Developing of a collaborative program for information skills teaching at Liceo "Cornaro" in Padua

Marina Bolletti
School librarian
Lyceum Scientifico Alvise Cornaro
Padova - Italia

Annamaria Matteucci
Teacher
Lyceum Scientifico Alvise Cornaro
Padova - Italia

The "Alvise Cornaro" High School in Padua has been implementing for the last ten years a method for teaching information skills, that has been developed to enhance students' long life learning strategies as a research process. The method follows a student-centered model, and is focused on the information searching process and the active use of school library, in order to develop key competencies for active citizenship within compulsory education. The activity is included in the normal school curriculum and aims to provide every student with information skills strategies, including identifying, accessing, selecting, and evaluating relevant information in different sources and media.

Key competencies for active citizenship; Learning process; Research process; Information skills

Introduction

The information skills project of the "Alvise Cornaro" Liceo ("Lyceum" or High School) developed around the School Library Media Center from the cooperation between the school librarian and several teachers.

The Lyceum Cornaro Library Media Center consists of three laboratories:
the central multimedia library "Franca Ruffatti", which develops the services of reference for students and teachers, catalogue and cooperation with teaching team;
the science laboratory library, keeping and lending scientific reference works and magazines;
the video library, keeping and lending audiovisual aids.

The school provides about 6 personal computers directly available in the library, one computer laboratory with 30 PC and another one with 20, and 2 video halls. Its documentary resources are about 20.000 books, 36 magazines, 250 classical, jazz, ethnic music CD, 150 multimedia CD-ROM, 1100 movies, included several ones in english and french, and about 150 DVD.

The library is open for 43 hours per week and the presence of users, particularly students, is very satisfactory. The main services are reference for students and teachers, cataloguing and lending.

The School Library Media Center resources are all catalogued with ISIS/WinIride software system: An on-line catalogue is available (<http://www.alvise.org>).

The *Liceo "Cornaro"* is the leader of the network Bibliomediascuole, including about 20 school libraries of Padua district (<www.bibliomediascuole.it>), whose collective catalogue is available on line (<http://www.winiride.it/dbpadova>).

The library always set itself as the centre and heart of the school, source of proposals in relation to projects of innovative teaching methods and giving impulse to students, teachers and staff. For the last ten years the focus of this call has been a teaching model developed by several teachers with the library staff, in order to enhance students' learning strategies as a research process. (Eisenberg, Berkowitz 1990; Kuhlthau 1993; Zuckerman, Chudinova, Khavkin 1998; Braga 2002; Lombello, Marzi 2006) and the project has been tested in Italian secondary school (Marzi 2004).

The method follows a student-centered model and consist of a set of learning units focused on the information searching process and the active use of the school library and its resources. In accordance with a recent measure regarding italian School self-government, teachers of different school subjects spend a certain amount of the time available for their own subject on the information skills' teaching units, planned in cooperation with the school librarian. The activity is included in the normal school curriculum.

The model is flexible, requiring about 20 school hours, and provides some lectures differently organized according with teachers choices. At the end students are engaged in a searching task, to be assessed by their teachers through an evaluation grid (Marzi 2004).

The stages of this work can be summarized as follows:

I. Research preparatory activities consisting of some lectures and a practical workshop experience, laid out by the school librarian with teachers of different school subjects, about some important topics, as :

School library organization and catalogue
Best use of reference tools
Best use of the Internet for research
How to select and evaluate documentary sources and informations
How to take note of the references and the characteristics of the selected documents
Research process as problem solving
How to communicate the results of a research work

II. Working out of an independent searching task by the students, including:

formulating and organizing research questions;
retrieving and selecting relevant documents in different physical locations (library, video library, information resource centre, Internet ..) and on different media;
properly communicating research results;

evaluating information research process.

In the development of our project we often referred to the work of Helène Guertin (Guertin 2009), who gave us many suggestions and practical examples of how improving our work with our pupils. The strong points of our work can be considered:

the specific training of several teachers of different school subjects, becoming able to project and carry out the information skills teaching unit, and to involve also the whole teaching body of the school in approving and being aware of the project;

cooperative working in progress of all teachers taking part in the project, and dialogue between them about difficulties, critical phases and good results;

strong cooperation between the library staff and teachers of different school subjects.

Teachers training and project evolution

A crucial aspect for the success of the work is the on-going training of teachers. A two-year training course, divided into several stages located at different times of the school year for the duration of twenty hours, has provided to all teachers in the group some common ground and matters, and the possibility to compare teaching activities in the stages of implementation, monitoring and evaluation of the project.

Any teachers team who would like to venture into the formulation of a method to teach information skills in their school, would be conscious of the importance to provide themselves with a specific training, in order to grow and cooperate around a nucleus of mutual ideas. The establishment of a working group cooperating around a common core of ideas is behind the success not only of the project, but especially of its durability. So it would be really incisive in relation to the context of the school which, after all, must be considered the real goal

Over the years the project has grown well suggesting new procedures and practices, according with courses planning, teachers' style and needs, and school curriculum, changing also thanks to different concrete teaching experiences and from advice and external collaborations. We think that it was a true growth process, which has gone through our school, and changed some key parameters of teaching, most of all in the mind of the teachers actively working in the team to provide and bring about the project.

When talking about this kind of experience we often refer to the work of one single teacher with his classes, while in our case the project has been consistently supported by the cooperation of a teachers' team. Emerging difficulties, as well as the good results have been discussed, especially in relation to the feedback that the new teaching model found in the educational curriculum and in the students' learning style. This enabled any single teacher or even the whole team several to reach important changes in work progress, and to have the chance of adapting some activities to their personal teaching style.

For example, over the past two school years the project has been redesigned to be directed to the two last classes of compulsory education and not, as in previous years, to the

third class of Lyceum, and was coupled to the teaching of the citizenship key skills, to be acquired at the end of the compulsory education (Recommendation 2006).

Can we consider this a special experience of the Lyceum Cornaro? Certainly it has been successful: the teachers of the school, or at least a substantial part of them, have gained an awareness of the problem that the teaching of information skills requires a strong commitment to change, both their whole teaching style and the learning styles of young students. In this sense, the difficulties encountered by both teachers and students become valuable to achieve significant changes to the route, which is a strong advantage for the educational innovation, in a time of a great world crisis of teacher-pupil relationship in all orders of school.

Collaboration between teachers and librarian staff

We must emphasize the importance of this involvement, which connects the learning of information skills with the School Library Media Center, its resources and its services. Teachers of all disciplines are involved in this relationship, since, like all transversal skills, the information skills are not, nor can they be simply an added school subject. It is quite a new competence, which crosses all disciplines, and become a mindset throughout the course of life.

The collaboration between the library and the class teachers provides for the sharing of an educational project that is based:

• not on the passive transmission of disciplinary content
• but on the development of learners in autonomous learning ability
• with a view that learning must continue throughout their lives.

This principle, which is often repeated but less often actual in schools, is the real new development that the proper use of the school library involves.

Also the school headmaster together with the whole school staff, students and parents must be aware of the importance of an efficient library service and encourage its use, working closely with the library for educational plans and school development, to ensure that school librarians are involved in teaching activities, planning the curriculum, staff training and assessment. It is most important to plan and facilitate any relationship with the library, in order to improve the service at its best.

It is therefore a serious problem in Italy that the school laws, despite the calls in the past few years are repeated, continue to ignore the problem of the presence of the librarian in the school staff, and that, while recognizing in some documents of Ministry of Education the importance of the school library in teaching, they do not supply school libraries with support and funding of any kind.

"Cornaro" School Library Media Centre is now supported by an Association of volunteer teachers, students, parents, who make possible many activities and services.

Aims and conduct of the project

At the beginning of school year, the activities are designed in collaboration between the library staff and the leader teachers Then the project is approved by the whole teaching body and included in the school teaching plan. At last it is evaluated and approved in the every class councils, to which is proposed as an addition of training (with change of 15% of the curriculum, according to the Italian School Laws). The involvement of the student component and that of parents is very important because it creates in them an awareness of being part of an important project, integrated into the annual curriculum.

In the current school year. 2008/2009 further proposals were introduced, in the light of the development of key skills of citizenship to be acquired at the end of compulsory education, based on a Ministry of Education Decree (Regolamento 2007), which explicitly incorporates the Recommendation of the European Parliament of 18 December 2006 on key competences for lifelong learning (Recommendation 2006).

Based on this information and on the experience gained in the previous years, our learning model has been improved, crossing all different school subjects, to be developed progressively over the first two years of secondary school curriculum, as briefly outlined in Table 1.

After a teachers' training period, this learning model has been proposed to test in the second class, with the objective of giving all young people, at the end of the route of compulsory education, the ability to retrieve, read, critically evaluate and communicate informations. For this purpose, since the last school year a group of teachers has developed a teaching aid, titled Information skills learning: guide for students and their teachers, to be used as a learning tool both in the phases of teachers' training and in the work with students' class.

Great importance is given in our teaching model to the use of information tools, primarily the Internet, and to the evaluation of both research sources and found informations. We became convinced that it is very important to insist on this point when working with classes, and often it is possible to obtain satisfactory results only after having discussed and corrected quite a lot the students papers.

Another focal point is for us teaching to correctly put the research questions, a point that has been proved crucial to the acquisition of critical consciousness on the part of the students, particularly about the meaning of their work. Over the years of experimentation in our teaching model more and more time was devoted to the preparation of the questions that become the subjects of research, through the teaching / learning of different techniques (brainstorming, looking for keywords, etc..).

Third point which we believe very significant is the correct organization and the outline of the achieved informations. Students learn to draft and present their resrach work in a formal order, in which, for example, the rules of the bibliographic references are respected.

At the end of their training students are able to produce works which bring to light an awareness and a quality far superior to those obtained following a traditional method of study. This becomes even more evident when students are asked to repeat this experience in the following years.

Work evaluation

Students' works are assessed by their teachers through an evaluation grid that is used and discussed among the teachers of different school subjects and the librarian staff. This grid considers all aspects of the students work and assigns a value to every student, with regard to the quality of the method employed. The grid indicators are:

ability to understand and clarify their research question;
identification of relevant key terms
ability to clearly explain and summarize the research content
correctness and completeness of sources references
ability to assess the sources
ability to assess information found
ability of self-assessment for the whole work.

The assessment procedure is discussed with every student, both at the beginning of his work, when the grid outline is explained and at the end of it, so that everyone realizes the importance not only of the content of the information found, but also of the methodology learned and applied in his work. This has great importance, because for young students it is very difficult, at first, to accept this distinction, as they are accustomed to the easy way, always been followed with success in school, which keeps regard only of the amount of information, with little attention to their quality and to quality of learning. But this is precisely one of the main aims of our work, focused on the importance to make students really conscious and thoughtful of what and how they are learning.

The assessment grid is based on a numerical rating from 1 to 10, and its results are taken into account by the teachers in the final evaluation of the school year for every school subject involved, in relation to the specific content of the information found by the students. At this stage interesting forms of relapse on other teaching programs can be identified.

The model provides also an evaluation of students satisfaction, as this is traditionally considered central to identify the quality of a service. An assessment paper is distributed to the students at the end of the the activities, and another similar one can be made to seek the views of their parents. This allows a more complete view of merit on the final work and an easier approach to possible future developments and changes.

However, it is still to stress that the most important evaluation of this work is perhaps that which should be done on the changes that students have experienced in their approach to a personal studying and learning style, in their acquisition of new skills of information and communication, and in achieving autonomy in dealing with the problems of knowledge throughout the course of their life.

Critical points and evaluation systems

A course of teaching / learning of this type is to be considered very difficult, especially because important adjustments of teaching activities and school time are provided, driving the school teaching in the world of modern society of communication and information, which is tipically in a dizzying evolution.

Just think of the importance to become skilled to research on WEB, including new forms of communication and documentation provided by Web 2.0. In the actuality of an educational curriculum this activity assumes new creative forms of teaching / learning on the part of teachers and students, constantly evolving in step with the developments of the exciting new updating. We need to create new forms of communication between students and teachers, bringing new languages, and especially a change in the use of teaching tools. Therefore, in our teaching model a growing part of the time is devoted by students and teachers to this research field.

In any case, we can certainly say that the novelty of this teaching method compared to the traditional one causes several difficulties in the attitudes of teachers and students. It is very difficult indeed to lose the habit of a form of teaching / learning that looks still more reassuring and simple:

"Traditional instruction is focused on reproductive activities imitating the ready-made patterns of knowledge provided by the teacher, rather than on creative initiative and actions of the students. The traditional teacher is the person who asks the questions, though knowing all the answers in advance and therefore quite indifferent to their subject, whereas the traditional students are the persons who answer the questions which mostly leave them disinterested." "(Zuckerman, Chudinova, Khavkin 1998)

Even when the school class is involved in a so-called research, which also plans the use of the library, very often the traditional school planning swallows up, so to speak, the opportunity to be really involved in a learning that may become permanent only if it is independently searched. As evidenced with a certain irony by Riccardo Ridi:

"Supponiamo che un insegnante chieda ai suoi allievi di fare, per l'indomani, una ricerca sugli elefanti albini, non perché egli nutra a riguardo un reale bisogno informativo, ma solo come pretesto perché essi imparino a cercare notizie, vagliarle e organizzarle. Uno degli allievi però nel pomeriggio non può fare i compiti perché ha l'allenamento basket, quindi chiede aiuto a un genitore (tipicamente la mamma), che si reca in biblioteca, magari per la prima volta dagli anni dell'università, e non ha il tempo né la voglia di compulsare né tomi, né schedari, né computer, e quindi chiama in aiuto il bibliotecario, che con consumata perizia estrae dagli appropriati reference works un nutrito set di informazioni e le scodella, sotto forma di fotocopie, o – sempre più spesso – di stampate da Internet al genitore in attesa. Questi, a sua volta, le propina al figlio, e infine il figlio all'insegnante, motore immobile dell'intero ciclo, che può finalmente scoprire ciò che già sapeva o su cui comunque non desiderava informarsi. Morale: Hanno perso tempo in quattro (insegnante, allievo, genitore e bibliotecario) senza nessun costrutto." (Ridi 2003)[1]

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[1] "Suppose a teacher asks his students to do, for the next day, a search on the albino elephant, not because he has any information need in this regard, but only as a pretext so that they learn to look for news, sift and organize them. One of the students in the afternoon, however, cannot do his homework because he has the basketball workout, and then asks for help to a parent (usually the mother), who goes to a library, perhaps for the first time since her university years, and has not either the time or the desire to consult books, or files, or computer, so she calls in aid the librarian, who with consummate skill extracts fom appropriate reference works a large set of information and produces them to the pending parent, in the form of photocopies, or - always more often -

In addition, some students (and sometimes even teachers!), are still resistant to treat this new learning method as a part of ordinary school work. Indeed, as it is evidenced from the evaluation questionnaires filled up by students at the end of last school year, some of them think that the learning units focused on the information searching process are "something more" of normal routine programs and related home tasks, and that too much time is wasted on their performance.

Many other contradictions may be found in the School system. In addition to provide nothing specific within the curriculum, the School, at least in Italy, does not include any significant changes in this regard in its structure, particularly in its assessment systems. The school-leaving examinations and those related to the transition between different school levels do not contain any assessment about key competencies of the above-mentioned Ministry of Education Decree (Regolamento 2007). The recent documents of INVALSI, the National Evaluation Service, contain some standardized tests already introduced for the 2008-2009 school year in the leaving examinations for the first grade secondary school students. They do not give any important signal of a real recognition of the topic treated so far, that is the need to introduce information skills teaching / learning into School programs, so valuable, as we think, for really improving school in the future of society. In the paper produced by INVALSI in December 2008, in which a new system of assessment of learning processes is described, one can read many elements which could be a source of worry for people like us, who are looking for a not standardized school teaching and learning, in order to improve creativity and innovation of the educational system.

In Section C4, Using assessment to encourage schools in the long run, we read the following statement:

"Dopo una fase adeguata di sperimentazione [...omissis] sarà possibile studiare se e come collegare i risultati della valutazione a misure di natura premiante o penalizzante per i budget delle singole scuole." (Checchi, Ichino, Vittadini, 2008).[2]

Some reasonable worries are evident in the accompanying paper, where we read:

"Una attenta analisi dei risultati delle prove somministrate potrà contribuire a fornire una guida per il miglioramento dell'insegnamento. Sarebbe al contrario un danno per l'insegnamento e la Scuola se la prospettiva di queste prove dovesse tradursi nella preoccupazione di addestrare gli allievi ad affrontare tipologie valutative simili, limitandosi ad imitarne la forma nelle prove di verifica svolte in classe nel corso dell'anno, senza invece

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printed from the Internet. The mother, in turn, produces them to her son, and the son to the teacher, the whole cycle Prime Mover, who may finally discover what he already knew or in any case did not need to know. Moral: four people lost their time (teacher, student, parent and librarian) with no construct. " (Transl. M.B.)

[2] After an appropriate phase of testing [...omitted] it will be possible to study whether and how to connect the results of the evaluation with rewarding or penalizing measures for budgets of individual schools. "(Trans. M.B.)

curare la effettiva crescita di quel retroterra cognitivo e culturale di cui le Prove INVALSI dovrebbero, al contrario, rilevare e valutare l'esistenza, per stimolarne poi lo sviluppo e la crescita." (Introduzione quadri di riferimento, <http://www.invalsi.it/snv0809/index.php?action=documentazione>, July 2009).[3]

In the light of these statements, which future can we expect for our proposals?

The "Liceo Alvise Cornaro" is currently evaluating the issues and critical points identified, but also the strong potential that this methodology provides the school with and the good results so far obtained. An information skills' certification process is under consideration, in order to testify students' proficiency in performing the basic information skills at the end of compulsory education.

Thus placing itself at the forefront of a path where many schools in Italy and in the world are actually walking.

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[3] "A careful analysis of the results of administered tests may help to provide a guide for the improvement of teaching. On the contrary, it would be a damage for the teaching and the school if the prospect of these tests would result in an effort to train students to face similar types of evaluation, simply imitate their form in tests conducted in the classroom during the year, without caring instead the actual growth of the cognitive and cultural background which the tests INVALSI should conversely detect and assess, in order to stimulate their development."(Trans. M.B.)

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Statement of Originality

This statement certifies that the paper above is based upon original research undertaken by the authors and that the paper was conceived and written by the authors alone and has not been published elsewhere. All information and ideas from others are referenced.

Table 1

LICEO CORNARO - PADOVA				
A MODEL FOR TEACHING OF INFORMATION SKILLS IN COOPERATION WITH SCHOOL LIBRARY MEDIA CENTER				
Activities	Competences/Skills	School subjects	Year Course	Project needs / Responsibility
RESEARCH PREPARATORY ACTIVITIES - Where and how to seek information? - Tools for choose the information resources: library organization and use (catalogue, classification), - Use of books, encyclopedia, dictionary ..etc... - Strategies for the WEB - Evaluation of sources and informations; - Strategies to extract information (take notes, summarize, classify and reference information sources); - Developing strategies of produce own work (written, oral or visual communication, etc.) Method: -teachers' lectures -use of the *Information skills learning: guide for students and their teachers* (issued by the school); -workshops with classes, school library and computer laboratory *Time: 20 hours*	**Abilty of learning-to-learn**: - Organizing own learning, identifying, selecting and using various sources and various methods of information and training (formal, non formal and informal), taking into account the time available, their strategies and their method of study and work	All	1st	1) Research forms for different school subjects 2) Teachers of different school subjects and classes; 3) Cooperation with the library staff
RESEARCH AS PROBLEM SOLVING How to search? - define own subject:	**Ability of problem solving:** addressing situations, proposing and verifying hypotheses, identifying pertinent sources and resources,	All	1st/2nd	1) Planning of a complex research, distribution of work areas and stages . 2) Need of cooperation between

- choose of the class research questions through group and individual brainstorming - analysis and discussion of the questions - distribution of questions and tasks. -develop skills learning: to search sources of information to select documents to extract information to treat information to communicate information **Method:** -teachers' lectures; -guided trial of searching task in school library media center, laboratory, classroom. **Activity time: 10 hours**	collecting and evaluating data and solutions, choosing different contents and methods according to different problems.			the students in the class, with librarian staff, teachers etc.. 3) Teachers and school librarian staff monitoring of the students' work in the development of research; 4) Self-evaluation by students
SETTING THE RESEARCH IN TEAMWORK To define own subject: - Identification of the common research questions through brainstorming and group - Analysis and discussion of applications - Distribution of questions and tasks. **Method:** active interaction with the class group; teamwork. **Activity time: 4 hours**	**Ability to act independently and responsibly:** actively and consciously participating in social life and relying on inside own rights and needs while taking into account own and others opportunities, limitations, rules, responsibilities **Ability to collaborate and participate:** interacting in groups, understanding different points of view, enhancing their abilities and others, managing conflict, contributing to joint planning and establishment of collective activities, in recognition of the fundamental rights of others	All	1st/2nd	1) Planning of a complex research, of work areas and stages. 2) Observation and monitoring by teachers of the students modalities of interaction in group. 3) Self-evaluation by students team
CARRYNG OUT OWN RESEARCH (INDIVIDUAL OR GROUP) - using required competences - Using the assessment grid - Writing own final report; - Communicating results to the class **Method:** -for individual or teamwork search the students work at home and at school (classroom, library,	**Ability to act independently and responsibly** **Ability to project:** developing and implementing projects relating to the development of its activities to study and work, using the comptence to establish meaningful and realistic goals and priorities, considering the constraints and opportunities, defining strategies for action and verifying the results achieved. **Ability to identify links and relationships:** identifying, representing and	All, but distinguished by subject area in relation to the choice of topic	1st/2nd	1) Project planning and development of an independent searching by the students on the subject agreed with the teachers. 2) Observation and monitoring by teachers 3) Self-evaluation by students 4) Questionnaire for parents of students 5 Teachers team with school librarian staff evaluating of the work of the students, also in relation to specific subjects.

| computer laboratory);
-for exposition of the results they can use multimedia instruments (text, sound, static and animated; hyperlinks; power point; etc.).

Activity time: 10 hours | developing coherent arguments, links and relationships between phenomena, events and different concepts, even from different disciplines, and distant in space and time, identifying similarities and differences, consistency and inconsistency, their causes-effects and their probabilistic nature

Ability to acquire and evaluate information:
reflecting critically on the object of learning and information received in the various fields and through various communication tools, evaluating the reliability and usefulness, distinguishing facts and opinions.

Ability to communicate:
1) understanding messages of different kind (newspaper, literary, technical, scientific) and of different complexity, using different languages (verbal, mathematical, scientific, symbolic, etc..) through various media (paper, computer and multimedia);

2) representing events, phenomena, principles, concepts, standards, procedures, attitudes, states of mind, emotions, etc.. using different languages (verbal, mathematical, scientific, symbolic, etc..) and different disciplinary knowledge through various media (paper, computer and multimedia). | | | |