Course

Creative Computer Use

CMP-2102-1

Secondary Cycle One

“I love those who yearn for the impossible.”

Gœthe

Presentation of the Course *Creative Computer Use*

The course *Creative Computer Use* course is designed to help adult learners deal competently with real-life situations in which they must prepare and carry out an individual or group project using a computer.

The course prepares adult learners to plan and complete a creative project using a computer.

Depending on the aim of the project, the course allows adult learners to improve their mastery of an application with which they are already familiar, explore a new application or design a computer program or Web page.

Dealing With the Real-Life Situations

Dealing effectively with real-life situations is based on actions. These actions are grouped into categories and make use of a set of resources that include operational competencies and essential knowledge. During the learning process, adults are expected to construct knowledge related to these resources in order to be able to deal appropriately with their real-life situations.

The class of situations, categories of actions, operational competencies and essential knowledge constitute the compulsory elements of the course. These elements are explained in detail under their respective headings.

Class of Situations Addressed by the Course

This course addresses a single class of situations: *Completing an individual or group project by means of a computer*.

The *Creative Computer Use* course is ideal for adult learners who wish to discover the possibilities offered by computers. A basic knowledge of computer applications is usually enough for occasional users, but for those who wish to go further by creating their own, less basic documents or conveying information in an attractive and effective way, a more in-depth knowledge and exploration of new tools is required. For example, adult learners may wish to add an animated sequence to a Web site or create a computer game to keep their children amused, or they may be asked to share their knowledge and provide information on a subject by preparing an interactive multimedia presentation or creating and distributing a leaflet.

Class of Situations	Examples of Real-Life Situations
Completing an individual or group project by means of a computer	▪ Training peers ▪ Preparing an advertising campaign for a cultural event ▪ Providing information on local issues ▪ Expressing creativity ▪ Preparing a community or group project

Categories of Actions

The *categories of actions* are groups of actions that are appropriate for dealing with the real-life situations addressed in the course. *Examples of actions* are provided to illustrate the scope of the category in a variety of contexts.

Categories of Actions	Examples of Actions
▪ Planning a project	▪ Identifies the requirements of the project ▪ Prepares a model of the final product ▪ Compares the possibilities offered by different applications ▪ Selects the most appropriate application ▪ Searches for documents on the Internet ▪ Creates or gathers the necessary documentation
▪ Carrying out the project	▪ Writes a computer program ▪ Creates an advertising poster ▪ Prepares a multimedia presentation ▪ Creates an animated sequence ▪ Designs a computer game ▪ Produces a 3-D image ▪ Programs an application ▪ Designs a dynamic Web site ▪ Creates an education application or a drill-and-practice application ▪ Designs promotional tools (e.g. leaflet, brochure, calendar, interactive terminal, etc.) ▪ Prepares and distributes a student or community newspaper ▪ Creates a database for the training centre library ▪ Designs a personal digital portfolio ▪ Revises the document or program ▪ Prints, projects, uploads or burns the end product to CD

Compulsory Elements and End-of-Course Outcomes

The compulsory elements are those that the teacher must absolutely take into account when designing learning situations.

Class of Situations

Completing a personal or group project by means of a computer

Categories of Actions

- Planning a project
- Carrying out the project

Operational Competencies

Cooperates
- Helps clarify the tasks
- Contributes to the achievement of shared goals
- Listens to the views of fellow team members

Uses creativity
- Uses existing creations as a source of inspiration
- Finds creative solutions
- Perfects the aesthetic aspect of the project
- Takes the initiative

Essential Knowledge

- Identifying the computer requirements related to the project
- Learning the necessary commands and techniques
- Applying the selected commands and techniques
- Using computer language

The end-of-course outcomes describe how adults make use of the compulsory elements to deal with the real-life situations addressed in the course.

End-of-Course Outcomes

In order to deal competently with the class of situations *Completing a personal or group project by means of a computer*, adult learners must first select the personal or group project they wish to carry out, plan the various tasks and take the steps required to complete the project successfully.

When planning their project, they use existing creations as their inspiration and identify the computer requirements related to the project. They then select the most appropriate application and use its various functions to prepare a model that gives an accurate idea of what the final product will be. They learn the necessary commands and techniques, and if necessary write a program algorithm. If working as part of a team, they help to clarify and divide up the tasks.

When carrying out the project, adult learners select the appropriate commands and apply the techniques specific to the application. If the task involves programming, they use correct programming language. They find creative solutions that will help improve the final product and perfect its aesthetic appearance. They use their initiative to deal with unexpected situations or solve technical problems, listen to their fellow team members at all times, and contribute to the achievement of the group's goals.

Evaluation Criteria

- Plans the project effectively
- Carries out the project in a coherent way

Operational Competencies

The contribution of each operational competency is described in terms of the actions that are appropriate for dealing with the real-life situations in this course. These operational competencies are addressed in other courses and therefore all of the courses taken together contribute to their development.

In this course, only the following operational competencies are addressed: *Cooperates* and *Uses creativity*.

Contribution of the Operational Competency *Cooperates*	
The operational competency *Cooperates* helps adult learners to deal effectively with situations related to the class *Completing a personal or group project by means of a computer*. It makes them aware of their relationship with the other people involved in a team project. Adult learners work as part of a group, with due respect for their colleagues. They work together with their team to clarify each member's individual tasks and contribute to the achievement of shared goals. They listen to their fellow team members and strive to create a climate in which discussion and mutual support are encouraged.	The operational competency *Cooperates* enables adult learners to work effectively as part of a team by developing and maintaining a healthy, productive climate.

Contribution of the Operational Competency *Uses creativity*	
The operational competency *Uses creativity* helps adult learners to deal effectively with situations related to the class *Completing a personal or group project by means of a computer*. It allows them to imagine new possibilities and develop ideas that are applicable within the limits of the chosen software application. Based on the expectations that have been set, adult learners perform a search for existing documents that will serve as inspiration. They then build a model using what they have discovered. They identify creative solutions and perfect the aesthetic aspect of the finished product. When faced with unexpected situations or technical problems, they use their initiative to identify appropriate solutions, ensuring that their creations have their own distinct identity.	The operational competency *Uses creativity* allows adult learners to expand their horizons and imagine new ways of doing things, ultimately going beyond their own limits.

Essential Knowledge

The elements of essential knowledge shown in parentheses are provided as suggestions only.

Identifying the computer requirements related to the project

- Designing the project (building the model, identifying the output medium)
- Listing the actions required and potential computer-related problems
- Identifying types of applications and their fields of use
  - Selecting an appropriate software application (desktop presentation, desktop publishing, computer graphics, animation, Web editing, programming, etc.)
- Digital portfolio
  - Using a portfolio
  - Creating a digital portfolio
  - Storing and updating documents

Learning the necessary commands and techniques

- Identifying the application's possibilities
  - Selecting the commands required for the project
- Exploring and learning more about the selected commands
  - Identifying the characteristics of the commands
  - Learning the commands
  - Learning implementation techniques

Applying the chosen commands and techniques

- Creating and keyboarding the project
- Reviewing the project
- Distributing the final product

If the project involves programming:

Using a computer language

- Programming algorithm
- Language structure (e.g. event programming, Internet programming, etc.)
- Elements of computer language
  - Data type, operators, keywords, markups
  - Predefined controls (e.g. check boxes, scroll-down list, form field, button, etc.)
  - Instructions (e.g. loops, function calls)
  - Entering code

Attitudes

The following attitudes are provided as suggestions only. The development of these attitudes can help adults become more competent in dealing with the real-life situations in this course.

Curiosity	Ability to Listen
Curiosity encourages adults to try new experiences and review those that do not work, in order to progress on their own. The field of computer technology is in constant evolution, and adults who develop curiosity are more likely to update their skills, seek out new products and features, and explore specific aspects of the field. Often, curiosity drives adults to excel at what they do.	Listening means hearing what is not put into words. Adult learners who have the ability to listen absorb both what they hear and what they see. They ask well-thought-out questions and challenge their own ideas by connecting them to their prior experience and learning. They also give feedback, earning the trust and interest of their interlocutors. The ability to listen is demonstrated by an attitude of empathy rather than authority, and by a willingness to accept difference.
Creativity	
Creative adult learners are willing to experiment and aware of the aesthetic aspect of what they do. They play with ideas, concepts and perceptions of existing documents, feeding their imagination, summarizing what they learn and making unusual connections. Creativity generates originality and intellectual autonomy, allowing adult learners to make decisions based on their own judgment and improve their own work in ways they themselves consider important. Being creative means learning to do things differently, in a personal way.	

Complementary Resources

The following resources are provided as suggestions only and consist of references that may be consulted in learning situations.

Social Resources	Material Resources
▪ Guest who is an expert in a related field	▪ Computer, printer, digital projector ▪ Operating system and basic office applications (e.g. word processing, spreadsheet, database) ▪ Desktop presentation and desktop publishing applications ▪ Programming and Web editing software ▪ Computer graphics application ▪ Internet access ▪ Audio, video and audio-video peripherals ▪ Reference books

Contribution of the Subject Areas

The contribution of other subject areas is also useful for dealing with the real-life situations in this course. The elements identified for each subject area are not compulsory and do not constitute prerequisites.

All Subject Areas
▪ Depending on the nature of the project, essential knowledge from all the subject areas may be useful.

Andragogical Context

Computers are now present in every sector of human activity, and it is essential for today's adult population to understand how they work and how they should be used. The courses in the *Computer Science* program develop the ability of adult learners to understand the computer environment, produce documents and search for, process and manipulate information. More specifically, the courses enable adult learners to identify similarities between different software applications and use this basic information to transfer their learning from one application to another.

The learning derived from the program is essential for helping adults integrate into the work force, function in their social and cultural environment and in their education and training activities, regardless of their level of schooling. The ability to use a computer is an advantage in their everyday lives and especially in their learning. Adult learners who own or have access to a computer will benefit from it on a daily basis.

Adult learners build on their prior knowledge through learning acquired by thinking, acting and interacting with the people around them, every time the learning context allows them to do so. Discovery and individual exercises are always available, but are used with the goal of building new knowledge or applying prior knowledge. Feedback allows adult learners to assess their own progress, take corrective action where necessary, and realize how their knowledge of computers can be applied in their everyday lives.

Learning is acquired gradually in this course. Adult learners begin by addressing general notions, which they enrich and apply in the classroom or laboratory through situational reconstructions and other appropriate activities. They may then be asked to apply their newly constructed knowledge to real-life situations.

If their learning is to be effective, it must be structured by means of an appropriate pedagogical method. Although pedagogical methods and techniques are specific to each training centre and adapted to the teacher's own abilities, they should nevertheless be alternated in order to diversify the learning conditions and provide adult learners with different ways of building their knowledge. This approach will also increase the adult learners' motivation and encourage them to work harder. It is therefore important to allow time for sharing knowledge, experiences and ideas. A broad range of learning activities will provide plausible topics through which adult learners are able to apply the concepts addressed in the course.

Learning Situation

The learning situation that follows is provided as an example to show teachers how the principles of the education reform can be applied in the classroom.

It is authentic in the sense that it addresses a real-life situation (taken from the class of situations in the course) that adults may find themselves in. It is sufficiently open and comprehensive to allow adult learners to explore several important aspects related to dealing with this real-life situation.

The examples of actions presented in the course help the teacher to identify those actions that an adult would take to deal with the real-life situation. The teacher can then refer to these examples in order to develop pertinent learning activities.

The learning situation is organized in terms of the three steps of the teaching-learning process, which are as follows:

- planning learning
- actual learning
- integrating and reinvesting learning

These steps highlight the principles of the education reform insofar as they encourage adults to be active, to reflect on their learning and to interact with their peers when the learning context is suitable. They include learning activities and may also include evaluation activities intended to support adults in the learning process.

These activities help learners to construct knowledge related to the compulsory elements of the course that are targeted by the learning situation concerned: one or more categories of actions, essential knowledge and the actions of the operational competencies associated with the categories of actions.

The example provided also refers to certain teaching strategies—pedagogical methods and techniques—that can be selected according to the learners, the context and the learning environment. Certain learning strategies may also be suggested, as well as a variety of material and social resources.

Example of a Learning Situation

A Class Newspaper

One of the real-life situations selected for the course *Creative Computer Use* involves informing the community or class about local issues. In the related learning situation, adult learners are invited to take part in a group creative process to produce a student newspaper. Every member of the class is able to contribute, and some will do so for two consecutive months. The learning situation therefore involves the operational competencies *Cooperates* and *Uses creativity*.

When preparing the learning situation, the teacher regularly publishes a recruitment notice, inviting adult learners to join the student newspaper team. The teacher sets up a workshop whose participants meet for two hours every week, with some team members being replaced each month. The teacher obtains the authorizations required to print or photocopy several hundred copies of the newspaper each month, and obtains assistance from language teachers.

Every month, the teacher chairs a group introductory meeting, at which new recruits are able to introduce themselves and talk about their skills and interests. The teacher presents the organizational structure of the newspaper, and the adult learners select a role that reflects their interests and skills. They may, for example, choose to recruit contributors and journalists, select written texts, take care of computer graphics or page layout, produce and upload the Web version of the newspaper or design and update the database that will be used to distribute the newspaper by e-mail.

Adult learners identify the expectations of their selected roles and the project as a whole. They use existing documentation (e.g. magazines, newspapers, advertisements, Web pages, graphic arts, model databases, etc.) as inspiration and imagine the finished product. They then learn how to use the appropriate computer application, through individualized learning and learning from peers. If the group is composed solely of new recruits or adult learners with little knowledge of computers, the teacher demonstrates the various applications to subgroups.

At the newspaper planning stage, the adult learners attend production meetings at which the teacher directs the discussion and the members contribute ideas relating to their particular role, presenting examples or models of what they intend to create, where applicable.

At the production stage, adult learners apply the commands and techniques required to perform their particular roles. They improve their knowledge of the software application, discover previously unexplored possibilities, think up creative solutions and pay attention to the aesthetic appearance of their product. They contribute to the achievement of shared goals, listen to their fellow team members and act as resource people, answering questions on their particular application. The teacher provides individual assistance, oversees progress and, where necessary, facilitates contacts between teams.

Once the newspaper has been distributed, the team members are called to a final meeting at which they read and discuss the comments made. They take a critical and constructive look at the end product and the process, and identify potential improvements. They also do a self-evaluation of their own work, of the results they have achieved and of their commitment to the group project. Lastly, they are invited to play a role in producing the next edition of the newspaper, or a later edition where applicable.

Elements of the Course Addressed by the Learning Situation

Class of Situations	
Completing a personal or group project by means of a computer	
Learning Situation	
A Class Newspaper	
Categories of Actions	
▪ Planning a project ▪ Carrying out the project	
Operational Competencies	**Essential Knowledge**
▪ Cooperates ▪ Uses creativity	▪ Identifying the computer requirements related to the project ▪ Learning the necessary commands and techniques ▪ Applying the selected commands and techniques ▪ Using a computer language
Complementary Resources	
▪ Computer, printer, scanner ▪ Photocopier ▪ Word processing, spreadsheet and database applications	▪ Desktop publishing software ▪ Computer graphics software ▪ Web editing software ▪ Internet browser ▪ Reference books

Because a newspaper can contain different types of information, several different broad areas of learning may be addressed by each issue of the newspaper.