Towards an Information System
Making Transparent Teaching Processes and
Applying Informing Science to Education

In a recent work (Cartelli, 2004), after the analysis of the points of view of Psychology and Didactics on Guidance, the action-guidance project was proposed.

Its main aim was to revert well-established and pre-defined strategies, usually adopted in educational and vocational guidance, to let it become an event-driven phenomenon.

All that had to be based on the use of an information system monitoring students data (coming both from the school and the environment they were immersed in), both in an absolute way and by means of special statistical indices (which had to describe average parameters of the whole population).
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The finding of suitable indices to be adopted for students’ description and evolution led to the planning and carrying out of a guidance action in school year 2003-2004. In this experience the possible dependence of school performances from environmental parameters was searched.

Three High Schools (Liceos) were involved in the research.

Furthermore the start of the reform of Italian School system, in 2004 introduced new elements in the reference context and induced to a reconsideration of the structure of the information system and of the whole project.
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Table 1: Percentage of students’ distribution in the first phase survey

<table>
<thead>
<tr>
<th></th>
<th>the same (45%)</th>
<th>others (55%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towns the students came from</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ social standing</td>
<td>low (45%)</td>
<td>medium (50%)</td>
</tr>
<tr>
<td>Time spent seeing TV</td>
<td>&lt; 2 h (10%)</td>
<td>= 2 h (45%)</td>
</tr>
<tr>
<td>Influence on school choice</td>
<td>autonomous (67%)</td>
<td>parents’ suggest. (21%)</td>
</tr>
<tr>
<td>Newspapers and magazines reading</td>
<td>sport / comics (62%)</td>
<td>newspapers (18%)</td>
</tr>
<tr>
<td>PCs’ access</td>
<td>at home (73%)</td>
<td>with relations / friends (22%)</td>
</tr>
<tr>
<td>PCs’ use</td>
<td>browsing / searching (68%)</td>
<td>playing / chatting (64%)</td>
</tr>
</tbody>
</table>
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Table 2: Percentage of students’ distribution in the second phase survey

<table>
<thead>
<tr>
<th>School engagement</th>
<th>very high (69%)</th>
<th>enough binding (31%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of interest for topics and disciplines in the curriculum</td>
<td>very much (42%)</td>
<td>enough (54%)</td>
</tr>
<tr>
<td>Presence of problems in the study and types of problems</td>
<td>no one (24%)</td>
<td>different kinds of problems (76%)</td>
</tr>
<tr>
<td></td>
<td>Topics (63%)</td>
<td>colleagues (9%)</td>
</tr>
<tr>
<td>Overcoming of problems</td>
<td>yes - greater engagement (43%)</td>
<td>no - (24%)</td>
</tr>
<tr>
<td>Global satisfaction</td>
<td>yes (66%)</td>
<td>no final answer (24%)</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Table 3: Percentage of students’ distribution in the third phase survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium N. of daily hours studying</td>
</tr>
<tr>
<td>Satisfaction for school performances</td>
</tr>
<tr>
<td>Satisfaction for staying at school</td>
</tr>
<tr>
<td>Satisfaction for school year trend</td>
</tr>
</tbody>
</table>
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Main results of the guidance action were:

1) No evidence or definitive correspondence was found among environmental parameters and students’ performances at school

2) The continuous monitoring of educational processes can help teachers, students and families in overcoming the problems and troubles they met and in reducing the n. of students experiencing those problems at the end of the school year

3) The monitoring by itself cannot be correlated to the development of better self-assessment and self-guidance skills
The reform of the Italian School System

In 2004 was applied the law introducing two school cycles in Italy instead of the former three ones. Main features of the reform are:

a) Educational and teaching planning in the school are based on “educational, cultural and vocational profile of the student”

b) School must personalize the students’ curricula (study programs) by integrating national suggestions and family/local cultural and educational proposals

c) Organization of teaching and education is referred to teachers coordinated by a tutor-master (one member of the class council charged of special tasks)

d) students’ career has to be documented in the “portfolio of individual skills”
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The reform of the Italian School System is producing a revolution for its pedagogical implications and its influence on teachers’ work organization:

a) Many resistances are emerging from the distinction of roles and functions coming from the introduction of tutor-master
b) Personalization of curricula and management of the portfolios are seen as a source of great amount of new work, which main consequence can be the bureaucratization of teaching
c) The portfolio as it is proposed in the reform is different from analogous instruments (including e-portfolios) scientific literature reports for alternative assessment
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Under the suggestions of Love and Cooper (2003) the following features for an e-portfolio, integrated in the information system were stated:

a) it has to comply to Italian school reform law,
b) it must contain the personalized study program for each student,
c) it must synthetically describe the students’ participation in school activities and their presence at school,
d) it must contain teachers’ evaluations, assessments and observations on school planned activities and must describe their evolution,
e) students and families must play a relevant role in the compilation of its sections,
f) it must describe environmental parameters probably influencing students’ learning and performances
The information system and e-portfolio

a) Hardware and software to be used for it

b) Data base structure

c) Levels and types of users accessing the system
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Once planned and carried out the system some questions arise:

a) why people must adopt such a system?

b) why people must change well settled procedures and protocols and
learn something new to make their usual work? etc.

Something new is happening …