquired during formal training programmes, requesting help from others and self training via online professional development modules.

The school computer laboratory will be kept open in the afternoons and staff members may also gain access over week-ends so that they have the opportunity to practice their skills. Teachers will be permitted to take home specific items for practice and preparation of lessons (eg cameras and video equipment, laptops, recording equipment, etc) subject to availability and the following of procedures relating to removing school property from the premises.

Inappropriate use of school resources, such as using class time to surf the web for personal purposes or allowing unauthorised people to use school equipment, will be dealt with in terms of school disciplinary policy.

11.5 Management of hardware and software

All ICTs will be added to the schools asset register and will be insured where the value exceeds Rxxxx.

The school will strictly enforce licensing agreements for software and will not allow the loading of illegal software onto any school computers.

Where new hardware and software is to be acquired, cognisance will be taken of the need for compatibility with existing equipment and of any requirements or conditions put in place by the GDE.

All ICTs should be handled with care and treated responsibly. Separate procedures will be set up where required to cover specific requirements, but in general it can be said that staff and learners should keep equipment clean and adhere to suppliers' instructions for use. Any deliberate or malicious damage to property will be dealt with in terms of the school's disciplinary policy.

A booking and tracking system will be set up to ensure that ICTs can be allocated to specific staff members or others and can be tracked. A separate procedure will be drawn up to set out the steps to be followed and to cover issues such as insurance and the process to be followed in the event of loss or damage to equipment.

The computer laboratory will be locked when not in use and at the end of the school day and the key will be kept by xxxxxxx in room xxxxx. All portable items such as laptops, cameras, data projectors, printers, CD or MP3 players should be locked away securely when not in use, either in the responsible teacher's storeroom or in the central storeroom.

11.6 Data management

Anti-virus and anti-hacking software and mechanisms will be installed and maintained by the school and specific rules will be put in place to ensure that viruses are not transferred to school computers by foreign devices such as personal memory sticks or CDs. Should anyone wish to use a personal device, then it is a requirement that they first run an anti-virus check on it before commencement of work with it.

The school will be vigilant in matters relating to

- copyright, intellectual property and piracy
- plagiarism – ensuring that teachers and learners acknowledge the source of information
- confidentiality and protection of privacy, including usernames, emails, files and documents such as learner records, examination papers, etc

- learner safety, including ensuring that there is no access to pornographic or other unsuitable sites and that learners are made aware of the potential dangers of providing personal details on the web
- providing a firewall service to control internet access
- use of personal web-enabled cell phones or 3G cards to access or display data or pictures

11.7 Planning and budgeting for ICTS

ICTs will be added to the school planning and budgeting systems to ensure ongoing usage and maintenance of current assets as well the acquisition of new hardware, software and skills.

Depending on priorities for the year at least xxxx% of the school budget will be allocated to ICTs.

The first priority for the use of these funds will be to maintain the current resources and to ensure that they can be used optimally. This will include provision for basic items such as print cartridges and printing paper for use in computer laboratories and for the provision of typed worksheets and other documents for teaching and learning purposes, payment for connectivity to ensure access to the internet, payment for maintenance of equipment in the event of damage or wear. Next priorities will be established on an annual basis and monitored and updated every quarter.

In addition, the school will ensure that it keeps itself up to date regarding what is available and will be paid for by the GDE (including the allocation from LTSM funds), GoL and Banapele. The school will also actively set up fundraising projects and will seek partnerships with local businesses and other enterprises to increase the funding it has available for ICTs.

Elements to be included in the budget are:

- Maintenance of equipment
- Printing costs
- Connectivity
- Hardware
- Software
- Technical support
- Insurance
- Staff development

11.8 Roles and responsibilities

The final responsibility for ensuring that ICTs are used effectively in the school lies with the Principal and the SMT. To assist in the task, the school will appoint an ICT Committee and at least one ICT Co-Ordinator (an additional Co-Ordinator will be appointed if necessary to share workload). The ICT Co-Ordinator/s will be selected primarily on the basis of technical expertise and management ability.

Roles will be as follows:

11.8.1 School ICT Committee

- ICT planning for the school
- Working with the SMT to develop and implement ICT policies for the school
- Scheduling and monitoring training
- Identifying, evaluating and selecting educational software
- Representing the school in all e-Learning activities at District or Cluster level or at ICT forums
- Promoting ICT integration in teaching and learning, eg by
  - Assisting teachers with lesson plans
  - Informing teachers of tools and materials that are available

- Recommending appropriate ICT tools for particular teaching and learning purposes

- Monitoring and evaluating the effectiveness of ICT use in the school, incl
  - Attendance at training programmes
  - Access to computers – for teachers and learners
  - Use of ICTs for administrative and management purposes
  - Levels of computer literacy - SMT, SGB, teachers, learners
  - Extent of integration of ICTs into teaching and learning (incl CDs, DVDs, TV, etc)
  - Implementation of timetabling plans
  - Meeting provincial priorities

11.8.2 ICT Coordinator/s

- Providing technical assistance
  - Troubleshooting when there are system or equipment problems
  - Reporting and following up on broken or faulty equipment or systems
- Managing the computer laboratory, including
  - Timetabling
  - Informal use of the computer laboratories outside of school hours
  - Enforcement of the rules around use of equipment, virus protection, internet usage, etc
  - Managing ICT interns or IT Support Technicians from District offices
- Managing other ICTs in the school, incl
  - Overseeing asset registers
  - Booking arrangements for teachers to use equipment and facilities
- Providing on-site user support
  - Assisting learners, teachers and administrative staff with technical queries
  - Assisting teachers to develop documents or resources for their lessons
- Providing training for teachers and administrative staff in using ICTs
  - On request / in response to technical queries (eg on usage of packages such as Word or Excel, use of cameras, data projectors, etc)
- Providing training for learners
  - Assisting where teachers have difficulty helping learners with basic computer literacy rather than for integration into the curriculum

12. SHORT TITLE

This policy shall be called: "**School ICT policy**"

13. DATE OF APPROVAL: (Indicates when the policy comes into force)

Recommended by: (Principal)		**Signature:**	
Date:			
Approved by: (SGB Chairperson)		**Signature:**	
Date:			
Verification by GDE: (District Director)		**Signature:**	
Date of Verification			

ANNEXURE 2: EXAMPLE OF ICT POLICY FOR A SCHOOL AT ENTRY LEVEL FOR THE USE OF ICTS

1. **TITLE OF THE POLICY: "Policy for the use and management of ICTs in the school"**

2. **EFFECTIVE DATE: xxxxxxxx**

3. **DATE OF NEXT REVIEW: xxxxxxxx**

4. **REVISION HISTORY**

As amended on: (Specify dates)
1.
2.

5. **PREAMBLE**

The school recognises that today's world is increasingly driven by technology and information and that it is important to equip learners with the skills for this world. It also recognises that it has become important for teachers and the school management team to learn some of these skills and for the administrative systems in the school to use appropriate technology.

The school will encourage the appropriate use of ICTs in the school.

As a start the school will make full use of the ICTs resources that it has, including the GoL computer laboratory and the computers and software packages that have been made available for administrative purposes. It will make provision for maintenance of ICTs as well as increased utilisation of ICTs in its development plan and in the school budget. Priorities will be identified on an annual basis, and evaluated and updated quarterly to ensure that goals are achieved.

A timetable will be set up for the use of the school computer laboratory. Other ICTs will be added to the assets register and will be booked out to teachers who need them.

6. **PURPOSE OF THE POLICY**

The purpose of this policy is to outline the school's approach to the use of ICTs for management, administration, teaching and learning in the school.

7. **DEFINITIONS AND ACRONYMS**

7.1 ***Definitions***

Term	**Definition**
ICTs	Term used to include devices such as computers, digital cameras, TVs, video or CD players, CDs, MP3 players, overhead and data projectors, electronic whiteboards, cell phones, memory devices and printers. It also includes programmes or software that can be used with the equipment, as well as the use of email and internet services and utilisation of computer

	laboratories
	Add definitions as considered necessary

7.2 Acronyms

Acronyms	**Explanation**
SMT	
	Add acronyms as considered necessary

8. APPLICATION AND SCOPE OF THE POLICY

This policy applies to the SMT, teachers, administrative staff and learners.

9. LEGISLATIVE FRAMEWORK

This policy is written within the framework of the following Acts that pertain to education in South Africa:

- RSA Constitution Act 108 of 1996 as amended
- School Education Act of 1995
- South African Schools Act 84 of 1996 as amended

10. RELEVANT POLICIES AND PROVINCIAL CIRCULARS

This policy should also be read in conjunction with the following Provincial or internal school circulars, policies and procedures:

- Disciplinary policy
- Acceptable use for internet and web usage policy
- Rules for use of GoL Laboratory
- Cell phones for learners policy

11. POLICY STATEMENTS

11.1 Goals for ICT usage in the school

According to the 2009 SAIDE benchmark[8], the school scored an overall **23%** for e-Readiness. The goal of the school is to regard this score as the baseline and to improve against it on an annual basis. Details will be included in the annual school development plan.

8 8 *e-Maturity and e-Readiness Assessment Report*. Prepared for the Gauteng Department of Education, 31 May 2010. South Africa Institute for Distance Education (SAIDE)

The baseline scores and the school's plan of action are outlined in the table below:

No	Item	Ideal Score	School score	Plan of action
1	Mins per learner per computer per day	40 mins (Primary school)	0	Particular attention will be given to ensuring that learners have access to ICTs, especially the computer laboratory, and a timetable will be set up to prioritise usage At least one teacher will be sent on training on the use of the SA SAMS package for timetabling purposes. Rules for the usage of the laboratory and other ICTs will be established. Learners will be taught about safety on the internet. The school will investigate what training is available from GoL for computer literacy for learners. It will also make use of the resource packs that are available from the GDE and will request help from District officials to ensure that teachers are able to use them
2	Mins per teacher per computer per day	160	0	Teachers are not making use of the computers in the GoL laboratory and there are no additional computers available for them to use. Priority will be given to acquiring additional computers that will be available to teachers for administrative tasks and for preparation for lessons. Teachers will be encouraged to acquire their own laptops if possible. Teachers will be encouraged to use the laboratory in the afternoons and to book time during the school day to practice their computer literacy skills and to do preparation for lessons. In addition, certain classes and subjects will be prioritised to ensure that teachers start using the computer laboratory for teaching and learning. Some teachers will attend the special training set up by the GDE for lesson plans, and they will assist other teachers to improve their skills. A booking system will also be set up to ensure that teachers use other ICTs that are available in the school – including the electronic whiteboard which should be used on a rotational basis by teachers, CD and DVD players and the school TV. Teachers will be trained in the use of the resource packs provided by the GDE and they will be encouraged to use these in the GoL laboratory.
3	Mins per admin staff per computer per day	420	420	The computers assigned for administration are well utilised. The admin staff needs more training in the use of the SA SAMS package so that all learner records and management reports are electronic.
4	School has an ICT co-ordinator	1	0	There is no-one at the school with sufficient technical skills to manage the ICT equipment. The school will appoint a teacher as an ICT Co-ordinator, whose main role will be to manage ICT usage in the school – ie through developing an asset register and booking system for all ICTs including the GoL Laboratory. The Co-Ordinator will also liaise with experts from the District and province to ensure that technical expertise of teachers and learners is improved - this includes managing the ICT intern that has been deployed to the school and scheduling training for staff members.

No	Item	Ideal Score	School score	Plan of action
				The ICT Co-Ordinator will be sent on additional courses to improve his/her technical skills and computer literacy so that he/she will be better able to assist teachers
5	School has an ICT policy / plan	1	0	The school will write an ICT policy to clarify its approach to the use of ICTs
6	School has at least 1 printer	1	1	The printer in the admin office is used for administrative and management purposes. Some worksheets and examination papers are printed there. Paper and printer cartridges will be paid for from the LTSM allocation. Additional budget will be required to maintain the printer in the GoL Laboratory and to buy cartridges and paper for teacher and learner use.
7	Frequency of internet connectivity	Above 75% = 1	0	This is an area of concern and attention will be given to making contact with the Help Desk and to following up on poor service if necessary. We will call on the services of the District IT Support Technicians to assist and will also book the mobile computer laboratories when necessary
8	Teacher confidence	2	0.8	Most teachers have had basic computer literacy training. The focus will be on providing resources to allow them to practice their skills – this is for use of computers as well as other ICTs such as data projectors, TVs, CDs, etc. Where teachers received their basic computer literacy training prior to 2009, consideration will be given to having them repeat this training. Priority will be given to teachers whose classes have been scheduled to use the GoL laboratory. These teachers will attend additional training courses where this will assist them in making use of ICTs for administration and/or teaching. Assistance will also be provided by the ICT Co-Ordinator, the District IT Support Technicians and from training modules available online and on the laboratory server.
9	Learner access to computers outside class	3	0	The computer laboratory will be open before and after school and during breaks. The main focus will be for learners to practice basic computer literacy skills. Teachers will be allocated to supervise during these rimes
10	SMT use of ICT	1	0.8	The SMT is currently making good use of available computers for management reports, timetabling and school records. The goal is for all correspondence and reporting to the District to be electronic.
11	School has some form of ICT support	2	0	We will make use of the District IT Support Technicians and will request that an intern also be allocated to the school. In addition we will ensure that the ICT Co-Ordinator attends as many courses provided by GoL and the Province as possible to ensure that he/she can provide some support to teachers and learners.

11.2 The use of ICTs in teaching and learning

The baseline scores for usage of ICTs by teachers is as follows:

Teacher usage of ICTs			
Admin	Prep	Teaching	Learning
4%	5%	7%	3%

Attention will be given to improving teacher confidence in the use of ICTs. Teachers whose basic training in computer literacy occurred more than 2 years previously will be considered for repeat training. The school will arrange with providers or other knowledgeable individuals to give demonstrations in the use of other ICTs at the school (eg data projectors, TVs and DVD players). Teachers will be encouraged to practice these skills and to assist each other. The school laboratory will be made available at certain times to allow for this.

Certain subjects will be prioritised for teachers to integrate computers into their lessons. Teachers in these subjects will attend training provided by the Province for lessons in these subjects.

It is school policy that all learners will have access to ICTs and that they develop at least basic computer literacy. The school will set the rules to prioritise usage of limited resources. This will include developing a timetable for the use of the school GoL laboratory. The laboratory will also be open for certain hours outside of school hours for individuals or groups of learners.

11.3 The use of ICTs for management and administration

ICTs will be used for school management and administrative tasks wherever possible. This includes using management systems such as SA SAMS.

The school would prefer to have examination papers, worksheets and assessment reports typed.

Official communication with parents, SGB and other community members and the GDE will be electronic where possible. This includes the use of email and SMS services.

The rules for backup of data and for protection of confidentiality and privacy will be drawn up and communicated to all relevant staff members.

11.4 Training and development of teachers, administrative staff, SMT members and SGB in ICT usage

Training in ICTs will be added to the schedule of training for staff members and SGB members. This will include attendance at in-service and formal training provided by the Province to improve skills in ICT usage.

Teachers are also expected to develop their own skills, through using the facilities available, including the GoL computer laboratory. Teachers will be permitted to take home specific items for practice and preparation of lessons (eg cameras and video equipment, laptops, recording equipment, etc) subject to availability and the following of procedures relating to removing school property from the premises.

Inappropriate use of school resources, such as using class time to surf the web for personal purposes or allowing unauthorised people to use school equipment, will be dealt with in terms of school disciplinary policy.

11.5 Management of hardware and software

All ICTs will be added to the schools asset register and will be insured where the value exceeds Rxxxx.

All ICTs should be handled with care and treated responsibly. Separate procedures will be set up where required to cover specific requirements, but in general it can be said that staff and learners should keep equipment clean and adhere to suppliers' instructions for use Any deliberate or malicious damage to property will be dealt with in terms of the school's disciplinary policy.

A booking and tracking system will be set up to ensure that ICTs can be allocated to specific staff members or others and can be tracked.

The computer laboratory will be kept locked when not in use and at the end of the school day and the key will be kept by xxxxxxx in room xxxxx. All portable items such as laptops, cameras, data projectors, printers, CD or MP3 players should be locked away securely when not in use, either in the responsible teacher's storeroom or in the central storeroom.

11.6 Data management

The school will be vigilant in matters relating to

- anti-virus and anti-hacking protection for the school's computers
- copyright, intellectual property and piracy
- plagiarism – ensuring that teachers and learners acknowledge the source of information
- confidentiality and protection of privacy, including usernames, emails, files and documents such as learner records, examination papers, etc
- learner safety, including ensuring that there is no access to pornographic or other unsuitable sites and that learners are made aware of the potential dangers of providing personal details on the web
- providing a firewall service to control internet access
- use of personal web-enabled cell phones or 3G cards to access or display data or pictures

11.7 Planning and budgeting for ICTs

ICTs will be added to the school planning and budgeting systems to ensure ongoing usage and maintenance of current assets as well the acquisition of new hardware, software and skills.

The first priority for the use of these funds will be to maintain the current resources and to ensure that they can be used optimally. This will include provision for basic items such as

- Printer cartridges and printing paper for use in computer laboratories
- Printer cartridges and paper for typed worksheets and other documents for teaching and learning purposes
- Connectivity costs to ensure access to the internet
- Maintenance of equipment in the event of damage or wear.
- Consumables such as batteries for CD players and cameras
- Acquisition of additional ICTs such as CDs and DVDs for use in lessons

Next priorities will be established on an annual basis and monitored and updated every quarter.

11.8 Roles and responsibilities

The final responsibility for ensuring that ICTs are used effectively in the school lies with the Principal and the SMT. To assist in the task, the school will appoint an ICT Committee and an ICT Co-Ordinator. The ICT

Co-Ordinator will be selected primarily on the basis of management ability and a willingness to develop and impart technical skills.

Roles will be as follows:

11.8.1 School ICT Committee

- ICT planning for the school
- Working with the SMT to develop and implement ICT policies for the school
- Scheduling and monitoring training

11.8.2 ICT Coordinator

- Providing technical assistance and following up of reports when there are equipment problems
- Managing the computer laboratory, including
  - Timetabling
  - Informal use of the computer laboratories outside of school hours
  - Enforcement of the rules around use of equipment, virus protection, internet usage, etc
  - Managing ICT interns or IT Support Technicians from District offices
  - Assisting learners, teachers and administrative staff with technical queries where possible
  - Assisting teachers to develop documents or resources for their lessons

12. SHORT TITLE

This policy shall be called: "**School ICT policy**"

13. DATE OF APPROVAL: (Indicates when the policy comes into force)

Recommended by: (Principal)		**Signature:**	
Date:			
Approved by: (SGB Chairperson)		**Signature:**	
Date:			
Verification by GDE: (District Director)		**Signature:**	
Date of Verification			

ANNEXURE 3: EXAMPLE OF RULES FOR USE OF GOL LABORATORY

(Adapted from *Gauteng on Line Code of Ethics and Conduct,* Circular 13/2004, 24 February 2004)

1. During class time the laboratory will be used for classes according to the timetable
2. The laboratory will be open for an hour before school, during breaks and for 2 hours after school. Learners and teachers may book time to use the laboratory during these times.
3. No learners may be in the laboratory without the supervision of a teacher or other responsible person
4. Strictly no food or liquids are allowed in the laboratory
5. The laboratory is to be kept clean at all times. Please tidy up before you leave
6. No items may be removed from the laboratory without permission
7. The room temperature should be about 22^{o}C. If the weather is hot, keeps the door and windows closed and the air conditioners switched on.
8. Please do not tamper with computer systems, printers, other hardware and equipment without having permission to do so
9. Do not load programmes or software onto the GoL computers or link any hardware to the network without the permission of GoL
10. You may not link to the internet via an unauthorised service provider. Neither may you operate another email account (eg Hotmail or web-based email) from the GoL network
11. Please use the computers for learning purposes. Playing games or browsing the internet will only be allowed if you have been given permission to do so.
12. Please respect the rights of others and obey the general rules relating to use of computers and the internet:
    - Please store your data and files only where you have been given permission to do so
    - Do not delete, rename or damage the files of others
    - You may only use your own login account and files. Using someone else's without permission will be regarded as theft
    - Writing an e-mail message whilst masquerading as another person is a very offensive form of fraud
    - Do not deliberately annoy others and invade their privacy, eg through reading other people's mails or files without permission, sending or making accessible obscene, abusive or threatening messages, or flooding a person's account with multiple emails
    - Accessing, downloading, uploading, saving, receiving or sending material that includes pornography, vulgar, sexist, racist, threatening, violent or defamatory language or material is strictly prohibited and is regarded as a violation of the internet
    - Do not forward "junk mail" and you may not create or forward chain letter e-mail
    - Any intentional damage to physical property (computers, printers, desks, etc) as well as damage to information not belonging to you and intentional misuse of system resources will be regarded as vandalism. This includes deliberately introducing codes and programmes that will damage or hinder the performance of any computer (computer viruses, bugs and worms, Trojan horses, etc)
13. For your own safety, NEVER provide personal information, including email addresses on bulletin boards, chat rooms or other services, just as you would never give your address to a stranger
14. Please note that the principal or other authorised person may access your emails, files and record of internet sites visited if they believe it is necessary to do so

Violation of these rules may result in disciplinary action, including suspension of computer rights

ANNEXURE 4: EXAMPLE OF POLICY FOR ACCEPTABLE USE OF THE INTERNET AND E-MAIL

These conditions apply to learners, teachers and administrators who make use of school computers and other electronic equipment to access the internet and emails and also to those who use their own web-enabled cell phones or 3G cards and can access internet sites at the school or while on school business.

1. School owns user email

All users should respect the privacy of files and email messages, and no-one should read personal mail unless permission has been given to do so. However, the school owns any communication sent via email or that is stored on school equipment. Management and other authorised staff have the right to access and control any material in individual user emails or on school computers at any time.

2. Acceptable use

Voice mail, email, and internet usage assigned to school computers or telephone extensions are for the purpose of conducting school business. Access to the Internet is specifically limited to activities in support of official school business, including educational and research purposes.

Private use of such equipment or resources is permitted to the extent that

- It is not excessive
- If by a staff member it does not interfere with the performance of his or her duties as a staff member
- It does not impair the rights of other members of the school community

Software needed, in addition to software provided by the school and the GDE, must be authorised by the principal and the ICT Committee, who will follow the procedures required by the school and the GDE regarding acquisition of software.

If any user has a question regarding acceptable use he/she should check with the responsible teacher or the ICT Coordinator for additional guidance.

3. Unacceptable use

Internet access via computer or any other electronic device shall not be used for any illegal or unlawful purposes. Examples include

- Viewing, storing, downloading or forwarding defrauding, violent, threatening, harassing (race, gender, nationality, religion, etc), defamatory, pornographic or obscene materials.
- Bullying others ("cyberbullying") – see Appendix 1 for examples of this
- Impersonating another user or another person
- Damaging or deleting files of another user
- Obtaining without authorization the access codes and/or passwords of another user
- Sending, whether on the internal email system or externally, bulk unsolicited mail, mail-flooding, or excessive cross postings on newsgroups (called spam)

School email or messaging services shall not be used to harass, intimidate or otherwise annoy another person. It should also not be used for private, recreational or other non-school related activities including commercial or partisan political purposes or for personal gain, if this has not been authorised.

Users shall not attempt to circumvent or subvert security measures on either the school's network or any other system connected to or accessible through the Internet. Any form of hacking is specifically forbidden.

Users may not make or use illegal copies of copyrighted material, store such copies on school equipment, or transmit these copies over the school network.

Loading of illegal software (ie software that the school has not purchased or does not have a licence for) directly onto school computers or downloading of illegal software via the internet, including music and film material is strictly forbidden. Likewise, users may not illegally copy, change or transfer any software provided by the school, GoL and GDE.

4. Safety and security of users

Child safety on the internet

Of particular concern in the school environment is exposure of learners to online predators – ie adult internet users who exploit vulnerable children or teens, usually for sexual or other abusive purposes and who cause learners distress, fear or embarrassment.

Rules to ensure child safety on the internet will be strictly enforced. These rules and the rationale behind them will be explicitly taught to learners as part of the process of teaching them to use the internet and will be prominently displayed on the walls of computer laboratories and in other venues where learners may have access to the internet. The rules will include those already listed as part of acceptable and unacceptable usage, and will also include the rule that

- Learners may not divulge personal information which could be used to locate or identify them
- If a school has a website, care should be taken to protect the identities and personal details of learners who may be featured on the site for achievement and other reasons
- Regular checks will be run to monitor sites being accessed by learners
- When sending mass emails to parents use bcc (blind copy) so that parent email addresses are not made public

Breaches of confidentiality and security

Internet use brings the possibility of breaches to the security of confidential school information. Spy ware allows unauthorized people, outside the school, potential access to school passwords and other confidential information. The school may also be subjected to phishing which is the criminally fraudulent process of attempting to acquire sensitive information such as usernames, passwords and banking details by masquerading as a trustworthy entity. Internet use also creates the possibility of contamination to the school system via viruses.

Some measures to ensure confidentiality and security include

- The school will ensure that it maintains a firewall and anti-virus system as part of the general setup in the school. It will also set up its own white and black lists for internet browsing. If required the school will consider acquiring proprietary software which can be updated daily to control internet connectivity per user/group.
- Users may not use own memory sticks/flash drives or CD's and DVDs in school equipment, unless this has been authorised and they have run a virus check on these devices prior to using them on school equipment.
- School memory sticks, CDs, etc are not to be used in privately owned PCs and laptops, unless this has been authorised and the privately owned PC or laptop has been certified by the school as having the appropriate anti-virus and anti-spy ware protection.
- Users may not connect a PC to the school network without running virus detection software.
- School confidential information must not be shared outside of the school, without authorisation, at any time

Violations of this policy will be handled in accordance with procedures established for staff or student discipline.

APPENDIX 4.1: EXAMPLES OF CYBERBULLYING

(Adapted from www.stopcyberbullying.org)

1. **Instant Messaging/Text Messaging Harassment**
   - Learners may send hateful or threatening messages to other learners, without realizing that while not said in real life, unkind or threatening messages are hurtful and very serious.
   - Warning wars: Many Internet Service Providers offer a way of "telling on" a user who is saying inappropriate things. Learners often engage in "warning wars" which can lead to someone being suspended or “offline” for a period of time. While this should be a security tool, learners sometimes use the Warn button as a game or prank.
   - Text wars or text attacks are when learners gang up on the victim, sending thousands of text-messages to the victim’s cell phone or other mobile device.
   - A learner may create a screen name that is very similar to another learner’s name and then use this name to say inappropriate things to other users while posing as the other person.

2. **Stealing passwords**
   A learner may steal another learner's password and begin to chat with other people, pretending to be the other learner. He may say mean things that offend and anger friends or even strangers. A learner may also use another learner's password to change his profile to include sexual, racist, and inappropriate things that may attract unwanted attention or offend people.

3. **Blogs**
   Blogs are online journals. They are a fun way for learners to post messages for their friends to see. However, learners can use these blogs to damage other learners’ reputations or invade their privacy.

4. **Web sites**
   Learners sometimes create Web sites that may insult or endanger others. They create pages specifically designed to insult another learner or group of learners. They may post other learners' personal information and pictures, which put those learners at risk of being contacted or found.

5. **Sending Pictures through E-mail and Cell Phones**
   - Learners may send mass e-mails to other users that include degrading pictures of other learners, for example, a picture of someone changing, etc. Once an e-mail like this is sent, it is passed around to hundreds of other people within hours; there is no way of controlling where it goes.
   - Many of the newer cell phones allow learners to send pictures to each other. They receive the pictures directly on their phones and some of these can include pornographic pictures or other unsuitable material.
   - Cyberbullies may sign their victims up for e-mailing and marketing lists, including porn sites. When the victim receives thousands of e-mails from pornographers their parents usually get involved, either blaming them (assuming they have been visiting porn sites) or making them change their e-mail or IM address.

6. **Internet Polling**
   “Who's Hot? Who's Not?” These types of questions run rampant on Internet polls, created by learners and other teens. Such questions are often very offensive and hurtful.

7. **Impersonation**
   Posing as the victim, the cyberbully can do considerable damage. They may post a provocative message in a hate group's chatroom posing as the victim, inviting an attack against the victim, often giving the name, address and telephone number of the victim to make the hate group's job easier. They often also send a message to someone posing as the victim, saying hateful or threatening things while masquerading as the victim. They may also alter a message really from the victim, making it appear that they have said nasty things or shared secrets with others.

ANNEXURE 5: EXAMPLE OF CELL PHONE POLICY FOR LEARNERS

Cellular telephones are permitted at xxxxxx School, although we recommend that they are not brought to school unless it is absolutely necessary.

Some concerns that may be associated with learners having cellular telephones include the following:

- Learners who carry or use cell phones (including head phones) in public, particularly when travelling to and from school, have become the targets of criminals
- Theft of cell phones at school from bags and blazers is a persistent problem
- Students are careless with their cell phones and leave them lying around or in blazers and bags which are left unattended. Lost and mislaid cell phones are frequently claimed to be stolen when this is not the case
- Students are distracted from their work by the phones
- Cell phones may carry private and personal material, including photographs, video clips, voice messages and personal details which may become accessible by undesirable individuals and groups when cell phones are lost, borrowed or stolen.
- Cell phones can be used for cheating in examinations

The following rules will be applied to learners bringing cell phones to school:

- The school will not take any responsibility whatsoever for a cell phone which is lost or stolen, no matter what the circumstances. This includes the loss or theft of cell phones that may be handed in to teachers and or coaches for safekeeping, as well as to cell phones which have been confiscated from students who use them in defiance of the school rules
- Cell phones must be switched off (not “on silent”) during the school day other than during official break periods
- Cell phones may under no circumstances be brought into examination venues
- If a learner is found using a phone when not permitted to do so, the phone will be confiscated until the end of term
- Learners found with any pornography or any other distasteful material on their phones will be dealt with severely and parents will be informed
- Learners using their phones to disseminate hurtful information about other learners will be dealt with severely and parents will be informed
- No learner should be accessing Facebook or any similar site as these are age restricted sites
- Any videoing or the taking of photographs will not be permitted unless under staff supervision

ANNEXURE 6: EXAMPLES OF ACKNOWLEDGEMENT FORMS

LEARNER ACKNOWLEDGEMENT FORM

Use of ICTs, including computers, and access to the Internet through the school is a privilege. Users granted this privilege must adhere to strict guidelines concerning appropriate use. All users are required to acknowledge receipt and understanding of guidelines and rules.

I acknowledge that I have received a copy of /the teacher has explained to me the following policies and/or rules:

1. Rules for use of GoL Computer laboratory
2. Policy on cell phones for learners
3. Policy on acceptable use of the internet and email
4. ……

I understand the contents of these documents and will abide by them. If I am not sure I will ask for further explanation from the person responsible for the laboratory, my class teacher or any other senior teacher in the school.

I also understand that any violation of these policies is unethical and in some cases may constitute a criminal offence. Should I break any of these rules, my access privileges may be withdrawn and disciplinary action and/or appropriate legal action may be taken.

Signed, this _____day of _____ in the year 20_____

Full name _____

ID No _____ Date of birth _____

Class _____

_____ _____

Learner's Signature Witness

PARENT ACKNOWLEDGEMENT FORM

Use of computers and access to the Internet through the school is a privilege. Users granted this privilege must adhere to strict guidelines concerning the appropriate use of this information resource. All users are required to acknowledge receipt and understanding of guidelines and rules.

I acknowledge that I have received a copy of the following policies and/or rules:

1. Rules for use of GoL Computer laboratory
2. Policy on cell phones for learners
3. Policy on acceptable use of the internet and email
4. ……

I agree that I have read and understood these documents and that I will explain them to my child/ren. If I am not sure I will ask for further explanation from the school.

I also understand that any violation of these policies is unethical and in some cases may constitute a criminal offence. Should my child/ren break any of these rules, access privileges may be withdrawn, and disciplinary action and/or appropriate legal action may be taken.

Signed, this _____day of _____ in the year 20_____

Full name of parent _____

Name and surname of learner _____

Class of learner _____

_____

Parent's Signature

STAFF MEMBER ACKNOWLEDGEMENT FORM

Use of computers and access to the Internet through the school is a privilege. Users granted this privilege must adhere to strict guidelines concerning the appropriate use of this information resource. All users are required to acknowledge receipt and understanding of guidelines and rules.

I acknowledge that I have received a copy of the following policies and/or rules:

5. Rules for use of GoL Computer laboratory
6. Policy on acceptable use of the internet and email
7. …….
8. ……

I understand the contents of these documents and will abide by them.

I also understand that any violation of these policies is unethical and in some cases may constitute a criminal offence. Should I break any of these rules, my access privileges may be withdrawn and disciplinary action and/or appropriate legal action may be taken.

Signed, this _____day of _____ in the year 20_____

Full name of staff member _____

ID number _____ Post number _____

Designation of staff member _____

_____ _____

Staff member's signature Witness signature