

**INTEGRATING**

***LANGUAGE***

**AND**

**INFORMATION AND  
COMMUNICATION  
TECHNOLOGY:**

**A RESOURCE DOCUMENT TO SUPPORT  
TEACHERS IN THE USE OF COMPUTERS  
IN EDUCATION**



# ACKNOWLEDGMENTS

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# INTEGRATING LANGUAGE AND INFORMATION AND COMMUNICATION TECHNOLOGY

*"Language is central to students' intellectual, social and emotional growth, and must be seen as a key element of the curriculum."*

*The Ontario Curriculum, Grades 1 – 8, Language, p. 5.*

*"The use of computers can extend and enrich students' learning in important and unique ways. Whenever possible, therefore, students should be encouraged to use computers."*

*The Ontario Curriculum, Social Studies Grades 1-6, History and Geography, Grades 7 – 8.*

"Technology can be used to enhance instruction and expand the limits of the existing curriculum. As an information tool, it can be used to obtain, organize, manipulate and communicate knowledge and information, address the range of differing learning styles and expand student's access to the world."<sup>1</sup>

## **A. INTRODUCTION**

The intent of this document is to assist teachers to use Information and Communication Technology (ICT) within their Language program to improve student literacy. The use of computer-based instructional strategies supports and enriches student learning in the areas of reading, writing and oral and visual communication, as well as the development of ICT competencies. ICT integrated across the curriculum can be used effectively in a range of settings, from a lab for large group instruction to a single computer in the classroom as a learning center.

This document is designed to provide examples of ways in which teachers can use Information and Communication Technology to deliver their language program. It should be used when preparing long-range plans to ensure that students attain the necessary ICT competencies to use computers, and in unit planning to support and enhance learning. The Language Ontario Curriculum Grade 1 - 8 contains many expectations at each grade level that can be addressed or enhanced by the use of computer technology.

## **B. HOW TO USE THIS DOCUMENT**

Activities have been developed to support teachers in using computer technology as a teaching/learning strategy. The activities address a wide range of curriculum expectations for Language and the Kindergarten program. The intent of the activities is to assist teachers who are at a beginning level of expertise with using technology. The writers made every attempt to keep the activities relatively short, with clear instructions. The activities are written to address a variety of instructional strategies, and a range of computer competencies.

For each grade, the following components are provided:

- Grade-Specific Title Page
- Activity Overview Chart
- Writing Activities
- Reading Activities
- Oral & Visual Communication Activities

Each activity is identified with an Activity No. such as "4W3", which indicates the Grade (4), the strand (Writing) and the activity number (3). Activities also

<sup>1</sup> H. Daniels, M. Kaufman, G. Meo, J. Naylor and E. Whelihan. "Planning for technology: Circa 1992." SIGTC Connections, Vol. 8, No. 4, 1992. P. 29.

*"The impact of technology proves most powerful when focused on specific, measurable educational objectives, such as improved literacy."*

*Mann, D., Shakeshaft, C., Becker, J. and Kottkamp, R. West Virginia Story: Achievement Gains from a Statewide Comprehensive Instructional Technology Program. Milliken Exchange on Education and Technology, 1999*

*"Struggling learners respond positively to classroom programs that ... use technology to enhance learning."*

*Think Literacy Success: The Report of the Expert Panel on Students at Risk in Ontario. Ontario Ministry of Education, October 2003..*

generally include student instruction sheets and template files. The files are located in folders, labelled with the activity name (e.g. 5W1\_Personal\_Reading\_Response).

In the folder, the teacher instruction file is named the same as the folder (e.g. 5W1\_personal\_reading\_response.pdf). Student instruction files are labelled "instruct" (e.g. 5W1\_personal\_reading\_response\_instruc.pdf). Template files are labelled "template" (e.g. 5W1\_personal\_reading\_response\_template.pub). Instruction files are provided in Word and PDF format. Template files are in the format of the ministry-licensed software being used in the activity.

Each activity reflects:

- Grade level
- Strand of the Ontario Curriculum
- Concept addressed
- Description of Task
- Language expectations addressed
- Software Type
- Computer Skills Prerequisite
- Student Instructions (for teacher)
- Teacher Notes
- Assessment

The assessment in most activities is formative, consisting of questions to guide the teacher's observation. The questions are focused on: Curriculum, Learning Skills, ICT Skills, and the Catholic Graduate Expectations.

## **i) Planning**

When preparing long-range, unit and daily plans, teachers are referred to the Activity Overview Chart for the appropriate grade. The chart provides an overview of the range of activities, the expectations addressed, the concepts covered, the student products and the software titles available. This chart can be used in several ways. Teachers can:

- Look for activities that address a specific strand (e.g. Reading) or specific curriculum expectations (e.g. 2e1, 2e2)
- Look for activities that have students produce a specific product (e.g. a poem)
- Find activities that relate to a specific software application.

*"Students demonstrate higher levels of motivation and engagement when using technology, which also contributes to improved achievement."*

*Sivin-Kachala, J. Report on the Effectiveness of Technology in Schools, 1990 – 1997. Software Publishers Association, 1998.*

## ii) Implementation

When selecting an activity, consider the following:

- Ensure that students have the necessary ICT skills to complete the activity. It may be necessary to demonstrate selected skills before students can successfully use the software.
- Read the Teacher Notes to ensure that you have the necessary knowledge about the activity before working with the students. The student instructions outline the steps with which you need to be familiar. For more detailed instructions, use the program's help menu, access a manual, or contact the board's personnel responsible for ICT.
- Determine whether the activity is best suited to the computer lab setting, or as a centre in the classroom.
- Introduce students to an overview of the activity prior to accessing the computer.

### C. ONTARIO CATHOLIC SCHOOL GRADUATE EXPECTATIONS

Together with providing access to computers, and teaching skills to use the technology effectively to address the curriculum, teachers must also teach students to use computers ethically and safely. Many of the activities in this resource provide opportunities for students to communicate effectively and to be a self-directed, responsible learner, and as such provide teachers opportunity to address one or more of the Ontario Catholic School Graduate Expectations, which outline the image of the Catholic learner. The life roles, knowledge, skills and attitudes outlined describe the distinctive expectations that the Catholic community has for graduates of Catholic schools. Teachers in Catholic Schools in Ontario use these expectations in curriculum planning. Two of these expectations in particular are closely linked to students working with computer technology:

**AN EFFECTIVE COMMUNICATOR** who speaks, writes and listens honestly and sensitively, responding critically in the light of gospel values.

- a. Listens actively and critically to understand and learn in light of gospel values.
- b. Reads, understands and uses written materials effectively.
- c. Presents information and ideas clearly and honestly and with sensitivity to others.
- d. Writes and speaks fluently one or both of Canada's official languages.
- e. Uses and integrates the Catholic faith tradition, in the critical analysis of the arts, media, technology and information systems to enhance the quality of life.

*"Centres are task-oriented and there are clear expectations, but a centre is not simply an "exercise", especially not a closed-ended one. The best and most productive centres involve open-ended inquiry." (p. 49)*

Fountas, Irene C. and Pinnell, Gay Su. Guided Reading: Good First Teaching for All Children. Heineman, Portsmouth, NH. 1996.

**A SELF-DIRECTED, RESPONSIBLE, LIFELONG LEARNER** who develops and demonstrates their God-given potential.

- a. Demonstrates a confident and positive sense of self and respect for the dignity and welfare of others.
- b. Demonstrates flexibility and adaptability.
- c. Takes initiative and demonstrates Christian leadership.
- d. Responds to, manages and constructively influences change in a discerning manner.
- e. Sets appropriate goals and priorities in school, work and personal life.
- f. Applies effective communication, decision-making, problem-solving, time and resource management skills.
- g. Examines and reflects on one's personal values, abilities and aspirations influencing life's choices and opportunities.
- h. Participates in leisure and fitness activities for a balanced and healthy lifestyle.

#### **D. CONSIDERATIONS FOR EFFECTIVE ICT INTEGRATION**

There are several factors to consider when planning to effectively use ICT to support student achievement in literacy:

##### **i) Do students have the necessary ICT skills?**

Computer skills should not be taught in isolation, but rather in the context of an authentic task. "There is an increasing recognition that the end result of computer literacy is not knowing how to operate computers, but to use technology as a tool for organization, communication, research, and problem solving."<sup>2</sup>

To assist students in developing the skills necessary for the activity:

- Model the skill for students before having them access the computer.  
Use:
  - ✓ a desktop computer, with groups of students gathered around;
  - ✓ a computer connected to a TV;
  - ✓ a single computer and a projector, either in the classroom or the lab;
  - ✓ screen capture technology.
- Arrange to have older student volunteers to be computer tutors, or enlist the aid of parent volunteers.
- Use the computer lab to teach a whole group lesson on a new skill. Students may practise the skill by using it to perform a specific task related to the learning activity they will work on in the classroom.

*"Technology applications must be located in the classrooms or areas where the learning is taking place instead of housed in hard-to-access labs or resource centers."*

*Valdez, G. et al. Computer-Based Technology and Learning: Evolving Uses and Expectations. North Central Regional Educational Laboratory (<http://www.ncrel.org/tplan/cbtl/toc.htm>)*

ii) ***How can students be encouraged to stay on task?***

- Ensure that the task is clear and that students know what is expected. Post the assignment, with step-by-step instructions, near the computer. You may also include exemplars of student work.
- Provide students with a "Technology Duotang" where they can keep instructions for various software applications.
- Encourage students to use the computer in pairs. Give careful consideration to group structure. Some suggestions for pairing students for computer use are:
  - ✓ Try to match students of similar computer skill levels. Although it is helpful to pair a student with beginning skills with a more advanced student, when the difference in skill is pronounced, frustration on both students' parts may result.
  - ✓ Research shows that boys and girls approach technology differently. This may lead to difficulties when pairing opposite genders.

iii) ***How will using ICT affect classroom organization and scheduling?***

Computers are available for use in varying configurations. Generally, students can access computers in the classroom or in a computer lab setting. Providing equitable and effective access to the lab or to one or two classroom computers for a class of students requires careful planning and organization.

- Develop routines for using the computer, including a process for determining who will go next.
- Teach, practice and review cooperative learning rules, including effective communication techniques and decision-making strategies.
- Assign roles to individual group members, and rotate the roles regularly. Some examples of roles include keyboard operator, screen monitor, note-taker, and computer support.
- Allow for large blocks of time when providing students the opportunity to use the computer.
- Incorporate the computer(s) as a center or workstation in an atmosphere of project-based or inquiry learning. If your teaching style tends primarily to direct whole class instruction, you will find it difficult

*“A three-year study (grades 3-5) of two groups of elementary school students determined that writing quality improved in a high-computer-access school, as indicated by holistic measures of writing message (meaning and content quality) and medium (quality of the form and surface features).”*

*<http://reading.indiana.edu/ieo/bibs/comp-wrt.html>*

to allow individuals or groups of students to access the computer. Schedule student computer use as part of a series of cooperative learning tasks.

- Prepare a schedule for computer use and post it in a visible location, preferably near the computer workstation.
- Demonstrate the task to be performed at the computer centre. For a task to be performed at a centre, keep the new learning minimal. Students need to be able to work independently for centres to work successfully.
- Have students use the computer for a specific task, not as a reward.
- Consider that all students do not need to complete the same task using the same software. For example, for a given writing task, some students may brainstorm and organize ideas using the computer, while others use paper and pencil to complete this task. For the next writing task, their roles may be switched. It is important, however, to ensure that each student has the opportunity to practise the skill using the computer at some time during the unit of instruction.
- If possible, create a class folder (and individual student folders) on the network, to keep student work organized and easily accessible.

#### **E. A DESCRIPTION OF SOFTWARE TYPES AND USES**

In the constantly changing world of ICT, support materials that reference specific software titles can quickly become obsolete. To alleviate this concern, this document refers to **types** of software applications, as well as specific software titles. A chart has been included, explaining the kinds of software applications commonly used in educational settings, and the specific titles currently available in our schools. All of the software referred to in this document is ministry-licensed. (See Appendix A) Some software is licensed for home use by teachers. Refer to the website of the Ontario Software Acquisition Program A Committee for details about ministry-licensed software. (<http://www.osapac.org>).

#### **F. CONNECTIONS TO THE BALANCED LITERACY MODEL**

The use of computers can enhance the development of literacy when the teacher chooses activities and ICT applications that meet the needs of the students and their literacy learning.

Balanced Literacy delivery model: This model requires primary teachers to plan their language program based on the four main approaches to teaching reading using a balance of strategies in a daily block of time.



ICT considerations for the Balanced Literacy delivery model:

### **Writing**

#### **Writing Block:**

Application(s): graphic organizers, desktop publishing, word processing

Students can: brainstorm, draft, revise, edit and publish their work.

Teachers can: model the writing process using appropriate software at each stage.

### **Reading**

#### **Guided Reading and Self-Selected Reading Blocks:**

Application(s): word processing, telecommunications

Students can: access a variety of texts through interactive books, software and the internet;

respond to texts;

participate in Reader's Theatre;

Teachers can: organize bookmarks of appropriate websites;

use the word processor as a strategy for responding to text;

use an LCD projector to create Reader's Theatre;

### **Oral and Visual Communication**

#### **Guided Reading, Guided Writing, Self Selected Reading, Word Study Blocks:**

Application(s): presentation software, desktop publishing, word processing

Students can: insert graphics, format text, create slide shows, design web pages;

Teachers can: use presentation software as an audiovisual instructional tool;

use desktop publishing software to create booklets for Guided Reading;

design class or personal web pages;

### ***G. INTERNET USE***

The use of telecommunications and the Internet can provide many benefits to our students including:

- Access to a vast library of information from sources throughout the world
- The ability to interact and collaborate with others beyond the classroom
- Acquisition of knowledge and skills.

When planning to use the Internet the teacher must:

- Ensure that all students and parents are aware of the requirements of the Acceptable Use Policy.
- Monitor student use of internet for appropriate use and behaviour.

- Ensure that any information posted to the internet (including WWW Home Pages) is consistent with the Protection of Privacy and Freedom of information Act

#### H. Copyright Issues: May teachers and students copy from the Internet?

1. Most material available on the Internet is protected by copyright. This includes text (e.g., postings to newsgroups, e-mail messages), images, photographs, music, video clips, and computer software. Under the *Copyright Act*, reproduction and unauthorized use of a protected work are currently infringements. Therefore, reproduction of any work or a substantial part of any work on the Internet would infringe copyright unless you have the permission of the owner.
2. Copyright protects the way in which information is expressed. The information itself is not protected by copyright. Copying ideas, facts, or information in your own words is not copyright infringement.
3. Where a work has been placed on the Internet with the message that it can be freely copied, there is an actual licence to copy the work. Sometimes the terms of the licence are subject to conditions. Common conditions are that the posting cannot be used for commercial purposes, must be circulated in its entirety, cannot be used out of context, and cannot be edited or reformatted. If you abide by the conditions, you may copy the work without infringing copyright.
4. Any works protected by copyright that are on your school's Web site require copyright clearance, unless the school already owns the copyright in them. If the school does not own the copyright, permission must be obtained from the copyright owner. **The permission must be in writing.** A useful site to consult on such issues, written from the teacher's perspective, is [www.2learn.ca/copyright/copy.html](http://www.2learn.ca/copyright/copy.html).

<sup>1</sup> Noel, Wanda and Breau, Gerald. Copyright Matters! Some Key Questions and Answers for Teachers. Council of Ministers of Education, Canada, Canadian School Boards Association, Canadian Teachers' Federation, September, 2000.



## APPENDIX A: TYPES OF SOFTWARE

	APPLICATION TYPE	USED FOR:	SOFTWARE TITLE (E.G.)
	Word Processing	Entering, editing and printing text (e.g. letters, poems)	Appleworks, Word Perfect, WordPad
	Spreadsheet	Recording, tracking, displaying text and numbers, manipulating numerical data (e.g. statistics, tables, charts, graphs)	Appleworks, Graphers, Quattro Pro
	Database	Organizing and sorting information (e.g. records of books read, personal dictionary)	Appleworks, FileMaker Pro
	Graphics	Creating and editing illustrations, drawings, maps, diagrams	Photoshop, Paint, KidPix, Fireworks, Freehand
	Desktop Publishing	Creating, editing and printing documents containing text, graphics, etc. (e.g. newsletters, flyers, posters)	MS Publisher, Easybook Deluxe
	Presentation	Creating and editing multimedia presentations to be displayed on the computer monitor or projected onto a screen	Corel Presentations, HyperStudio, KidPix, Appleworks
	Graphic Organizer	Recording ideas, webbing, concept mapping	Smart Ideas
	Internet Browser	Accessing the Internet, World Wide Web, FTP, etc.	Internet Explorer, StudentLink 2
	Telecommunications	Receiving and sending e-mail, chatting, sending files and graphics, conferencing	First Class
	Computer Assisted Instruction	Supporting skill development, knowledge acquisition, individualized programming with tracking of student achievement	Math Trek, Geometer's Sketchpad, Academy of Reading, All in One Language Fun, ABCircus, Bailey's Book House, Millie's Math House, Sammy's Science House, Trudy's Time and Place,
	Simulations	Identifying with past and future, exploration	Cross Country Canada, Dinopark Tycoon
	Drill and Practice	Practising skills	All the Right Type, Math

			Team, Perfect Copy, Wordville, Kidway, Speedway, Jungleway
	Web Publishing	Creating, editing and publishing web pages	Claris Home Page, Dreamweaver