ICT In Education Educators' Course

Paper I: Technology Literacy Cycle Examination

<mark>Memorandum</mark>

Time: 90 minutes
Marks: 100

- Read the questions carefully
- Ensure that your script has your name clearly printed at the top. If you have a student number insert this data too.
- Number your answers exactly as the questions are numbered on this question sheet.
- Work in an orderly way and present your answer as neatly as possible.
- You are strongly encouraged to type your answers on a computer using a word processor but should you be concerned that this will take too long then a hand written submission is acceptable.
- Accurate and adequate factual knowledge is essential but equally important is the ability to use the correct technical terms appropriately.

General Section

1. The components of a URL tell us a little about the web site itself. For example the last two letters of this address, http://www.teachertalk.org.za, tell us that the website:
   a. belongs to a commercial enterprise
   b. <mark>is South African</mark>
   c. belongs to an organisation
   d. is on the World Wide Web

   (2)

2. What is the purpose of the 'Home' button on a typical Internet browser?
   a. To take the user back to a page viewed previously;
   b. To stop the loading of a page no longer desired;
   c. <mark>To navigate back to the first page viewed in a session</mark>;
   d. To navigate forward to the next page to be viewed in a session.

   (2)

3. Boolean logic when used to conduct advanced Internet searches uses the following operators:
   a. <mark>AND, OR, NEAR and NOT</mark>;
   b. THE, AND, NEAR and IS;

c. AND, NOR and NOT, NEAR;

d. THE, AND, NEAR and A.

(2)

4. When creating a mark book in MS Excel the formula to work out the total of a column of figures is :

    a. =TOTAL(B1:B14)

    b. =AVG(B1:B14)

    c. =SUM(B1:B14)

    d. +TOTAL(B1:B14)

    e. +MEAN(B1:B14)

(2)

5. Didactic Teaching can be summarized as:

    a. Instructional

    b. Informative

    c. Teacher centred

    d. Students observe and copy

    e. All of the above

    f. None of the above

(2)

6. The videos on Khan Academy are examples of which philosophy in action:

    a. Didactic Teaching;

    b. Constructivist Learning;

    c. Constructionism;

    d. Behaviorism

    e. Post Modernism Learning

(2)

7. Which of the following software programs would appeal to learners' whose learning preference is to use their 'Spatial intelligence'?

    a. Excel

    b. PowerPoint

    c. FireFox

    d. Acrobat

    e. Moodle

    f. Angry Birds

(2)

8. What is a computer pod?

    a. A computer lab of between 20-30 computers;

    b. An MP3 player;

    c. A cluster of 3-5 computers;

    d. The teacher's computer and printer.

    e. A mini hub of about 10 computers

(2)

9. What should students be warned when working online?

    a. Sharing passwords;

    b. Giving out personal information to people they do not know;

    c. Accessing inappropriate material;

    d.   All of the above.
    e.   b & c above
    f.   a & b above

10. Which one of the themes below is NOT a theme of Digital Citizenship:
    f.   Digital Access: full electronic participation in society
    g.   Digital Etiquette: standards of conduct and procedure
    h.   Digital Security: electronic precautions
    i.   Digital Network: allowing broad connections to society
    j.   Digital Health & Wellness: Physical and psychological wellbeing

(2)

Section Sub Total: (10x2=20)

Section 1: Understanding ICT in Education

11. Below are a number of objectives as described in various national policy documents. Complete the grid by inserting in the second column some concrete examples of how classroom activity might bring about the specific objective :

Specific Objective	Example Classroom Practice/Activity
• To promote the development of ICT services and businesses to increase job opportunities and generally to improve the economic and social well-being of the Guyanese.	Typing, formatting and printing Curriculum Vitaes (CVs). Being able to develop a professional CV could help the learners not only to secure jobs after school but also provide them will skills that are required by numerous other individuals who might be willing to pay for such a service. (✓✓✓)
• To create a new generation of citizens that can use ICTs to leapfrog Guyana's development.	Set assignments where the computer skills developed can be implemented within local contexts. For example, helping parents research prices of local produce, etc. (✓✓✓)
• To improve the competitiveness of existing industries and to facilitate the sustainable development of new enterprises, thereby supporting economic diversification.	Link the teaching of ICTs to business studies or entrepreneurship. Students use ICTs to research, cost, market and track expenditure and profit, etc. (✓✓✓)

Allocate an additional mark if argued well (✓)

(10)
Section Sub Total: (16)

Section 2: Curriculum and Assessment

12. Effectively using a search engine is considered an important competency (TL.4.f.). Explain what functionality now exists within these search tools, beyond word or phrase searching that has an educational application. Identify the feature and then show how it can be used for educational purposes.

Feature	Educational Application
Language	Language teachers can restrict the results to find results, and consequently resources, only in the language they teach. (✓✓)
Region	This tool allows teachers to find local resources to use in their lesson. This is significant because students respond better to lesson where they can see a relevance to their lives and community. (✓✓)
Reading level	Teachers can find resources pitched at the correct level for their students. This is especially relevant for junior classes. (✓✓)
Verbatim Tool	This tool can be used as 'plagiarism' finder. When passages of an assignment don't ring true the teacher can use the Google verbatim tool to look for the passage on the Internet. This is a way around 'cut and paste' assignments. (✓✓)
Usage Rights	This allows teachers to find resources that can be used free of charge and free to share. They won't violate copyright law by distributing to their students. (✓✓)

Two marks per feature and application

(7)

13. As schools have started acquiring computers so electronic School Administration packages have become popular. Explain what the advantages are of using such a package over traditional ways of record keep.

School administration packages help centralize data collection. A student's academic progress can be ascertained quickly by his teachers, counselors or by school management (✓✓), his financial status can be viewed by school administrators and the headmaster (✓✓). Also end of term and year reports for each individual learner can be generated quickly and professionally when needed and referred to later by accessing the students archive. (✓✓). If all data can be accessed from one location it aids the diagnostic process to ensure the school responds to individual needs (✓).

(7)

14. There are many online assessment tools today, such as Quizstar, discuss how they might be used in one of your lessons and why how these tools offer additional functionality over and above traditional assessment methods.

Online assessment is most likely to be used for formatively (✓) or as part of assignment/project work by the students themselves. Surveys, tests and questionnaires can be used to test students. Tests can be set more easily (✓) using the digital tools and more time spent of developing quality questions. Also databanks (✓) of questions can be stored and saved online for future use so that setting paper (✓) can be facilitated by using a combination of old and new questions. Students can use these tools to improve data collection when asked to do assignments (✓) that require the collection of opinions or community perspectives (✓). The tools also accurately diagnose (✓) the data they have collected and help them reach significant conclusions.

(7)

Section Sub Total: (21)

Section 3: Pedagogy

15. In a typical didactic lesson there are ideally 6 phases. Order these phases in the correct order.
    a. (2) Lesson Objectives
    b. (3) Teacher Input
    c. (6) Review
    d. (1) The'Hook'
    e. (5) Learning Check
    f. (4) Student Activities

(6)

16. Complete the table below and identify how the following technology tools might support a didactic style lesson:

Technology Tool	Didactic Style Deployment/Activity
Data Projector/ SmartBoard	These hardware tools help with teacher exposition. The teacher can demonstrate clearly what he/she is doing on the computer or board in a clear manner so that all class individual can follow (✓✓)
Word Processor (MS Word, Open Office Writer)	This software can be used for either teacher exposition or student demonstration of learning. The teacher can use the word processor to generate class notes, worksheets and even the final examination. Students can use the software to prepare assignments. (✓✓)
Video Editor (Movie Maker)	Most likely this software will be used by students to demonstrate what they have learned. They might edit a video programme to show how theory is enacted (or not) within the local community. (✓✓)

(6)

17. What are the features of Audacity and Gimp software that could be harnessed easily to support didactic style teaching?

Audacity is an audio program used to make podcasts. So it could be used to record a lesson especially if it is a 'lecture' style lesson or to record the views of a guest or expert in the field. (✓✓)

Gimp is a graphics program used to make illustrations or edit photos. It could be used to develop visual material for presentations or worksheets. (✓✓)

(2x2=4)
Section Sub Total: (16)

Section 4: Organization and Administration

18. There are both pros and cons in setting up a *computer lab* in your school. Use the table below to identify both the strengths and weaknesses of the practice.

Strengths	Weaknesses
Can teach the whole class using one activity as everyone has access to a computer. (✓)	Not all lessons that use computers require everyone in the class to be seated in front of a computer. A computer pod of 3-5 computers might be sufficient. The rest are a distraction. (✓)
Easier to maintain computers as they are all in one location. (✓)	
Easier to secure as they are all in the same place. Burglar guards on door and window. Air conditioning can be organized to cool. (✓)	Potential target for thieves as the computers are all in the same place. (✓)
Ensures machines are well utilized as they are shared across the whole school. (✓)	High demand means you cannot always get the facility especially if Computer Studies is a subject which requires high levels of access to the facility. (✓)
Labs encourage a didactic style of teaching with the teacher leading (✓)	Constructivist lessons are hard to organize around a lab where seating and close proximity of learners and machines invariable does not encourage collaboration (✓)

(10)

19. Success when positioning ICT in the *classroom* is dependent on good preparation. The following areas are important. In the second column describe the type of things that need to be considered under each heading:

Element	Description
Time Management	Among the attributes of effective teachers is that of effective time management. Educators need to become adept at restructuring timetables to incorporate new ideas and procedures. The use of computers is a cross-curricular activity, thus they should fit into an existing structure or be part of as many activities as possible. (✓✓)
Planning	Like any other part of the curriculum, ICT work must be structured and planned. This should be done in conjunction with the school policy, the skills level of the teacher, and the availability of suitable software, as well as taking note of learner: computer ratios. (✓✓)
Integration	ICT is a new tool for education and by integrating the technology across as broad a range of areas in the curriculum as possible, we as educators are broadening the horizons of possibility for our learners. Integration involves using the software at our disposal to impart a broad range of skills to our learners. (✓✓)

(6)
Section Sub Total: (16)

Section 5: Teacher Professional Learning
20. Complete the table below that illustrates how ICT can add value to a teacher's productivity.

Activity	The Traditional Approach	The ICT Approach
Planning	Printed forms or specially designed books provide templates that teachers can fill out for planning their lessons.	Digital word processing forms can be produced to perform the same function but now can be more easily shared and swopped with other departmental colleagues but also teachers elsewhere in the district, country, region or globally. Also lesson plans can now be downloaded from the internet and adapted for use. (✓✓)
Assessing	Paper-based assessments are taken by students in the classroom and teachers physically mark these.	Various digital tools allow tests to be set online and provide tools to automate marking of certain types of questions such as one word answer, multiple choice, T&F etc. Allows teachers to provide marks for essay type questions and then can work out grades. (✓✓)
Keeping Records	Files and specially designed books are used to keep a record of documents, such as lesson plans, marks and syllabi.	Spreadsheet program allows baulk processing of grades rather than working out individual learner grades. (✓✓)
Coordinating and Communicating	Exchanging notes and using paper diaries are common ways in which teachers coordinate meetings and other events. Several teachers also rely on notice boards or word of mouth to pass on information.	e-mail allows communication to and from all staff. Shared electronic diaries also allow numerous staff to see and book various slots. (✓✓)
Collaborating	Teachers physically meet to discuss and brainstorm their ideas.	Teachers can collaborate with colleagues within the district, province, country, region or globally using social networking without actually meeting face to face (✓)

(9)

21. What is a digital dossier and why should students be aware of their own dossier?

A digital dossier is sum of the digital tracks users create and leave as evidence behind them. (✓) These include records, digital photos, social posts and comments. (✓) The dossier contains evidence of what we did and thought in both digital public forums and also in digital closed systems such as banks and medical history (✓). The significance is that often we are not aware of this evidence (✓) and who holds this data (✓). Will it ever be used 'against' us or to limit our liberties? (✓).

(6)

Section Sub Total: (16)
Examination Total: (100)