



Education and Culture

Programme

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Bağcı Regional University
Norway

Teachers-to-be

SOCRATES PROGRAM – COMENIUS 2.1

“Docente Europeo: Formazione iniziale per futuri docenti di scuola secondaria”

European Teacher: Initial Teacher-Training for Future Teachers of Secondary School

Competences of Secondary School Teachers:

European Views

PRESENTATION OF THE RESULTS OF THE PROJECT RESEARCH

Palumbo

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TABLE OF CONTENTS

Introduction <i>V. Tornabene</i>	I
Introduzione <i>V. Tornabene</i>	5
FIRST PART	
CONFERENCE PROCEEDINGS	
Conference programme "Competences of Secondary School Teachers: European Views"	II
Initial training and mobility in Europe: European Commission tendencies <i>A. Stefanikova</i>	13
Transnational Co-operation Projects <i>V. Tornabene</i>	21
Professional development of teachers as an answer to educational challenges of a new millennium <i>R. Schollaert</i>	33
Teacher Education in Europe <i>G. Luzzatto</i>	47
The European Teacher's Professional skills <i>A. La Marca</i>	59
Training path from School to University <i>M. Michelini</i>	69
Reform in teacher education in Norway from a European Perspective <i>E. Nielsen</i>	105
School system and reform <i>V. Rosa</i>	111
Main results of the Mobility Phase <i>P. Sivertsen, F. Spagnolo, I. Trenčanský</i>	121
ROUND TABLE:	
<i>"Mobility as possibility of growth in terms of intercultural knowledge and professional skills"</i>	
International comparison of school systems <i>F. Lannino</i>	135

The Socrates Comenius project in terms of School, University and Research <i>B. Di Paola</i>	139
Initial Training for Future Secondary School Teachers <i>I. Kobanová</i>	143
Experiences and observations from mobility of Slovak students in Norway <i>P. Vankús</i>	145
Experiences and thoughts after a mobility in the Slovak Republic <i>A. Ramberg Eriksen</i>	149
Status of the school in society: Differences and similarities <i>L. Hauglid</i>	151
Docente Europeo – a unique student mobility project <i>K. Limstrand</i>	153
SECOND PART	
QUALITATIVE RESEARCH REGARDING FUTURE EUROPEAN TEACHERS	
Research on future European teachers	163
Introduction <i>G. Zanniello</i>	163
I Research Aims and Methods <i>C. Fasone</i>	
1.1 <i>Italian law and the theoretical framework for the research</i>	164
1.2 <i>The Project</i>	167
1.3 <i>From Problem to Project to Problems</i>	171
II Transversal skills and the European Teacher <i>F. Piazza</i>	
II.1 <i>From international documents to transversal skills</i>	171
II.2 <i>From transversal skills to indicators and descriptors</i>	181
II.3 <i>From sharing of the research model to construction of instruments</i>	182
II.4 <i>From construction of survey instruments to their sharing and administration</i>	184
III Results of the Survey <i>A. M. Mangione</i>	
III.1 <i>Procedure for analysing the data collected</i>	186
III.2 <i>Similarities in teacher-training</i>	190
III.3 <i>Differences in teacher-training</i>	191
III.4 <i>Strong points of teacher-training</i>	193
III.5 <i>Weak points of European Teacher-Training</i>	195
III.6 <i>Suggestions and proposals</i>	197
APPENDIX 1 Competences descriptors	199
APPENDIX 2 Research tools	201
<i>Interview for students - Before mobility</i>	201
ANNEX	205
<i>Focus group matrix</i>	205

Introduction

*Valentina Tornabene**

This publication represents the final act of the “Docente Europeo” Project,¹ a three-year project, involving three different European Countries – Italy, Norway and the Slovak Republic. The partnership was composed of the ARCES Collegio Universitario, as project co-ordinator, SISIS University of Palermo, IRRE Sicilia, University of Bratislava (SK) and the University of Bodø (NO) as partner institutions.

The overall idea of the “Docente Europeo” project took its inspiration from the Bologna Declaration and the European Council of Lisbon, which focus on searching for common European answers to common European problems related to the higher education and training systems. A feeling had emerged from the academic and research worlds² that there was a need to improve the initial training of teachers, something that had become an increasingly widespread issue over the last ten years.

The project aimed specifically to develop in student teachers the practical approach of learning,³ allowing them to experience school life in a European environment. Activities, in this sense, were in line with a policy of enhancement of teacher training, as an integral part of the work programme regarding the future objectives of education and training systems up to 2010, as laid down during the Barcelona European Council.

* Project Co-ordinator, Collegio Universitario ARCES Palermo.

¹ “Docente Europeo: Formazione iniziale per futuri docenti di scuola secondaria” 106663-CP-I-2002-I-IT-COMENIUS-C21.

² The establishment of a European Network on Teacher Education Policies (ENTEP) in 2000 is directly linked to this issue.

³ Students at post graduate, University level, or in the course of specialization for becoming teachers at secondary school level.

Teachers, it is stated, are ‘*key actors in any strategies targeted at stimulating the development of society and the economy*’. The tasks normally expected of teachers have undergone radical changes in the wake of the rapid development in information and communication technology (ICT), as well as many school management reforms in which increasing autonomy has been granted to local players and in which teachers too have been involved. Considerable analysis specifically demonstrated that qualifications and skills acquired by teachers on completion of training vary widely, not just from one country to the next, but also within a particular country. Furthermore, it is evident that measures introduced to ease the transition of new teachers into working life correspond to a recent and not very widespread development throughout European countries. That is why the project was based on the conviction that European cooperation, between Universities, schools, local (educational) institutions and authorities, the professional sector, local services, as well as trans-national exchanges and support between all players operating at different levels, was exceptionally timely in enabling full and joint consideration to be given to appropriate provision for ensuring that all teachers have the qualifications and skills needed to deliver quality education.

Mobility Phase

In our work great importance, therefore, was attached to trans-national co-operation by proposing special training in this area.⁴ In this general framework, the “Docente Europeo” project endeavoured to emphasise the need to develop practical, professional skills to a greater extent during initial teacher training, by introducing *Mobility* of student teachers as an innovative training path. The implementation of a system of credits and multilateral recognition - such as in the ECTS system and Europass - were therefore enforced as a means of promoting widespread student teacher mobility.

Our main target group was composed of student teachers from the three different countries - *direct beneficiaries* - and all the university teachers/teacher trainers, secondary school teachers, decision makers, head teachers, faculty deans, heads of department involved, as *indirect beneficiaries*.

⁴ See the final report of the conference on teacher education policies organised by the European Network on Teacher Education Policies (ENTEP) in May 2000.

Research Phase

Consequently, the project actions aimed at analysing the European development of teachers' skills – Research Phase – whose aim, in the three countries, was to identify the key contexts or elements on which to focus at a European level, in order to draw up a profile of the European teacher, and to decide which procedures to implement or eliminate at a national level (Italy, Norway, Slovakia) in order to develop and consolidate the European Space in the field of Higher Education. If it was transversal skills that were taking on a central and basic role in the model of the ideal *European teacher*, then it was important to make sense of the gap that exists between what constitutes the theoretically “ideal” profile and the practical reality of European teachers.

The first part of this volume documents the proceedings of the final international conference: “*Competences of secondary School Teachers*”, held in Palermo on the 07 and 08 of April 2005, the second reports on the outcomes of the research.

The present publication and its contents are the result of a lot of hard work carried out by the project partnership, composed of people who felt keenly the importance and novelty of the initiative and cooperated in its success. It is not the intention of this work to give a full description of expected or on-going international trends in the field of teacher preparation, but to take part in a discussion regarding the skills of teachers, and developing higher education paths, in order to construct a real space of knowledge in the European Union.

We obviously need to stress the importance of the specific knowledge of a subject area that teachers today should possess, and that innovative training paths should start from awareness resulting from total mastery of the subject in relation to the class environment. But, it is also evident, however, that the school alone can no longer respond effectively to the considerable and sudden changes in today's society. Knowledge of the relative outside world, of on-going socio-economic changes and the continual exchange to and from the surrounding world, become an indispensable professional condition for the teacher and school of today.

Hence we strongly advocate the power of the professional, as our aim is to enhance the professional empowerment of “teachers-to-be”. Although these are still early days in the identification of an “*ideal European Teacher*” and his/her role in the school of today, we would like to draw attention to some key features which should be taken into consideration from the very beginning of teacher preparation.

The focal points of the new role of the teacher are the nature and practice of learning, and the power of the professional. School improvements emerge from the practitioners themselves, who consciously pose the questions, and as a learning community at school, endeavour to provide adequate responses. In modern society there is an indisputable mission for school management and teachers alike to create the most favourable conditions for learning, enabling learners to learn and perform from a variety of perspectives, learner-centred approaches and methods. Parallel to this, there is a compelling challenge to transform schools into professional learning communities, and to confront policymakers with professional values and requirements.

In addition, this publication is to be seen as a contribution to the European dialogue on learning and teacher competence. The answers have to be fashioned by the professionals themselves, and through conscious and extended cooperation with research and researchers.

In this sense, our project aimed to try out actions of co-operation and interchange intended to stimulate and encourage practices that until then had not been taken into consideration in the preparation of teachers. The mobility action and the preceding phase of studying contexts and analysing feasibility at organisational, administrative and educational levels, led to the concrete exploitation of the skills and knowledge required to tackle the existing challenges.

Our brief contribution (which can certainly be improved upon) is meant to be an example of an educational and training praxis that is demanded more and more frequently by young people specialising in a profession of notable social importance.

We trust that the present publication will enrich the range of “pro-active” initiatives and discussions both at national and Community level, and we hope that our experience might be of encouragement for the development of practices that might consolidate and institutionalise themselves over time, above all, by exploiting co-operation and reciprocal assistance between the worlds of academia, research and school.

Introduzione

*Valentina Tornabene**

Questa pubblicazione rappresenta l'atto finale del Progetto "Docente Europeo".¹ Il progetto, di durata triennale, ha coinvolto tre diversi paesi europei – Italia, Norvegia e Repubblica Slovacca. La partnership ha compreso il Collegio Universitario ARCES, come coordinatore del progetto, la SISIS - Università di Palermo, l'IRRE Sicilia, l'Università di Bratislava (SK) e l'Università di Bodø (NO) quali istituzioni partner.

Il senso generale del progetto "Docente Europeo" si è ispirato alla Dichiarazione di Bologna ed al Consiglio di Lisbona, che si sforzano di cercare risposte comuni a comuni problemi europei legati ai sistemi di formazione superiore e professionale. La necessità di migliorare la formazione iniziale degli insegnanti, emersa sia dal mondo accademico che della ricerca,² è diventata sempre più diffusa durante gli ultimi dieci anni.

In particolare, il progetto ha inteso sviluppare l'approccio pratico di apprendimento dei futuri insegnanti,³ consentendo loro di sperimentare la vita scolastica in un ambiente europeo differente. Le attività, in questo quadro generale, hanno contribuito al miglioramento della formazione iniziale degli insegnanti, in linea con il programma di lavoro relativo ai futuri obiettivi dei sistemi di formazione ed istruzione posti entro il 2010, come dichiarato durante il Consiglio Europeo di Barcellona.

* Coordinatore del Progetto, Collegio Universitario ARCES.

¹ "Docente Europeo: Formazione iniziale per futuri docenti di scuola secondaria" 106663-CP-I-2002-I-IT-COMENIUS-C21.

² L'istituzione di una rete europea – European Network on Teacher Education Policies (ENTEP) – nel 2000, e legata direttamente a questo tema.

³ Studenti universitari di livello post-laurea, o in corso di specializzazione per diventare insegnanti di scuola secondaria superiore.

Gli insegnanti, si cita, sono “*attori chiave in tutte le attività che devono stimolare lo sviluppo della società e dell’economia*”. I compiti che di solito spettano agli insegnanti hanno subito cambiamenti radicali in seguito allo sviluppo rapido delle Tecnologie dell’Informazione e della Comunicazione (ICT) e delle varie riforme nell’ambito della gestione scolastica, alle quali viene concessa a livello locale sempre più autonomia e che hanno visto anche il coinvolgimento degli insegnanti stessi. Nello specifico, un’importante analisi ha dimostrato come i titoli e le competenze acquisite dagli insegnanti al termine della loro formazione variano in maniera significativa non solo da un paese all’altro ma anche all’interno di una stessa nazione. Inoltre, è evidente che le misure introdotte per facilitare la transizione dei neo-insegnanti alla vita lavorativa sono il risultato di uno sviluppo recente, ma non molto diffuso, nei paesi europei. È per questo motivo che il progetto si è basato sulla convinzione che la cooperazione europea fra università, scuola, istituzioni di formazione, autorità locali, settore professionale, servizi locali, così come gli scambi transnazionali e il sostegno di tutti gli attori che lavorano a diversi livelli, è stata eccezionalmente proficua nel consentire che si dedicasse una piena e comune considerazione al fine di fornire misure appropriate per assicurare che tutti gli insegnanti possano avere titoli e competenze necessari per erogare una formazione di qualità.

Fase di Mobilità

Nel nostro lavoro abbiamo accordato una considerevole importanza alla cooperazione transnazionale, proponendo formazione speciale in questo settore.⁴ Il progetto “Docente Europeo” ha cercato di evidenziare, in questo quadro generale, la necessità di sviluppare competenze professionali in fase di formazione iniziale degli insegnanti, promuovendo la *Mobilità* degli stessi quale percorso innovativo di specializzazione. L’implementazione di un sistema di crediti e il riconoscimento multilaterale – come il sistema ECTS ed Europass – è stata imposta, quindi, per promuovere e garantire ampia mobilità allo studente- insegnante.

Il nostro gruppo target principale è stato composto da futuri insegnanti dei tre paesi partner (*beneficiari diretti*) insieme a docenti universitari/formatori dei futuri insegnanti, insegnanti di scuola superiore, decisori politici, presidi e capi d’istituto, direttori di dipartimento, rettori (*beneficiari indiretti*).

⁴ V. rapporto finale della conferenza riguardo alle politiche di formazione degli insegnanti organizzate dal ENTEP (European Network on Teacher Education Policies), maggio 2000.

Fase di Ricerca

Le azioni di progetto hanno voluto prendere in esame le competenze degli insegnanti ed il loro sviluppo a livello europeo con lo scopo di individuare nei tre paesi i contesti di riferimento o gli elementi chiave su cui concentrarsi a livello europeo, così da potere delineare un profilo di *docente europeo* e determinare quali siano le procedure da metter in atto o rimuovere, a livello nazionale (in Italia, Norvegia e nella Repubblica Slovacca), al fine di sviluppare e consolidare lo Spazio Europeo dell'Istruzione Superiore.

Se sono state le competenze trasversali ad assumere un ruolo centrale e fondamentale nel modello "ideale" del *docente europeo*, allora diviene importante comprendere meglio la divergenza che esiste fra quello che costituisce il profilo teoricamente "ideale" e la realtà pratica dell'insegnante europeo.

La prima parte del volume raccoglie gli atti dell'ultima Conferenza internazionale di progetto "*Competences of Secondary School Teachers: European Views*" organizzata a Palermo, nei giorni 7 e 8 aprile 2005; la seconda riporta i risultati della fase di ricerca condotta dall'IRRE Sicilia, di cui se ne descrivono ampiamente struttura e procedure.

La presente pubblicazione e i suoi contenuti sono espressione di un intenso lavoro svolto dalla partnership di progetto, che ha coinvolto persone che sentivano vivamente l'importanza e l'innovazione dell'iniziativa e che hanno cooperato per il suo successo. Non è intenzione di questo lavoro dare una descrizione completa dei trend internazionali previsti o già in atto nel campo della formazione degli insegnanti, ma, piuttosto, partecipare ad una discussione sulle competenze degli insegnanti, sviluppando percorsi di formazione superiore al fine di costruire un vero spazio culturale nell'Unione europea.

Ovviamente ci preme sottolineare l'importanza della conoscenza specifica e approfondita della materia d'insegnamento che i docenti oggi dovrebbero avere, e il fatto che percorsi di formazione iniziale innovativi dovrebbero partire dalla consapevolezza data dalla padronanza totale della materia stessa in rapporto all'ambiente classe. Ma è altresì evidente che la scuola, da sola, non può più rispondere in maniera efficace ai notevoli ed improvvisi cambiamenti socio-economici che si attuano nella società di oggi. La conoscenza del mondo, delle trasformazioni in atto e lo scambio continuo da e fra il mondo circostante diventano una condizione professionale indispensabile per l'insegnante e la scuola di oggi.

È per questo motivo che, avendo come scopo la promozione dell'*empowerment* professionale del futuro insegnante, desideriamo affer-

mare la rilevanza del potere del “docente professionista”. Dal momento che siamo solo agli inizi dell’identificazione del “*docente europeo*” ideale e del suo ruolo nella scuola di oggi, vorremmo soffermarci sulle caratteristiche chiave da tenere in considerazione sin dall’inizio della formazione iniziale dell’insegnante.

I punti focali del nuovo ruolo del docente sono la natura e la pratica dell’apprendimento e il potere del professionista. I miglioramenti nelle scuole nascono dai professionisti stessi i quali, consapevolmente, si pongono le domande e, come parte della comunità di apprendimento della scuola, cercano di fornire risposte adeguate. Nella società moderna c’è una missione indiscutibile affidata a tutta la scuola e agli insegnanti, desiderosi di creare le condizioni più favorevoli per l’apprendimento e di permettere quindi agli alunni di imparare e agire da una varietà di prospettive, metodi e approcci, che partono comunque sempre dalla centralità dell’alunno. Contemporaneamente, trasformare la scuola in una comunità professionale di apprendimento e far presente ai politici quali debbano essere i valori e i requisiti, sono ormai sfide irresistibili a cui bisogna rispondere.

Questa pubblicazione deve essere vista come un contributo al dialogo europeo sul tema dell’apprendimento e delle competenze dell’insegnante. Le risposte dovrebbero essere formulate dai professionisti stessi, anche a seguito di una cooperazione consapevole e prolungata con la ricerca e i ricercatori.

In questo senso, il nostro progetto ha sperimentato azioni concrete di cooperazione e scambio internazionale al fine di arricchire e promuovere pratiche che sino ad oggi non sono state prese in considerazione nella formazione iniziale dei docenti. L’azione di mobilità e la fase di studio dei contesti, oltre all’analisi di fattibilità a livello organizzativo, amministrativo e formativo che hanno preceduto la mobilità, hanno portato alla valorizzazione concreta delle capacità e conoscenze necessarie ad affrontare le difficoltà attuali.

Il nostro contributo (che sicuramente potrà essere migliorato) intende dare un esempio pratico di una prassi formativa sempre più richiesta dai giovani che si specializzano in una professione di notevole importanza sociale.

Speriamo che questa pubblicazione possa arricchire la gamma di iniziative e discussioni attive sia a livello nazionale che europeo, e che questa nostra esperienza possa favorire lo sviluppo di pratiche che possano consolidarsi e istituzionalizzarsi nell’arco del tempo, soprattutto sfruttando la cooperazione e lo scambio reciproco fra il mondo accademico, la ricerca e la scuola.

FIRST PART

CONFERENCE PROCEEDINGS

Conference programme

“Competences of Secondary School Teachers: European Views”

Palermo, April 7 - 8th 2005, Palazzo Steri, Sala dei Baroni

Thursday, April 7th, 2005

09.30 CHAIRMAN

Introduction to the Conference

Rosa Maria Sperandeo - Mineo, Director of SISSIS - University of Palermo

OPENING CEREMONY

Giuseppe Silvestri, Rector of the University of Palermo

Ignazio Romano Tagliavia, President of Collegio Universitario ARCES, Palermo

Alessandro Pagano, Regional Minister for the Public Education, Sicily

Guido di Stefano, Director Ufficio Scolastico Regionale Sicilia

Giuseppe Zanniello, President of IRRE SICILIA, Palermo

10.00 *Initial training and mobility in Europe: European Commission tendencies*

Alena Stefanikova, Socrates National Agency SAAIC – Slovak Academic Association for International Co-operation, Bratislava, Slovak Republic

10.30 COFFEE BREAK

11.00 *Presentation of the Project “DOCENTE EUROPEO”*

Valentina Tornabene, Collegio Universitario ARCES

11.30 *Professional development of teachers as an answer to educational challenges of a new millennium*

Rudi Schollaert, Co-ordinator of Comenius 3 Network on Evaluation of Quality in Education “The Treasure Within”, Brussels, Belgium

12.30 *Teacher Education in Europe*

Giunio Luzzatto, CONCURED, University of Genova

13.30 LUNCH

15.00 *The boundaries of Literature: the teacher of Italian Literature for the third millennium*

Pietro Cataldi, University of Siena

16.00 *Training Path from School to University*

Marisa Michelini, University of Udine

Friday, April 8th, 2005

09.00 *Reform in teacher education in Norway from a European Perspective*

Elisabeth Nielsen, Leader of Institute of Education and Culture at Bodø University College, Norway

10.00 *School System and Reform*

Vladislav Rosa, Comenius University, Bratislava, Slovak Republic

11.00 COFFEE BREAK

11.30 *Outcomes of the Research*

Caterina Fasone, Francesca Piazza, Anna Maria Mangione, IRRE Sicilia, Palermo

12.30 *Main results of the Mobility Phase*

Filippo Spagnolo, SISSIS – University of Palermo

Per Sivertsen, Bodø University College, Norway

Ivan Trenčanský, Comenius University, Bratislava, Slovak Republic

13.30 LUNCH

15.00 ROUND TABLE

Mobility as possibility of growth in terms of intercultural knowledge and professional skills

Francesco Lannino, Benedetto Di Paola, Italy

Iveta Kohanová, Peter Vankúš, Slovak Rep.

Alice Ramberg Eriksen and Linda Hauglid, Norway

Student teachers participating to the Project Mobility

Initial training and mobility in Europe: European Commission tendencies

*Alena Stefanikova**

Comenius 2 aims to encourage the professional development of everybody involved in education in schools. It does so by supporting transnational co-operation projects and mobility activities. All phases and aspects of professional development - initial training, induction, and in-service training - are covered.

The aims of Comenius 2 Action are:

- to promote the professional development of all categories of staff involved in the school education sector,
- support of transnational co-operation projects, mobility activities and in-service training.

Comenius 2.1 Action provides an opportunity to carry out transnational projects as well as the mobility of university students and teachers at all levels of education. On the basis of this Comenius Action is divided into two sub-programmes:

- **European co-operation projects for training of school educational staff** (e.g. 1. *Projects developing training courses for educational staff*, 2. *developing curricula for initial teacher-training*, 3. *promoting the mobility of student teachers*, 4. *developing teaching strategies, methods and materials for specific learners*).
- **Individual training grants** (*grants for initial teacher-training, Comenius language assistantship, in-service training grants*)

In my report I would like to direct my attention towards *Projects*

* Alena Stefanikova, Socrates National Agency SAAIC – Slovak Academic Association for International Co-operation, Bratislava, Slovak Republic.

developing curricula for initial teacher-training and promoting the mobility of student teachers. This is a new activity, which was launched in the second phase of SOCRATES II and, so far, we can say that results are tangible and positive. Students have a unique opportunity not only to spend a study period at a partner university, but they also have the opportunity to be part of a transnational project, which can be a great motivation for their future career.

What does initial teacher-training mean in the context of the SOCRATES program? It is a period of supervised study + practical training in another participating country. It is always carried out within the framework of Comenius 2.1 projects; it means that the higher education institutions which are either sending or receiving the students must be partners within the Comenius 2.1 project.

The mobility may last from one to ten weeks and must be a certified and recognised, integral part of students' overall training.

In Slovakia there were two projects aimed at the promotion of initial teacher mobility (where our higher education institutions were the partners):

- PROMOTION OF THE MOBILITY OF EUROPEAN STUDENT TEACHERS WITH AN AGRICULTURAL EDUCATION (2003). **Co-ordinator:** ENFA, Castanet Tolosa, France, Slovak partner: Slovenská poľnohospodárska univerzita, Nitra. Within the framework of this project
 - students participated in the mobility to France, Finland, Spain and Czech Republic.
- EUROPEAN TEACHERS: INITIAL TRAINING FOR FUTURE TEACHERS AT SECONDARY SCHOOL (2004). **Co-ordinator:** Collegio Universitario ARCES (Palermo, IT) Partners: Fakulta matematiky, fyziky a informatiky, (Bratislava, Slovak Rep.); SISIS University of Palermo, IRRE Sicilia, and the University of Bodø (NO)
 - In the case of this project we were able to support seventeen students, who travelled to Norway and Italy.

Before the students travel abroad they have to undergo language preparation and courses on the cultural and historical background of the host country; the sending institution has to deal with the practical arrangements regarding contractual and financial agreements with a National Agency. The students are provided with one contract for the mobility and then specific contracts for each student.

After the experience of the two institutions involved in this project, we would like to provide you with two examples of what the normal structure of the mobility in the host institution might look like:

A.

- visit to a partner university: introduction to the school system of the given country, discussion on differences;
- observation during lessons, subsequent discussions about the teaching methods used;
- attendance at lectures at the host university;
- discussions about problem-solving at schools and comparison between the countries.

B.

- introduction to the structure + school system of the host country;
- attendance at one week course provided by the host school for the future teachers;
- observation during lessons, discussions with teachers on the methodology used.

At this stage, when the projects are finished, or in the final stage, we can define the impact of this kind of mobility:

- students have the opportunity to exchange their experiences, not only with the other students, but also with the teaching staff at the partner institution or at secondary schools where they do the observation;
- mobility is a unique opportunity to establish networks between establishments;
- the students can improve not only their professional skills, but also their language skills;
- initial teacher mobility also acts as motivation for future teachers to exploit other opportunities, which are available within the SOCRATES program.

In their case the most important Action, which provides them with the opportunity to carry out projects at secondary schools during their teaching practice is **Comenius 1 Action**.

COMENIUS 1: MOBILITY IMPACT:

- the possibility to improve one's teaching as a result of the observed situation in the host country;
- use of the contacts established during the mobility;
- new/innovative project ideas for the project work;
- motivation to create a new school environment;
- new incentives to include teaching colleagues in a project activity.

At this stage, now that this activity has existed for five years within the SOCRATES program, we are able to comment, as well as to evaluate, the achievements, the positive as well as negative aspects. As in other spheres of life there are still some aspects which need to be improved:

- initial teacher mobility can only be implemented within Comenius 2.1 projects, it would be optimal if future teachers from institutions outside the project could be included in this Action;
- initial teacher mobility (Comenius 2.2A) is managed by National Agencies, but there is still no special budget allocated for this Action.
- **Comenius 2.1** projects are centralised projects, which are managed by the European Commission and **Comenius 2.2A** – initial teacher mobility is a decentralised Action; it might be worth considering whether to centralise or decentralise this activity;
- as with the situation in other Actions, it would be optimal to develop monitoring tools for mobility, so that we might see the concrete results, such as e.g. the impact of this Action on future teachers' professional development.

New prospective – Integrated Action Program (IAP)

In March 2004 the Commission adopted a Communication “The new generation of Community Education and Training Programmes after 2006”, following up the February Communication on “policy challenges and budgetary means for the period 2007-2013”. It indicated the Commission’s intention to propose an integrated lifelong learning programme, incorporating all existing internal education and training programmes.

The integrated lifelong learning programme builds on the current Socrates and Leonardo da Vinci Programmes, the eLearning programme, the Europass initiative, and the various actions funded through the Community action programme to promote bodies active at European level and to support specific activities in the fields of education and training. In addition, the Erasmus Mundus programme, which has just been launched and runs until 2008, should be incorporated as an additional programme within the Integrated Programme from 2009.

Integrated Action Program will comprise the following sectoral programmes on school education (COMENIUS), higher education (ERASMUS), vocational training (LEONARDO DA VINCI), adult education (GRUNDTVIG), transversal measures and JEAN MONNET PROGRAM.

The main aim of this programme is to contribute to lifelong learning, the development of the Community, the fostering of co-operation and mobility between education and training systems, so that they may become a worldwide quality reference-point.

The proposed budget is 13.62 billion euros for the period 2007-2013.

The Comenius Action will maintain one of the most important positions among the other Actions in the new programme, since it provides many opportunities in the area of project co-operation as well as mobility for the educational sector; the number of participants is increasing each year.

The main objectives of the **Comenius** programme within the new IAP will be as follows:

- to increase the volume and improve the quality of exchanges involving pupils and educational staff;
- to increase the volume and improve the quality of partnerships between schools (SOCRATES I – 10 000 schools involved);
- to involve one pupil mobility out of twenty in joint educational activities (not only higher education institution student mobility, but also secondary student mobility);
- to encourage the learning of a second foreign language;
- to reinforce the quality and European dimension of teacher-training;
- to improve pedagogical methods and school management.

As regards the activities which it will be possible to carry out within the new programme, though these will remain similar, they will also assume new forms:

Mobility

- mobility of individuals
- exchanges of pupils and staff
- placement in schools or enterprises abroad for pupils or educational staff
- participation in training courses for teachers
- partnership, project or network activities
- assistantship for teachers and potential teachers

Multilateral co-operation projects

- developing, promoting and disseminating new teaching methods or materials

- exchanging experiences about systems of providing information or guidance, and specifically adapted to the learners involved in the Comenius programme
- developing, promoting and disseminating new teacher-training courses

At the end of my report I would like to show you the comparison between the opportunities which were offered for *university students* and *school teachers* within SOCRATES II. We will see if the new programme intends to keep these, or to provide fresh opportunities for all those who are creating this huge educational community.

Opportunities for university students within SOCRATES II

- participation in ERASMUS mobility scheme
- participation in projects carried out by student associations (ACCOMPANYING MEASURES)
- supervised study or practical training abroad (COMENIUS 2)
- participation in **Comenius 2** projects
- language assistantship (COMENIUS 2)

Opportunities for school teachers within SOCRATES II

- participation in COMENIUS 1 projects
- part of team developing, in-service training course, materials, etc. (COMENIUS 2.1)
- individual grants to attend in-service training courses (COMENIUS 2.2)
- supervising a Comenius language assistantship (COMENIUS 2.2)

Conclusions

Some final considerations on the present publication and its contents as an expression of a lot of hard work carried out by the project partnership, composed of people who felt keenly the importance and innovation of the initiative and co-operated in its success. It is not the intention of this work to give a full description of expected or ongoing international trends in the field of teacher preparation, but to take part in a discussion of the competences of teachers, developing higher education paths, in order to construct a real space of knowledge in the European Union.

We obviously need to stress the importance of the specific knowledge of the subject area that teachers today should have, and that innovative training paths should start from awareness provided by total mastery of the subject in relation to the class environment. But, it is also evident, however, that the school alone can no longer respond effectively to the considerable and sudden changes in today's society. Knowledge of the relative outside world, of ongoing socio-economic changes and the continual exchange to and from the surrounding world, become an indispensable professional condition for the teacher and school of today.

Hence we strongly advocate the power of the professional as our aim is to enhance professional empowerment of "teacher-to-be". Although these are still early days in the identification of an "*ideal European Teacher*" and his/her new role in school of today, we would like to cast our attention on some key features which should be taken into consideration right from the beginning of teacher preparation.

The focal points of the new role of the teacher are the nature and practice of learning, and the power of the professional. School improvements emerge from the practitioners themselves, who consciously pose the questions, and as a learning community at school, endeavour to provide adequate responses. In modern society there is an indisputable mission for school management and teachers alike to create the most favourable conditions for learning, enabling learners to learn and perform from a variety of perspectives, learner-centred approaches and methods. Parallel to this, there is a compelling challenge to transform schools into professional learning communities, and to confront policymakers with professional values and requirements.

In addition, this publication is to be seen as a contribution to the European dialogue on learning and teacher competence. The answers have to be fashioned by the professionals themselves, and through conscious and extended cooperation with research and researchers.

In this sense, our project aimed to try out actions of co-operation and interchange intended to stimulate and encourage practices that until today had not been taken into consideration in the preparation of teachers. The mobility action and the preceding phase of studying contexts and analysing feasibility at organisational, administrative and educational levels, led to the concrete exploitation of the competences and knowledge required to confront the existing challenges.

Our brief contribution (which can certainly be improved upon) is meant to be an example of an educational and training praxis that is demanded more and more by young people specialising in a profession of notable social importance.

We look forward to elaborating on the thematic area of the new role of the teacher. We look forward to deriving principles from school practice, research and the sharing of knowledge.

We trust that the present publication will enrich the range of “pro-active” initiatives and discussions both at national and Community level, and we hope that our experience might be of encouragement for the development of practices that might consolidate and institutionalise themselves over time; above all, by exploiting co-operation, reciprocal assistance between the worlds of academia, research and schools.

Transnational Co-operation Projects

Valentina Tornabene*

Dear colleagues, ladies and gentlemen, I want to thank you for coming here today and I would like to thank you personally on behalf of everybody who has taken part in the organisation of this event.

We have already distributed the booklet that places the “*Docente Europeo*” project in its frame of reference (the European-financed SOCRATES project, Comenius 2.1), in the sector for education and initial training of teachers in Europe; and above all it helps to provide essential information about the project activities.

Today, however, I’d like to present the Comenius project in the most general, but also least straightforward, terms.

In fact, I’d like to talk about *how* the project was carried forward and about *how* we arrived at the organisation of this conference.

In fact, the *how* is what has been achieved on an organisational and management level with regard to two distinct but latent aspects that, from the way I see things, have left an indelible mark on the working methods and handling of the groups in our project; we might call these the *gender approach*¹ to the working method, and *active and democratic participation*.²

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¹ «Gender is a socially constructed definition of women and men. It is not the same as sex (*biological characteristics of women and men*) and it is not the same as women. Gender is determined by the conception of tasks, functions and roles attributed to women and men in society and in public and private life». (*Gender in practice. Swiss Agency for Development and Co-operation*).

² «...Young people spend an increasing amount of time in education. Formal learning in schools, universities and through vocational training centres and non-formal and informal learning outside of these settings are equally essential in developing the skills that young people need today.

The global objectives of learning are threefold: personal fulfilment, social inclusion

These two factors have influenced and guided the phases of the project in no uncertain terms, and today their importance is greater still, because it has only come to light following the re-examination of the various phases of the project and of the management, organisational and participatory levels.

In fact, a re-appraisal of the working methods and development of the human resources involved could trigger off long-term spin-off effects with regard to handling of interpersonal, interinstitutional and intersectorial relationships, were this to be recognised as an alternative working method and the innovative aspects valued.

It is for this reason that an *ex post* evaluation might lead to the emergence, in a conscious and recognisable fashion, of the essential and distinctive features that might point us back to the gender approach, with specific reference to *female leadership*.³ It is no coincidence that we are talking about *the gender approach to working methods*, or equal opportunity, seeing that, for example, the participation of women has been extremely high, from the point of view of both organisation and participation. This contribution should not pass unnoticed; this contribution could not help leaving its mark.

I would like to highlight the spontaneous procedures of management and realisation characterised by a high impact gender approach, with regard to working methods, and active and democratic participation, in spite of the language limitations, the geographical and cultural distances, the differences in role and function of the relevant persons in the institutes and the age differences; the management of personnel and human resources, therefore, is always linked to the handling of different people and different resources, which means to say, different with regard to profile, skills, culture and also, without doubt, gender (Managing Diversity).⁴

and active citizenship. Learning also plays a fundamental role in fostering employability. The European Union has launched a number of programmes (such as SOCRATES and LEONARDO) and initiatives (such as the eLearning action plan, a communication on “Making a European Area of Lifelong Learning a Reality” and a report on the future objectives of education and training systems) ... This will help to identify those areas in which the European Union is developing more and better action.» – (*European Commission White Paper “A New Impetus For European Youth”*).

³ «...leadership is the handling of relationships and the exploitation of human resources, a fundamental step in achieving one’s goals».

(*Donne e Leadership: per uno sviluppo di una cultura organizzata delle amministrazioni pubbliche in ottica di genere – ANALISI E STRUMENTI PER L’INNOVAZIONE, I RAPPORTI – Presidenza del Consiglio dei Ministri, a cura di Maria Giulia Catemauro e Paola Conti*).

⁴ Managing Diversity deals with Increasing corporate profits through creating a supportive climate for all employees to participate and contribute, with a high degree

These procedures enabled us to implement a relational *modus operandi* for working out and sharing a platform of common values and goals, and to co-ordinate and complete all project activities successfully. In fact, several distinctive and innovative elements can now be spotlighted: continuity of initiative, capacity for mediation, help and attention and respect for diversity.

We activated several working processes that were different from the usual model, in which everything is decided by an external “component”, or is determined *a priori*, and where, although the thinking behind the actual decisions can be elucidated, the persons involved are only carrying out a job/role in a mechanical and functional mode.

As has already emerged in organisational sociology, the “female style” stands out because it is equal and co-operative and aims for quality.

This “innovative” standpoint might lead to the realisation of organisational structures that spread out horizontally, are streamlined and directed towards change, and where transversal competences (relational, communicative and organisational) assume considerable importance alongside specialised ones. The group’s aptitude for work and its motivation for professional growth, hand in hand with the confidence to efficaciously achieve identified goals, would take precedence over the mere correct application of efficient procedures. Working towards goals, assessing management positions (also through the results attained), and a demonstrated capacity for motivating one’s collaborators can all be interpreted (from the standpoint of organisational models) as signs of a shift towards more flexible and less rigid organisations, which are more interdisciplinary and less sectorial, and are geared more towards efficacy than merely efficiency, and therefore also more suited to the exploiting of aptitudes and skills that are not traditionally considered as male.

The fact that we are dwelling at length over all these processes that we have progressively activated indicates, in fact, that the working and organisational method in our project has been greatly influenced by the gender approach and by a notable active and democratic participation.

The successful outcome of the project can be summed up in the simultaneous work of the various persons involved (from different institutions and nations, from distant cultures, with different

of efficiency and innovation, to corporate objectives. Managing Diversity focuses on harmonising the professional and personal life of all people: the Human Capital of public and private organisations. Managing Diversity increases the trust and alignment of the clients and other stakeholders of the external environment through the implementation of social oriented policies (*European Institute For Managing Diversity*).

objectives and roles), who have taken part for a pre-determined period of time in a shared and involving project.

With this methodological basis the composition of the working group changed many times; depending on the action, this involved representatives from partner institutions, researchers, trainers, university teachers, supervisors, tutors, working teachers and teachers-to-be. Their meetings, their general and specific sharing of ideas, concepts and fundamental objectives, their moving around within the partnerships, were important elements, which, allied to the democratic debates and discussions, in which everybody took part, contributed significantly to the success of the operation; to put it briefly, it was a participative and “involving” working method.

But how was the work carried out in practice?

In fact, all of us involved in the project have tried to work in a shared spirit of participation and democracy through co-operation; “social invention” is the sum of diverse human actions, obviously including as part of its *progress*, several decisional moments that are not necessarily unanimous, with varied significance and attributions of meaning, both formal and informal aspects, the product of communication and debate of the persons involved, and in a more or less conflictual manner. Helping one another, listening and knowing how to mediate are not only rhetorical devices, but the fruit of a personal rite of passage regarding work experiences, group experiences and direct experiences.

Once the general criteria had been agreed, each partner implemented their own methodology, according to available resources, organisational and social-cultural capacity.

Co-operation and working via the net became a means of circular learning, of exchange and comparison, discussion and democratic growth, in which diverse factors were working towards the same goal. It is true to say that the co-operation gave us a push in activating innovative, enriching, methodological processes, whilst continually providing fresh and varied food for thought and growth; in the course of time, these had consequences, produced results, and provided adequate responses to change.

The *ex post* evaluation led us to consider the mobility as the principal vector of the project working method. The research activities and initial training through mobility, led to a comparison of different contexts (both direct and indirect) that involved all those leaving on the mobility; the exchange of information and teaching-methodology procedures served as a spark for renewed professional growth and improvement, placing, side by side, *lifelong learning and international*

co-operation through *citizen mobility*, as innovative areas for the professional, personal and cultural development of the individual.

In fact, during the *Mobility Phase* we encouraged the local people (i.e. non-Italian) in the partner states, and any other outsiders, and to express themselves freely; it was in the actual practice that those involved (teachers-to-be and trainers) were able to really judge the results of their personal commitment, learning about *active citizenship*, as something additional to the overall aims of the project, as the extra spur towards understanding and experiencing directly those concepts and principles that would otherwise remain random words without meaning.

In concrete terms the teachers-to-be themselves became subjects in a state of “exploration” and observation, collecting material that enabled them to carry out in-depth studies of the various training-educational contexts (initial education and training in Italy, Norway and Slovakia). They were also firsthand and direct observers of the cultural, organisational and relational life in environments and contexts totally different from their own.

The *gender approach* and “*female leadership*” stood out as a result of their rich, innovative and varied characteristics, highlighting alternative methods and procedures that were put into practice during the various phases of the mobility, during international meetings between partners and contemporary exchanges of groups of students involved in practical training at the partner universities. As the points of reference for the project, we were very careful during the preparatory phase of the project activities, especially with regard to our welcome, our guests’ wellbeing and comfort, the social events and informal get-togethers etc. All these important elements provided us with reciprocal knowledge and led to an increase in growth as a group.

Preparation for the departing group was also deemed to be a determining factor in the success of the operation; this was carried out during the propaedeutic phase of student mobility.

This is why we exchanged information about the students (CVs, study plans, specialised subjects) in order to set down a tailor-made teaching/training programme; we advised our students to brush up their English and also organised a course of twenty-four hours; we prepared them for any culture shock and the social and economic differences of the countries and cities where they were going. Preventive measures were taken, in the form of meetings with inside-workers and first-hand witnesses, who were able to analyse and outline for their colleagues their own analogous personal experiences.

When monitoring the students during their stay, we gave careful attention to the group’s wellbeing, and from the logistical point of view,

as well as the teaching/training, in order to anticipate any organisational hitches, and wherever possible modify the in-progress training.

We tried to help the students' understanding and knowledge of the foreign environment by setting up an informal, cultural exercise to help them assimilate several linguistic notions (survival language course), as well as an understanding of the social-economic, cultural and political-religious elements; we aimed to satisfy whenever possible the students' curiosity and knowledge about the place where they were to go for a month. The European perspective was introduced into their preparation by outlining the Socrates and Leonardo Community programmes, which are aimed directly at the sectors of education and training. Emphasis was laid on the concept of co-operation by reinforcing links between schools throughout Europe, between the worlds of work and school, between education and training and so on, and the attempt to consolidate those intersectorial and intercultural dynamics which still haven't been adequately developed.

Mobility is seen as a means of developing active citizenship, which involves local and international experiences and encounters, living abroad for a period of study or professional training that might enable one to enrich one's cultural baggage.

That is why I have chosen to speak today about the way in which we ran the project, because it implies that the work and the quality of the operations carried out by those who worked on them and experienced mobility have now gained considerably in importance; by following this route it is possible to achieve "performance" targets of a high standard, which guarantee a diversity and quality of response.

For this reason I think that international co-operation projects, apart from the results themselves, and apart from the answers we sought and found, produce more profound effects, which we will remember as rich, intercultural discovery and experience, the most positive aspects of which we shall be disseminating.

Appendix 1

Glossary

Empowerment

Here this term indicates the female potential for self-fulfilment, self-improvement, reinforcement of one's identity and taking decisions, and through one's choices and dynamism contributing fully to improvements in the social processes, to development and to a

harmonious and well-balanced readiness for decision-making roles. In its broadest sense, empowerment is the increase of freedom of choice and action. It is a participatory process which places or transfers decision-making responsibility, and the resources to act, into the hands of those who will benefit. This can include (i) building up skills in stakeholder organisations; (ii) strengthening legal status of stakeholder organisations; (iii) stakeholder authority to manage funds, hire and fire workers, supervise work, and procure materials; (iv) stakeholder authority to endorse the satisfactory completion of projects and establish monitoring and evaluation indicators and (v) support for new and spontaneous initiatives by stakeholders.

Gender

This is a system of relationships between the sexes that determines different roles in the social environment, in economic relationships, in the distribution of resources, in political and decision-making choices. Gender refers to the socially constructed roles ascribed to males and females and the resulting socially determined relationships. These roles are learned, change over time, and vary widely within and across cultures. Gender is one of the key entry points for social analysis/assessment. It is important to understand the social, economic, political, and cultural forces that determine how men and women participate in, benefit from, and control project resources and activities.

Gender Mainstreaming

Gender *mainstreaming* involves not restricting efforts to promote equality to the implementation of specific measures to help women, but mobilising all general policies and measures specifically for the purpose of achieving equality by actively and openly taking into account at the planning stage their possible effects on the respective situation of men and women (gender perspective). This means systematically examining measures and policies and taking into account such possible effects when defining and implementing them.

Action to promote equality requires an ambitious approach which presupposes the recognition of male and female identities and the willingness to establish a balanced distribution of responsibilities between women and men.

The systematic consideration of the differences between the conditions, situations and needs of women and men in all Community policies and actions: this is the basic feature of the principle of

‘mainstreaming’, which the Commission has adopted. This does not mean simply making Community programmes or resources more accessible to women, but rather the simultaneous mobilisation of legal instruments, financial resources and the Community’s analytical and organisational capacities in order to introduce in all areas the desire to build balanced relationships between women and men. In this respect it is necessary and important to base the policy of equality between women and men on a sound statistical analysis of the situation of women and men in the various areas of life and the changes taking place in societies. (*Incorporating equal opportunities for women and men into all Community policies and activities* (COM(96)67final) - Communication of the Commission).

Leadership

Leadership is fundamental to guiding an organisation (either public and private) towards change, drawing inspiration from one’s overall vision, from the “idea” to be put into operation in the future. This vision of the future, along with the strategies needed to achieve it, prompts the change necessary for success to be achieved. These are the typical tools of the leader, whereas a manager makes use of planning, budgeting, optimisation/organisation of exploitation of resources, in his handling of complex matters. Management develops the ability to carry out a plan by organising and structuring, whereas the leader looks to achieving his own goals (and those of the whole organisation [...]) by utilising his array of resources, as well motivating and inspiring them. Leadership represents the basis of all efficacious change, implying the elaboration of a vision and the strategies required to achieve it. All these activities have as their goal the concrete realisation of a vision, breaking down the individual’s natural resistance to change. It is for this reason that we can state that leadership functions through people and their culture, as opposed to management, which functions through the hierarchy and systems. Exercising leadership means promulgating a vision that can inspire and motivate anybody that needs to be involved on any level in the process of change, and controlling the communicative process so that all these resources are understood and motivated, in such a way that they become major players in the operation or operation-to-be, acquiring decision-making autonomy and sensing an inner-growth of enthusiasm and belief in their own capabilities. Therefore, leadership is the handling of relationships and the putting to good use of human resources, a fundamental step in achieving aims [...] The principal function of leadership is the generation and handling of change:

motivation represents the energy required to overcome resistance and barriers, not only because it points in the right direction, but because it satisfies ever stronger needs, such as belonging, recognition, self-esteem, control over one's life, the ability to live in tune with one's ideals. (*Donne e Leadership: per uno sviluppo di una cultura organizzata delle amministrazioni pubbliche in ottica di genere* – Analisi e Strumenti per L'innovazione, I Rapporti; Presidenza del Consiglio dei Ministri, edited by Maria Giulia Catemauro and Paola Conti).

Mainstreaming

The systematic integration of male and female priorities and demands in all policies, with the aim of encouraging equality of the sexes, bearing in mind the different impact that men and women have in work, and assessing and monitoring the effects and dynamics. (Communication from the European Commission, Com 96-67).

Managing Diversity

Managing diversity in the workforce in the public sector envisages two important goals:

- equality within organisations;
- improvements in service delivery within a framework of equality and quality.

The objective is to match the workforce to the customer-base and the profile of the community. In some countries specific performance objectives and diversity management plans have been developed for this purpose. Managing diversity also means taking a more strategic approach, by building on best practices, fostering leadership around equality, promoting cultural change, and improving user involvement and community engagement. Implementing equality/diversity within the workplace and in the provision of services requires commitment at senior level within organisations and clear lines of responsibility. Support from the most senior level should be visible in terms of financial and human resources, corporate priorities and effective performance management.

Participation

«A key element of equality is to ensure that there is participation and involvement of service users and organisations representing equality groups. This can be through consultation exercises, focus groups, consumer panels, customer feedback sessions, listening

sessions etc. An important issue is to ensure that service users are able to effectively feed back on service developments, participate in the planning of services and assist in the monitoring of services». (*www.socialeurope.com*)

«[...] ensuring young people are consulted and more involved in the decisions which concern them and, in general, the life of their communities [...] the European Commission proposes participation, voluntary service, information, improving the public authorities' awareness of young people's concerns, and more generally any other subject which might contribute to the development and recognition of activities on the youth front (e.g. youth work, youth clubs, street work, projects to foster a sense of citizenship, integration, solidarity among young people, etc.) for the part which is not covered by other political processes such as employment, social integration and education». (*European Commission White Paper "A New Impetus For European Youth" - 2002*)

Appendix 2

Useful Links

DG Employment and Social Affairs and Equal Opportunities

(http://europa.eu.int/comm/employment_social/equ_opp/index_en.htm)

DG Education and Culture

(http://europa.eu.int/comm/dgs/education_culture/index_en.htm) –

LEONARDO & SOCRATES PROGRAMS

Mainstreaming equal opportunities for women and men in Structural Fund programmes and projects

(http://inforegio.cec.eu.int/wbdoc/docoffic/working/mains_en.htm)

DG Internal Market - Dialogue with Citizens and Business - Equal rights and opportunities for women and men in the European Union, Guide

(<http://europa.eu.int/youreurope/nav/it/citizens/guides/equalopp/index.html>)

EU institutions

European Parliament

(<http://www.europarl.eu.int/>)

Committee on Women's Rights and Equal Opportunities

(http://www.europarl.eu.int/committees/femm_home.htm)

The EU and the fight against discrimination: Discrimination on the Grounds of Gender

(<http://www.europarl.eu.int/en/discrimi/ssi/gender/default.shtm>)

EU Member States

Italy: Ministero per le Pari Opportunità

(<http://www.pariopportunita.gov.it/>)

Norway: Ministry of Children and Family Affairs

(<http://odin.dep.no/bfd/norsk/index-b-n-a.html>)

NGOs and other gender related sites

Database on Women in Decision-making

(www.db-decision.de)

NRC - Swedish National Resource Centre for Women

(www.nerckvinnor.org)

Amazone - Belgian conference and meeting centre for equal opportunities for men and women

(www.amazone.be)

WIDE - Network Women in Development Europe

(www.eurosur.org/wide/)

European Database of Women Experts

(<http://www.setwomenexperts.org.uk/>)

Other Sites

European Institute For Managing Diversity

(<http://www.iegd.org/English/FramesHomePage.htm>)

The 'Managing Diversity' website

(<http://www.socialeurope.com/mandiv/en/index.html>)

Professional development of teachers as an answer to educational challenges of a new millennium

*Rudi Schollaert**

Are the expectations that society has of schools and of teachers realistic in the present constellation? If one looks at the Lisbon objectives one cannot but frown: the teacher competences summed up in the work plan for 2010 sound forbidding.

The question is not whether schools, and hence teachers, need to change. Of course they do. The fundamental starting point of the whole discussion should be different though. The basic question should be “What are schools for?” All else is to be derived from the answer to this question. If we agree that schools are learning organisations par excellence, we are also saying at the same time that the focal point of the school’s endeavour is the primary process of learning. In order to optimise student learning, it is essential for schools to work on the internal conditions that help create a powerful learning environment: a reflective attitude, agency, connectedness, sustainable development and leadership. These are the key features of a learning community. Schools can only become true learning communities if teachers become confirmed and passionate learners themselves. Only if schools become true learning communities, will they be able to play a decisive role in an ever changing society that grows more complex by the day.

The changing role of the teacher

According to the 2010 Education and Training Programme, the

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European Commission has identified the following competences teachers should have by the end of this decade:

- Dealing with social, cultural & ethnic diversity
- Organizing powerful learning environments
- Integrating ICT
- Working in teams with other professionals
- Working in curriculum & organisation development and evaluation
- Collaborating with parents and other social partners
- Acting in an investigative & problem solving way
- Steering own professional development in LLL (lifelong learning) perspective
- Contributing to citizenship education of pupils
- Promoting development of competencies for the knowledge society

The least you can say is that this is a tall order, and that some of the expected competences deviate substantially from the traditional perception of the teacher's role, i.e. to teach a subject. Little wonder that there is such a lot of resistance to the views encompassed by these competences. For one thing they are imposed in a top down fashion. Besides, they run counter to strongly held convictions and beliefs that are common within the teaching profession.

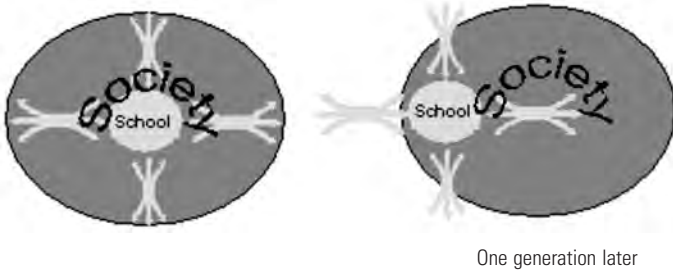
If we want to pass judgement on the sense or nonsense of these competences, we first have to answer a number of fundamental questions. These questions are

- Why do we have to change?
- What are schools for?
- What is learning and how do people learn?
- What is teaching and how can people be taught?

Why do we have to change?

Because not changing is not an option. There is no choice really. Change happens anyway, whether we like it or not. By taking a proactive stance we can prepare the ground and embed new developments in our existing practice. This approach allows us to stay on top of the events that are to come. It allows us to stay in charge, it gives us a sense of direction. If not, we will be overtaken by events, and experience a sense of helplessness. People who can not, and will not, see that they are preparing their learners for a society that ceased to exist 30 years ago, are at the same time giving up the opportunity to have an impact on society.

Figure 1 below illustrates the dramatic inadequacy of fossilised teaching in a changing society



This does not mean that schools have to jump on to the bandwagon of any new fad that happens to be passing by. It means that schools cannot ignore the changes in society, but have to respond to them. In order to do so they have to develop the ability to respond: response-ability. This is the great **responsibility** schools have towards society, which brings us to the question of what schools are for.

What is education for?

On the surface there seems to be little disagreement about the purpose of education: preparing young people to take up an adequate role in society. The unanimity dwindles fast when the ensuing questions are posed: What role? What society? Is education about getting the most out of society as it currently presents itself, a society that is increasingly dominated by the economic logic of the free market? Or is it about making a contribution to a just and equitable society that offers equal opportunities to all its citizens, without exclusion, but also without shifting the burden to less developed, and therefore defenseless, societies, and without wasting the resources that are essential for the prosperity and life quality of future generations? This does not mean that education should not provide young people with knowledge and skills that will be of use to them in the labour market. Having a proper and satisfying job is an essential part of an individual's social integration. It merely means that the role of education goes way beyond this.

The same goes for the apparently emerging consensus about the learner-centred nature of education. Here the question is: who is this learner? Is it the learner as a unique and complex human being, the learner who is to be approached in a holistic way, who is to be guided through the process of personal growth and development and at the same time towards critical and responsible citizenship? Or is catering

for the individual learner rather a reflection of our consumer society? The cash and carry model of learning, in which the school is the supermarket and the learner is the customer, picking and choosing transferable credits, as if they were fruit and vegetables, going from one supermarket to another to make the most of the special offers.

Education has a moral purpose, because it has an overwhelming impact on the individuals in its care and on society in general. Education is not a market commodity, it is a public good, just like health care. Everybody is entitled to the best possible education, just as everybody is entitled to decent health care, not only those who can afford it.

Therefore the educational profession should make it clear that schools are not in the 'service' business, but in the 'care' business, the implication of this being that schools do not have customers, but stakeholders. Successful education is a joint responsibility between school management, teachers, the board of governors, the local community, the government, and last, and certainly not least, parents and pupils themselves. These latter categories are not customers, who can just make their demands and pay for satisfactory services from their own resources or with a voucher, delegating the responsibility for the children's learning to the school. On the contrary, parents and particularly learners are the key players in education, with definite rights, but with an equally definite responsibility. In the same way as a patient is not simply a consumer of health care, but is eventually responsible for his own health by keeping up an appropriate lifestyle. Indeed, as far as learners go, they are the main beneficiaries of education. Nobody can do their learning for them, and that is the bottom line.

Schools in an ever-changing and increasingly complex society

Schools have a public mission, a responsibility towards society. They are not self-sufficient institutions that carry on with their business, regardless of what is going on in the world outside. And this world today is dramatically different from the world as it was a generation ago. Not only is the world different from how it used to be, it has also become infinitely more complex. The demands that post-modern society places upon schools are not only many and diverse, they are often contradictory as well. Here again the school has to maintain a delicate balance: starting from a consistent values-based pedagogical

project it should indicate and put into practice ways of dealing with the complexity of contemporary society. While carrying out this coherence-building mission, the school should not lose sight of the benefits of the diversity that is beneficial to any complex organism. *E pluribus unum*.

Change is unavoidable, and schools that do not respond adequately to the changing and increasingly complex environment in which they operate, will soon lose their social relevance. Once the teaching profession fully realises that change offers great opportunities for learning and for growth, the prevailing attitude may well change from resignation and defeatism to the excitement that is associated with great discoveries and breakthroughs, with deep learning.

Focus on student learning

Student learning is what education is all about. Learning is the core business of schools. All other considerations should be subordinate to this, and all managerial and practical arrangements should be made in function of this axiom. Additionally, one could argue that restoring pupils' and teachers' happiness is good enough reason for a school to improve the school's learning climate. It follows then that the school's mission is to provide the conditions to optimize student learning, in other words: to create a powerful learning environment.

Knowing that by the end of their formal education, each individual should be equipped with the necessary competences that will allow them to take charge of their own lifelong learning, it is clear that the *raison d'être* of schools can no longer consist of filling the empty vessels. According to Joyce, Calhoun and Hopkins (1997), the quality of the learning environment that schools offer depends on three variables. First there is the *content* of learning, which is conceptual rather than particular. In other words, content that reveals the larger picture, that may be transferred to other learning. Second there is the *learning process*, which is constructive inquiry instead of passive reception. Knowledge is not passed on, like a contagious disease, but is acquired – more often than not in a laborious way, and at least in a cyclical way. And third, there is the *social climate*, which is expansive instead of restrictive. Indeed, learning is not a purely cognitive endeavour; affective factors – motivation, safety, self-efficacy – play a major role in the willingness and ability to learn.

An important pedagogical implication of this view of learning is that each learner has an individual learning route. Giving identical input to cohorts of learners in no way guarantees identical intake, let

alone identical or even comparable output. Learners are ultimately in charge of, and responsible for, their own learning. Nobody can do their learning for them. This has severe implications for the role of the teacher, who will no longer be the ultimate source of knowledge, but the facilitator of learning.

Yet, learning is not a solitary but a co-operative endeavour. People learn from and with each other. Here again diversity is an asset, as the pooling of complementary competences produces a result that is usually bigger than the sum of its parts. They do not only learn to co-operate – a valuable interpersonal skill – but they learn through co-operation. Learning together also fosters critical awareness of one's own learning style, thus clearing the ground for a reflective attitude.

Teacher Learning and Reflection

If learning is the core business of a school, it goes without saying that teachers should be expert learners in the first place. Indeed, they are the role models for the learners, they are the pros in the whole story. How can teachers possibly expect their students to be keen learners if they themselves seem to be uninterested in acquiring new knowledge or competences? How can they expect their students to take up ownership of their learning, if they themselves expect 'external experts' to tell them what to do and how to do it? If school heads, senior management and teaching staff do not want desk people who have not seen the inside of a classroom since they were children themselves' to make decisions above their heads, they cannot sit back and wait until somebody does their thinking for them, until somebody takes their decisions for them. Indeed not, in their capacity of expert learners, teachers – educational professionals if you like – are reflective practitioners, who screen prevailing theories through their current practice and reflect on their practice through the filter of these theories and research findings, or through the feedback they get from their peers or other professionals, from their learners and their parents. Powerful instruments for achieving this are a.o. practitioner research (Jones: 2002) and teacher portfolio (Sentocnik: 2002). Consequently the teaching profession should stop outsourcing their own learning to external experts, the implication for educational support organisations being that they should cease to act as plumbers, thus contributing to maintaining the "learned helplessness" of schools (Leenheer: 2004), but rather they should take up the role of critical friend, coach and facilitator of teacher learning and institutional learning.

Schools as learning communities

Having said all this, the learning potential of a school is more than the sum of the learning of students and teachers. Indeed, schools do make a difference. Everybody knows instances of both teachers and learners who perform considerably better – or worse – after they have changed schools. Three decades of extensive, complex and longitudinal research from various sources across the world (MacBeath and Mortimore: 2001) have revealed that one particular pupil if attending a particular school might rank no. 680 out of a cohort of 1000, but the same pupil would rank no. 320 if attending another school; and here we are only talking about effects that are readily measurable.

There is extensive literature on learning organisations (Senge, Dixon...), and if any organisation could rightfully claim the epithet of learning organisation, it is undoubtedly the school, for learning is its trade. In view of what we said before, we prefer to talk about *learning community* rather than *learning organisation*, because the term *organisation* suggests structures, whereas the term *community* indicates the way people interact with and relate to each other. We have already pointed out how students and teachers learn from each other and with each other. In the following sections we will also refer to other aspects of community building.

Recent literature (Louis and Kruse, Sergiovanni, Speck) engages in the exploration of the concept *professional learning community*, in which staff collaboratively set clear goals for student learning, provide a coherent programme, develop a consistent assessment policy and develop action plans to improve student learning, learning that integrates new knowledge into prior knowledge.

This is only part of the picture, though an important part. When it comes to learning, the educational staff should duly take the lead. They are the professionals after all. But all this teacher learning would be futile without student learning, the real mission of the school. The *learning community* even goes beyond the learning of students and teachers. If schools want to play their role in society to the full, all stakeholders should be involved in the learning, deriving benefits from, whilst at the same time contributing to, the learning community.

People will only fully contribute to a community if they feel they are part of the whole, if they feel respected, if their contribution is valued. This takes us to the concept of agency.

Agency

As argued above, one of the key aspects in the learning process is reflection. Reflection leads to conclusions, and hence to decisions. Being able to make one's own decisions and act upon them is an important feature in the concept of agency. People have agency if they can have an impact on things that really matter to them. Agency is 'the human capacity to make a difference through the application of bottom-up power to change the structures which constrain and determine our actions'(Giddens: 1984). If we expect teachers to take on responsibilities beyond what is going on in their classrooms, we have to give them power outside their classroom. This is what A. Hargreaves (1994) and D. Hargreaves and Hopkins (1991) call empowerment. If agency or empowerment is what makes teachers tick, the same must be the case for learners. Only if learners have some impact on what and how they are learning, will they accept, even claim ownership of their learning, hence will they be motivated to learn. Only if learners have some impact on their learning environment, i.e. the wear and tear of school life, only then will schools duly prepare them for active and constructive citizenship in their adult lives.

On the other hand, agency is not something that is granted to you, it is something that you claim, and that you work towards. Yet the step from reflection to decision-making and hence to action will only be taken in a non-threatening environment, characterised by trust and confidence. Indeed trying out something new means letting go of certainties and routines, means running the risk of becoming temporarily incompetent. It follows that if people who hold formal power in schools want teachers to get involved in issues that go beyond their classroom or their subject area, they should try to create partnerships with teachers, negotiate mandates with them, facilitate their work, while at the same time publicly supporting them. From this to distributed leadership is only a small step. By involving people in policy making, a broad basis is created for schools to play their role in an increasingly complex world.

The same with learners and their parents. If schools want them to take ownership of their learning, to get involved in the school, they should create opportunities for them to get involved, to demonstrate leadership as appropriate when the occasion arises.

Connectedness

Agency thus relies on involvement in the decision-making process, acting upon these decisions and sharing in the responsibility for the

outcomes. The use of the word 'sharing' indicates that decisions that affect any number of people, or even a whole school, cannot be made on an individual basis. They need a consensus. If the parties concerned, however, do not look upon each other as partners, but as opponents, consultation will inevitably lead to antagonism and opposition. Genuine school improvement, developing shared meaning, is possible only if all parties involved, governors, school management, teachers, pupils and parents are true partners united in a common cause. Connectedness is a synonym for positive interdependence, and as such it represents a major contribution to the conditions for school improvement. The concept of connectedness addresses issues such as mutual emotional support among school head, staff and students, taking a collaborative responsibility towards student learning and interests. In such a collaborative culture, diversity, conflict and resistance are essential ingredients. The prevailing school climate is a major facilitating factor or a major impediment for working and learning together. If learning is constructing meaning, learning in interaction with others becomes constructing shared meaning. People will learn better together with peers, comparing notes and complementing one another's partial understanding. Neither teachers nor learners will happily do this if they are in direct competition with their peers, if their mistakes are held against them, if their failure makes others look better.

Connectedness is a condition that contributes to coherence within a school. Connectedness is coherence between people and between the ideas they hold. It is evident that schools need to teach students how to deal with the complexities of the post-modern world, showing how diversity may be an asset, rather than a problem. All the same, schools have a coherence building mission: to offer their learners a consistent set of values that can be used as a key to dealing with the complexity of present-day society. For the sake of street credibility it does not suffice for schools just to offer these values, but, what is far more difficult, they are also expected to live up to them. Coherence building is forging a shared vision regarding what really matters, not by insisting on monolithic beliefs, but by inviting all those who make up the learning community to share the views put forward in a values-driven pedagogical project, to enrich those views and to put them into practice. In so doing schools heavily contribute to the social cohesion of society, which the European Commission has put forward in the Lisbon declaration (2000) as one of the major aims to be reached by 2010. In fact, social cohesion in an open, tolerant, democratic society without exclusion, in which ALL citizens share the benefits, is a

precondition for a stable and prosperous society, thus creating the conditions for trade and commerce to flourish, for a sound economic basis to develop.

Leadership

Not only is there a clear move away from school management towards educational leadership in more recent literature (Early: 2004), the understanding of the nature of leadership required to turn schools into learning communities has also evolved dramatically over the last few years. As Jane Jones (2004) convincingly argues rather than a fixed quality being the prerogative of the formally designated school leader, our paradigm of leadership is a shared construct based on the notion of a web of leadership that places the formal leadership not at the apex of a pyramid but at the centre of this web. This is based on an assumption that everyone has the potential to function as a leader. Shared leadership engenders collaborative learning and thereby a joint orientation to educational change. This cannot however happen without the conditions for promoting leadership in place. This has implications for the organisation of schools that need to have flexible infrastructures involving teams and task forces, for example, that maximise opportunities for leadership, in our sense of the word, to take place.

A clear concern is that of sustaining change and quality, indeed of improving them. Shared leadership promotes not only the professional learning community but Sergiovanni's concept of the 'community of responsibility'. This involves the whole community – pupils, teachers, parents and others – in connecting with each other and with the school, with a common focus on supporting learning and building relationships and responsibilities. Learning is shallow where responsibility is lacking. Involving all rather than the few engages the energies and commitment of all to maintain and sustain, and creates a safety net when the energy and commitment of individuals wane. Sustainability depends to a large extent on the involvement of people and the leadership capacity of the school.

Sustainability

Improvement does not come about by initiating innovation after innovation, without waiting for current efforts to bear fruit. In doing so a school would only add insult to the injuries inflicted on schools by reform-obsessed authorities. Improvement does not mean jumping

on any bandwagon that happens to be passing by. Sustainable growth means consolidating one's gains, patiently improving one's practice and steadily building on existing good practice.

Sustainability can be described as the ability of a system to sustain itself in relation to its environment, and therefore the pursuit of sustainability in education refers to the ability of the school to find an adequate response to an ever-changing world, call it response-ability (Sterling: 2001). This ecological dimension is very much in line with the moral purpose of education, mentioned earlier in this paper. As an ecological microcosm, a school that aspires to sustainability must cherish diversity among its practices, its staff and its learners.

As to the core business of schools, sustainability requires deep learning, learning that lasts and that will not lose its relevance and hence be deleted from the learner's mind after the next test. In its search for consolidation, sustainability is the enemy of the quick-fix attitude. On the contrary, it involves patient work on the conditions that one wishes to obtain within the school, through capacity and coherence building.

All the issues dealt with above may sound very moralistic and indeed, they are normative rather than descriptive of the reality in the great majority of schools. Many practitioners would probably discard them as utopian ideas. The point is, however, that the principle beliefs are supported by the converging results of the massive research into school improvement that has been carried out over the last ten years (Fullan: 2001).

Balancing the conditions

In the previous sections it has been argued that connectedness (positive interpersonal relationships), agency (having an impact on things that matter), and particularly a focus on student learning, and the embedding of this learning in a learning community in which teachers act as role models and collaboratively reflect on their practice, are some of the conditions for schools to optimise their human resources potential and thus make gradual progress on the long and winding road towards quality. These conditions touch upon the essence of human behaviour and interpersonal relationships. However, the conditions mentioned above do not stand by themselves, and you cannot tackle them one by one and then strike them off one after the other once they have been met. For one thing they are processes, not products. And secondly they are all interconnected (Hoban: 2002), they permeate one another. This is because our post-modern age is character-

rized by fragmentation and the world has become too complex to be caught in a one-dimensional model. Both society and the school are complex organisms in which multiple realities interact. Change one of these elements and the whole system starts shifting.

The simple and straightforward paradigm of cause and effect can no longer offer a solution to the complex problems we experience. For educational change this means that the traditional sequence of planning – conceiving – implementing – evaluating, resulting in an expected outcome, or even better, in a predictable effect on students, does not work. It also means that applying techniques and instruments does not work, if they are purely rational constructs that fail to take into account the context in which the respective elements interact.

This is one of the major reasons why top down change has such a poor record of success: it is often hyper-rational, it focuses on structures and does not take into account the subjective realities of the stakeholders. It is quite possible for a government to decree structures and procedures for pupil and parent participation, but whether this may lead to partnership among the stakeholders, to connectedness and agency, or to antagonism and to relationships turning sour, depends on the conditions that prevail in any particular school.

The great enemy of ecologically healthy diversity is standardisation. By means of indicators, benchmarks, certification, quality control systems, educational authorities across Europe are trying to reduce a complex reality to what is readily measurable and comparable, regardless of the context (Standaert: 2004). Standardisation is the authorities' way of combating complexity, instead of acknowledging it and tackling it head-on, as we do. Through this tunnel vision they create a false sense of security and give governments the illusion that they are in control. This is one of the major messages, call it a warning if you like, that "The Treasure Within" Comenius 3 Network wants to give to educational authorities in general and to the European Commission and Parliament in particular.

Conclusion

It is not really the content of the teacher competences as put forward in the 2010 work plan that causes grief. In the light of this article most of these competences make perfect sense and even seem indispensable. It is rather the way in which this envisaged reform is imposed on the teaching profession that will doubtlessly lead to major resistance.

One thing is for sure, the sheer complexity of coping with an ever-changing and increasingly complex world cannot be left in the hands of individual teachers, however committed and competent they may be. Until further notice Superman remains an imaginary character. Working and learning together is also a cure for combating alienation, which is unavoidable if teachers and head teachers have to work in isolation and face multitudes of problems on their own. This implies a plea for systems thinking, in which people are aware of the way in which what they do contributes to a meaningful whole. But this is another story for another conference.

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Teacher Education in Europe

*Giunio Luzzatto**

I thank you for your invitation. It is my task to say something, in a short space of time, about a very complicated subject: how initial teacher-training is organised in Europe, and which are the ongoing debates on the subject. I shall necessarily only touch on those points that seem to me the most important, and then only very briefly.

It has to be said that the traditions in the various European countries are very different; each has developed independently along its own lines, but, overall, a few converging patterns do emerge. This is especially true if we consider the three main themes I would like to concentrate on: 1) the contents on which the teacher-training process is focussed; 2) the institutional structures in which this initial teacher-training takes place; 3) the decision-making seat of greatest importance, i.e. the predominance of the central decision-makers, through detailed national norms, or, more to the point, autonomous skills for which various institutions are recognised.

The contents – For teachers at elementary or primary school a tendency can be observed, in quite a general fashion, to lend great importance to educational themes, i.e. to psycho-pedagogic education, whereas in secondary schools more attention is given to aspects of a subject-content nature. In any case, whenever the preparation of teachers has taken place in a university, i.e. in an academic environment, the approach has always tended to have a very theoretical character; this is true for both disciplines of an educational-pedagogic type, and for those of a type emphasising content. On the other hand, whenever teacher-training has taken place in ad hoc institutions, aimed

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specifically at this type of training, there has usually been greater attention paid to practical and applicatory aspects, to practical training and teaching practice. Even though I have tried to stress the potential diversity, one has to say, however, that, as far as focus (the area of greatest attention) is concerned, there has certainly been an increase, at the secondary level, in the importance of components that we might call educational.¹ If an interesting and needle-sharp report such as the one produced recently by our colleague from Brussels, had been presented thirty years ago in an environment of secondary school teachers, three quarters of the things we have heard would have been considered irrelevant to what a maths or Latin teacher ought to do or know; the interest that has been aroused in us by your talk demonstrates without doubt that also, as far as secondary school teacher-training is concerned, there is today increased attention to global educational aspects.

Institutional structures – As regards the seat for teacher-training, a process of universitisation has started to spread. Many of those that were separate institutions, aimed solely at teacher-training (e.g. British Colleges of Education or similar structures elsewhere), have gradually merged into the university system. In the case of Italy, until not long ago we used to have “*istituti magistrali*” (teacher-training schools) at a secondary level; this was a trend, a very general tendency.

Decision-making seats – Also from the point of view of separation of powers, (i.e. the relationship between state and educational institutions, between overall national organisation and the responsibility of individual institutions), the educational systems, and consequently, the systems of teacher-training, have converged greatly in terms of set-up. Let us consider England,² where there has been a very strong autonomous tradition, with schools depending on the local Board of Education, and, therefore, closely linked to the local community; beginning twenty years ago, central indications have acquired growing, and in some cases, compelling power, in the direction of a national curriculum, and with the imposition of benchmarkings, i.e. specific goals to be measured via standardised tests at a national level. Historically

¹ This convergence came about in Europe in quite a spontaneous manner, without any directives from above; above all there was no specific EU action, nor could there be. As far as the set-up of the educational system is concerned the Treaties do not, in fact, attribute competences to the Union, quite unlike what happens to large sectors of the economy (industrial and agricultural norms, taxes, money), or the labour market, etc.

² In dealing with educational systems we should hardly ever talk about Great Britain. In fact, there are considerable differences between England (and Wales), Scotland and N. Ireland.

France's stand was the opposite extreme; mention is often made of the famous quip by a minister over a century ago, when looking at his calendar and watch he declared "It's 11 o'clock, Tuesday of the third week of school; at this moment in all the second classes of the Republic the history teachers are explaining the Congress of Vienna". Right here, where control from above was deeply rooted via the very strong power of the central administration, there was, if not total autonomising of the individual structures, then certainly a considerable move in that direction; a typical element in that process is the contractual system. The universities, for example, are financed on the basis of long-term contracts with the State. They work out their programme, negotiate it, receive the agreed resources and have to report back about the activation of what has been agreed on the basis of a dialogue between institution and minister. This also holds true for the *Instituts Universitaires de Formation des Maîtres*, institutions at the university level and connected with the academic system, but independent of it; they are characterised by the variety of professional skills possessed by their teachers, in part coming from university experiences (and who, for contract periods or permanently, devote themselves to a shuttle activity between university and school), but in part coming from actual schools, or even highly qualified technical roles in the administration.

Granted that these first considerations might be broad sweeping statements, I must point out that if we want to go into the characteristics of teacher-training in various European countries in depth, then we encounter difficulty tracking down studies that can provide suitable elements for comparison, in a fairly systematic way and getting to the heart of the issue; the comparison is very difficult. The fundamental bibliographical material is attached here, but if we analyse this material we can see that, on a crucial point, (i.e. the contents, on practical training activity present in the teacher's course of training), the information is almost always rather general.

I was involved in an operation with CONCURED itself, the organisation that was mentioned at the beginning by my Colleague Mrs. Sperandeo; if we want to go into the more substantial elements of the teacher-training curriculum rather analytically, it has to be said that we only worked for any time in five European countries, with results that only leave us satisfied up to a point. The overview that we managed to build up, and which can be found in the booklet *Insegnanti in Europa*, illustrates, for example, in the curricula of the countries under consideration (Germany, Spain, France, Holland, Sweden), the significance of the component pertaining to content (i.e. relative to

disciplinary contents), with regard to an educational-pedagogic preparation and to the space reserved for professional practice; however, we are aware of the fact that there is still a lot of work to do in order to enter into greater detail.

At this moment, the source that provides most information is EURYDICE, a European Commission structure in Brussels; it collects (and, more importantly, updates) a large amount of material and then sets about comparing it; moreover it does this at a more general level compared to what I was saying just now, i.e. not regarding contents so much as structural aspects. The first of these is the duration of education in the various European countries; Figure 1 shows that there are quite considerable differences, and supplies useful information regarding important aspects of the different national situations.

Already by simply comparing the first and second columns, and the second and third, it is clear that there are two typologies: in some cases there is more analogy between the first and second, in other cases there is more analogy between the second and third. The first and second column coincide when the country possesses a unitary basic school, which is, more or less, schooling until the age of 14-16 years of age, with differentiation only subsequently. This is the structure present in all the Nordic countries, as well as in other scattered examples, and which, in my opinion, is spreading with a trend that is heading in our direction. The other type is the historically more traditional one, still firmly entrenched, for example, in Germany, i.e. the gymnasium/lyceum structure, centred around the idea of “secondariness”, which links the lower school with the upper school (this applies to the general knowledge stream, as separate from the vocational stream); all this can be seen by merely looking at the figures.

As for the organisational modes, we again found more or less two situations: the so-called integrated or simultaneous model, and, vice versa, the consecutive model; a lot has already been written on this subject.

The simultaneous model, to stay with the example of Italy, is that of the training of primary school teachers; even now that this training has been transferred to the universities, in the relative degree course, the disciplinary contents and the didactic-pedagogic training are present in integrated fashion, in a simultaneous curriculum divided between these two areas.

In the other model, the consecutive one, there is a first phase of a type basically emphasising content, which almost always ends with a first level degree qualification, a Bachelor; from these beginnings there then follows specific vocational training for teaching.

EURYDICE again carried out a study for lower secondary schools, the schools, which, depending on the country, lasts three or four years (10/11 to 14/15 years of age). Figure 2 shows something particularly indicative, that here we have an almost balanced framework between situations with a simultaneous model and those with a consecutive model. Depending on whether we are closer to the “gymnasium/lyceum” system or “basic unitary school” system, the lower secondary school is the one that either leans more towards integrated/simultaneous education or towards consecutive education. The asterisks in the figures indicate situations in which, in the same country, for teachers of the same school level, there are both models; for example, there is an asterisk next to Sweden in the second block, the four to four and a half year age-group. Sweden has a unitary school until the age of 16, after which differentiation is begun among the various currents of the secondary school; well, in the intermediate classes (from 5th to 7th) of the unitary school there co-exist teachers trained on the model that leans substantially towards a disciplinary basis and others, on the contrary, trained on the integrated/simultaneous model. Whoever made this choice considers this difference in training to be a case of diversity being a resource; in Sweden the schools are organised in a strongly decentralised fashion and manage their teaching staff in considerable autonomy, in such a way that a scholastic institute that possesses teachers with both more of a vocation for the subject, and those with more of vocation for transversal aspects, can exploit this variety of skills and approaches possessed by its teaching staff (composed of one and the other).

There is another important point: initial education lasting five years is almost the maximum, and, added to the four-year exceptions, includes almost all the situations. There are a variety of cases, among which there is Italy with six years, until we get to the four-year degree followed by the school of specialisation; but these are isolated cases, in the sense that the general tendency is in another direction. For a long period, in order to equip teachers better, all countries worked towards prolonging the training period, which often represented a “brief cycle” of higher education (three years). This is what Italy decided a few years ago, much later than other countries: as regards elementary and infant school teachers, to go on beyond secondary school, and as regards secondary school teachers to go on beyond the university degree. On the contrary, at this point, there is a strong line of thinking that there is no need to go further. In fact, the more insistence there is regarding what we heard in the previous talk (i.e. the continuity with the process of permanent subsequent education),

the more insistence there is on the fact that teachers have not finished their training the moment they receive their initial diploma; yet it is often suggested that initial training should not go on for too long. However, this would, in fact, be insufficient if it were wide-ranging with regard to all the aspects that have to be studied, both because society is changing, as we have mentioned here several times, and because the way in which an adult acquires new skills is completely different if he/she already possesses some professional experience when he/she acquires them, i.e. if this happens before beginning one's actual professional experience.

The EURYDICE study that I have been praising represents an enormous research effort; it does not only deal with initial training, but also all the other aspects of the teaching profession: recruitment; hours of service, which have a great effect on the concrete characterisation of the activity; in-service training initiatives; the possibility, or not, of professional growth and promotion, with the choice between developing only through seniority or, on the contrary, with the possibility of considering other elements. All this, so far only studied at the lower secondary level, implies years of work on the part of the EURYDICE group. With similar approaches (and just as much effort), and following the same line, analogous programmes could now be elaborated for the other scholastic levels.

A different approach was adopted by several academics who worked in Networks, financed by the European Commission. In the CONCURED review *Università e Scuola*, between 2000 and 2001, we translated a Green Paper, published in 1999, on teacher-training in Europe.

The authors examined not so much the aspects of an institutional nature, as aspects of a more structural type, going deeply into sections regarding teacher-training. One of the authors of the Green Paper, the Austrian scholar Friedrich Buchberger, subsequently continued working in this sector, and gave a talk, seemingly of great interest, at a Portuguese convention in 2000, when it was Portugal's EU term of office. Unfortunately, time does not allow me to go into detail regarding the 15 points in which Buchberger expounded a most critical analysis of the system of teacher-training; above all, he tried to highlight the fact that, when reforms are introduced in a training system, there is a risk they might have the characteristics of those that in the Green Book are called more of the same (i.e. adding more of the same to what already existed, instead of introducing discontinuous elements that might serve to give some meaning to the reform procedure). This concept of discontinuity is presented intentionally in a provocative manner, and exposes itself to possible mechanisms of

rebuttal that we heard about previously; at the same time, on the other hand, more of the same exposes itself to the risk of not being really innovative, i.e. of not building something significant and new.

I would like to mention one among the particularly interesting elements from this critical analysis, the fact that the universitisation process, the inserting of initial teacher-training in the university structure, risks bringing about consequences such as, what we might call (and not surprisingly, seeing that university teachers like to call themselves academics!) academicism in the negative sense of the word, i.e. excessively formal, theoretical training, a long way from actual professional teaching activity. All critical analysis regarding teacher-training stresses that the optimal situations in teacher-training are those where, in the centres that organise this training, a partnership can be achieved between the world of training institutes (in our case, the world of the university) and the practical professional world, i.e. the world of the school. If this partnership between these interlocutors can not be consolidated, there is, on the one hand, the risk of academicism, and on the other, the opposing risk that teaching practice sessions remain merely practice sessions, and are not stimulating from the point of view of cultural reflection regarding teaching activity.

To mention further examples, Germany is at present carrying out critical analysis of its own system, which actually includes a qualifying exam, i.e. the award of a professional teaching qualification (which in Germany is also called a State exam) consisting of two parts: the first part is taken at the end of the long university phase, whereas the second part of the State exam, a year later, is administered solely by the schools in which the one year of teaching practice has been carried out; there is no substantial relationship with the university, in the same way as the university had no relationship with the school in the preceding phase. I do not want to come to hasty conclusions, but I have the impression that this is one of the main points on which Germany is concentrating in trying to understand what is not functioning in its scholastic system; it used to have a great tradition, but is today in a state of shock, after reading the PISA results, where Germany is even languishing behind Italy. I do not know whether this should give us any cause for satisfaction; we certainly can not be satisfied with the fact that in Italy there has not been any public outcry, merely silence after three days of scandalised headlines in the newspapers. Germany, on the other hand, has been debating in depth for several months now about what has to be changed in the German system in order to get over the terrible PISA results; and not only at the level of pedagogues, but also at the level of press information and front page editorials in all the main daily papers.

Two aspects of the system are under fire: one is the early differentiation into streams, based on the fact that, in Germany, at 11 years of age, the “gymnasium/lyceum” stream diverges completely from the vocational training stream; the small number of “gymnasium/lyceum” students will obtain excellent results, but since PISA bases itself on averages, the overall result will be negative due to the weakness of the other streams. The other critical element lies in the fact that teacher-training throughout the scholastic system is feeling the presence of the above-mentioned gap between the academic-cultural and practical-vocational.

Returning to the general theme regarding teacher-training reform in the various countries, another element highlighted very critically in Buchberger’s report is the fact that no country has managed to solder the relationship between initial training and in-service training. Very often, there are even two different competent authorities and there is no relationship between whosoever has the task of organising initial training and whosoever the task of contributing to in-service training. Of course, this does not mean that somebody should have exclusive control; it would be very wrong to think of anybody having a monopoly with regard to in-service training. Leaving aside questions of power and responsibilities, it is one thing to say nobody should have a monopoly, it is quite another to leave the two authorities, in which there are competent persons with regard to the two aspects of training, cut off from each other.

I now come to a completely open-ended problem, and I am not referring to the Buchberger report of 2000, but to the latest developments: the most urgent topic is that from the Bologna process, to which there has already been reference. We all know that since the Bologna (1999) agreement and the subsequent stages of monitoring the relative setting-up (Prague 2001; Berlin 2003; Bergen 2005) there has been a tendency throughout the EU towards a system of three levels of qualifications: the so-called Bachelor level (degree in Italy), the Master³ level, (called specialisation in Italy), and the doctorate. After Bologna, Italy was among the first countries to adopt the three levels.

³ I can’t avoid making a polemical reference to the choice (mistaken, in my opinion) that Italy made in calling *Master* something else. We have called specialist degrees (and soon we shall be calling teaching degrees), what in other countries are called *Master*; even the French for once have resigned themselves to using the English term; they call it *Mastèr* (with an accent) because they have to keep something different; but anyway they have accepted the word. We, on the other hand, and Europe has already questioned the ensuing confusion, have adopted the term *Master* for courses of specialisation or refresher courses, not awarding a legally recognised qualification. Italy is making a great mistake when it refuses to adapt its nomenclature to the European one.

How does teacher-training find its niche in this design? This is a topical theme throughout the EU.

Research in the form of the so-called Tuning project, which is being carried out in committed fashion following the initiative of the European Commission, is trying to ascertain how the process of Bologna is maturing in various sectors, among which there is teacher-training. Analysis regarding teacher-training shows that the situation is, more or less, as follows: the first level qualification, the Bachelor, is quite common as a qualification for specialised teacher-training courses; this specific teacher-training course, which we might call Graduate, is, almost everywhere, considered to be second-level. There are still many differences between countries in which, whilst taking for granted possession of a Bachelor, this option has, nonetheless, a mainly professional characterisation; this means that the countries where this represents a real Master actually award it as a second-level qualification. There is still much debate around this subject in many countries and there is no generalised situation; here too, however, a precise tendency can be discerned, and the trend is in the direction of characterising the teaching qualification as a qualification that in Italy we call a specialised degree (*Laurea specialistica*), i.e. a second-level academic qualification.

I would like to say, finally, and I apologise to friends from other countries present, that in my final round-up I can't help making a small comparison with the situation in Italy; in fact, we are running the risk of going completely against the trends with regard to the rest of Europe. What we have heard, not only in what I have been saying, but in all the preceding talks, underlines the fact that the risk is one of having teachers who are not at all capable of collaborating, or experiencing the school as a learning environment, i.e. as an environment that should demand joint responsibility from all its components. I shall not repeat a whole series of other considerations that we have heard today, and which are certainly familiar to all present, but I would like to hark back to the same document that was mentioned not long ago *Che cosa deve fare l'insegnante nel 2010?* (What must the teacher do in 2010?). In the list of competencies that a teacher will have to have at his command, there is, as something taken for granted, that he/she must have a good knowledge, a well-founded grasp of the basics of his/her subject. The most strikingly obvious element still lacking in the teacher's armoury is not knowledge of contents, but all the rest, and so the innovations in the process of initial training must move in the direction of strengthening of other skills. On the other hand, moving in the direction of reinforcement of contents, as we risk doing with the so-called "Lauree magistrali"

(teaching degrees), if these are to be dominated exclusively by attention to subject content, thus cancelling out the most important elements of SSIS (i.e. inter-disciplinary collaboration, and fundamentally, collaboration between university and school system), would mean nipping in the bud a partnership that has never been part of the Italian academic tradition, but which was starting to be adopted. Everybody who has worked at SSIS knows how partial the results have been, but they also know that since the goals are highly innovative, time is needed to achieve these goals; a change of direction in mid-stream would prove very worrying. Also looking at the overall tendency in other European countries it is clear that we must certainly try (seeing as no final decision has yet been taken) to bring about an improvement in quality when compared to what has been achieved in the last few years, but at the same time stick to certain fundamental choices: in the university we must champion transversal structures between disciplines, instead of insisting on individual subject areas, and as for the university's relationship with the outside world we must have closer relationships with the school system. It is essential that these suggestions, which have been supplied by all the best European models, are not lost.

Figure 1 – Duration of education in Europe

		Primary	Sec.(lower)	Sec. (upper)
B	Belgium		3	5
DK	Denmark	4	4	5,5
D	Germany	3,5	5,5	6,5
EL	Greece	4	4	4
E	Spain	3	5	5
F	France	5	5	5
IRL	Ireland	3	4	4
I	Italy	4	6	6
NL	Netherlands		4	5
A	Austria		3	5,5
P	Portugal	5	5	5
FIN	Finland	5	5	5
S	Sveden	3,5	4,5	4,5
UK	Great Britain	4		
	England and Wales		4	4
	Scotland		5	5
NO	Norway		4-5	5

Source: Eurydice on data 1995-96

Figure 2 – Lower Secondary School Teacher Training (2000-2001) Source Eurydice

Duration (years)	Simultaneous model	Consecutive model
3-3½	Austria (1), Belgium, Iceland (*)	
4-4½	Czech Republic, Denmark, Estonia, GB (Wales) (*), Ireland (*), Latvia (*), Lithuania (*), Malta, Norway (*), Holland, Romania, Sveden (*), Hungary	Bulgaria, GB (Wales) (*), Ireland (*), Iceland (*), Malta, Norway (*), Spain, Sveden (*)
5-5½	Finland, GB (England and N.Ireland) (*), Poland, Portugal, Slovakia, Slovenia (*)	Austria (2), Cyprus, Finland, France, GB (England and N.Ireland) (*), Latvia (*), Lithuania (*), Slovenia (*)
6	Germany, GB (Scotland) (*)	GB (Scotland) (*), Italy, Luxembourg, Portugal

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The European Teacher's Professional skills

*Alessandra La Marca**

The teacher's skills, as both educator and trainer, develop in contexts where he is involved either directly or indirectly in practical teaching activity or, in any case, in activity that might serve as preparation for his professional working life.

The planning of a training activity aimed at developing skills in the educational sector requires, on the one hand, the characteristics and components of each individual skill to be singled out, and, on the other hand, the skills that the subject has already acquired to be borne in mind.

First of all, we ought to state in what sense we shall be applying the term "skill" (and, more specifically, "professional skill") in its main applications; then we shall examine how the level of competence alters as the "novice" teacher becomes an "experienced, expert teacher". We shall see how this professional growth requires the novice teacher to be able to perceive objectively the real level of his own skills, to comprehend fresh situations and then to act effectively.

1. The term "competence"

The concept of competence is very much to the forefront when there is discussion about training and trainers (masters, teachers and educators in general). The concept has undergone considerable change in the last forty years, and consequently, so have the fostering and assessment of competencies, in particular those of an educational

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nature. As C. Coggi (2002, 118) points out, competence is not merely possession of knowledge and technique, nor the ability to manage them, (although their presence is implicit), but entails knowing how to integrate knowledge and activate it. Therefore competence embraces both activation of knowledge and the ability to apply it; it is a singular characteristic concerning a certain area of problems, which is built up gradually (via training and experience) with aptitudes as a starting point.

The goal of learning-training is to acquire specific competencies, and after acquiring the requisite knowledge knowing how to apply it. So the competencies include both the object to be learnt and the conditions in which this takes place, as well as the ability to apply the acquired knowledge. It is not the goal of learning to heap up knowledge in any old manner, but rather to study connections, to organise these into a network, with the aim of solving a host of related problems (where the components are linked by inter-relational functions). It must be stressed that in the resolving of problems the context, the situation in which the knowledge is applied and the acquired qualities, are of great importance.

In the past one talked of «*transfer of training*»; today a group of French-speaking authors prefers to employ a different metaphor: the characteristic of competencies, (that which is distinguished by the simple acquisition of knowledge), is the ability (= possibility + facility) to mobilise the resources at one's disposal to resolve a series of related problems with similar characteristics.

This study-group also differs in its definition of the concept of *mobilisation*: Le Boterf (1994) speaks of the knowledge and ability to mobilise as two different things; basically, a competence is characterised by its ability to mobilise. In a way which is not always clear however, Ph. Perrenoud (1999) too maintains that mobilisation is an ability apart, which should be added to knowledge. L. Allal (1999), on the other hand, insists that we are dealing with a single ability: a competence is a particular way of acquiring knowledge and is not sub-ordinate to the ability to administer this knowledge.

It seems that a competence may be considered as an ability that can mobilise and orchestrate the various inner resources (cognitive, volitive and affective) in order to tackle a whole series of typical situations (Pellerey-Orio, 2001, 9). De Ketele (1997, 58-59) rightly stresses that every basic competence is always correlated with the context and the specific phase of the educational process.

2. The levels of professional competence of the teacher: from novice to expert

In order to highlight the various possible levels of a teacher's skills, it is useful to examine the differences that exist between the performance of a novice and an experienced teacher. In this sphere one of the clearest distinctions regards the diverse organisation of the knowledge one possesses. Novices often possess most of the elements of knowledge required to tackle a problem and, even though they might subsequently become aware of the problem, they nonetheless display a poor organisational ability and, consequently, inflexibility in applying an operational strategy.

The experienced teacher, on the other hand, administers a valid and complete organisational hierarchy; a professional possesses not only a fixed body of knowledge, with the relative intellectual procedures required to apply it, through development, application to new contexts and verification in all fresh situations, but is also characterised by a series of impressions that are representative of the new experiences one is having. Occasionally it is this accumulation of impressions and mental images that differentiates a novice from an expert.

Pellerey (1998, 140-141), drawing on the model of the Dreyfus brothers, envisages five levels of professional skill going from novice to expert: beginner's level, advanced beginner's level, level of competence, level of advanced competence, expert.

Bujol, Grenier e Montgomery (2000, 43) adopted a similar model elaborated by Leithwood in 1990, and applicable to the teaching profession. This model comprises six stages: the development of survival abilities, acquisition of basic teaching competence, growth in teaching flexibility, acquisition of teaching experience, contribution to colleagues' growth, participation in decisions of a general nature.

A capacity for reflection, assessment and deliberation with regard to a particular problem or situation, puts one in a position to review all previous knowledge, helps one to think up hypotheses and take decisions regarding on-going observations; the significance of the new information is also verified, sources are weighed up and there is a tendency to create relationships between the data possessed in relation to the concrete operations to be carried out.

Here we have a progressive shift towards greater critical awareness of one's own competence, when confronted by the context of action in which this has to be carried out; in the last few decades especially, this context has evolved rapidly, initially moving towards availability,

and then towards a personal and self-regulated commitment, so that one's skills might evolve or new ones might be acquired. From this critical analysis there emerges an interior impulse to go further, surpassing oneself, as well as one's previously acquired knowledge, abilities, convictions and competencies; this analysis derives from a grander overall vision and from a greater sensitivity with regard to the actual meaning behind human existence, and with regard to a more comprehensive interpretation of the various stages of the activity to be carried out.

3. Wanting and knowing how to act educationally

In defining the concept of professional competence one should shift one's attention from knowing how to do, (closely linked to an ability to carry out pre-determined procedures and plans of action), to knowing how to act, (understood as the ability to give meaning), to interpreting the situations to be tackled with a valid approach, to being able to take decisions in an appropriate manner, to knowing how to plan and implement effectively those undertakings that are prompted by the situation in question. A crucial role in all this is played by "knowing how to want", involving the subject's meanings and motivations.

Le Boterf (2000) outlined certain features of an educational path that allows one to foster both a professional "knowing how to act" and "knowing how to want". He starts from a concept that is now taken for granted in this sphere of human growth: learning through experience. In fact he immediately stresses how a person capable of acting pertinently in a particular situation must possess a double capacity for comprehension: that of the situation in which he is intervening and that of his own manner of intervention.

Le Boterf reinterprets the cycle proposed by Kolb (1984) in order to describe learning through experience, bearing in mind ulterior contributions. The learning-through-experience cycle, according to Le Boterf's reworking of it (2000, 85) is as follows: one starts from one's *past experiences*. The subject is involved in the action, in the execution of an activity, a project, in the solving of a problem. This is the indispensable point of departure, but if one limits oneself to this one falls into repetitiveness. The next stage is that of *carrying out*. The first stage is one of reflectivity: recounting to oneself what has happened in the experience one has undergone. It is not merely a question of describing the experience in some form or other, but rather of transforming the events into a story, making them

intelligible, providing them with a meaning. It is a form of re-interpretation, re-construction through critical thinking. This phase is not automatic; it requires mediators who know how to ask the subject the right questions. Questions that also involve the search for existential meaning.

This is followed by the conceptualisation and modelling phases. The narration leads to reconstruction and re-interpretation, and then to models of action, to operational invariants, i.e. that which remains as fundamental structure compared to that which varies or can vary in contextual details. This is pragmatic know-how, which props itself on a process of de-contextualisation and elaboration of plans and models that have a more general and more abstract character. It is in this phase that the attribution of meaning, and the grasping of the experience in a possible further perspective, takes on greater significance.

The fourth phase regards the *transposition* of the operational plans or models of action that have been elaborated to the context of a new situation or problem. This constitutes the moment of *re-contextualisation*. The more similar the new situation is to the previous one, the easier the process (until it becomes automatic). The further it is the greater will be the effort of transformation of the plans and models of action.

The novice teacher is first of all required to understand the new situation in which he finds himself and to work out hypotheses for educational intervention using the knowledge and skills he already possesses, knowing full well that it is not simply a question of applying previously known procedures and plans of action.

Le Boterf (2000) maintains that understanding a situation involves building up a conceptual picture that might enable one to act in it effectively, and proposes seven modalities for training action that might contribute to the development of one's capacity to adopt professional behaviour, by learning from experience.

- The first contribution arises from the acquisition of resources (knowledge, know-how, quality, etc) that might encourage knowing how to act in an appropriate manner. Of course it is an insufficient contribution, but nevertheless remains necessary.
- The second contribution arises from the subjects' involvement in combining available resources in order to construct and put into operation responses relevant to professional requirements. The capacity to orchestrate internal resources has to be encouraged, in order to respond adequately to the requirements demanded by the

situation. To this end previously consolidated training practices are called into action, e.g. simulations, rotation training, training revolving around problem-solving, case-studies, project pedagogy.

- The third contribution proposes realistic skill-learning goals. To this end a balance of skills that are already available will be of help, along with a consideration of the possible course of their development.
- The fourth contribution consists in fostering the development of the capacity to reflect and *transfer*.
- The fifth contribution regards the development of the ability to learn how to learn.
- The sixth stresses the importance of affording a correct place to self-assessment.
- Finally, it is important to encourage the building-up of a professional identity.

The proposed methodology is organised in six stages:

- The first step necessitates recognition of the nature of the skills to be developed and their value.
- There follows a study aimed at understanding what the skills consist in, and how they manifest themselves.
- The third step lies in identification via forms of self-assessment of the distance or discrepancy between the present level of skill and the pre-determined one.
- At this point it is possible to put everything into practice under the guidance, and with the *feedback*, of an instructor.
- When a sufficient level of skill has been reached, the subject sets his goals and develops operational plans to determine the ways of utilising the new skill in his working life.
- Finally a *follow-up* and support system is developed in order to consolidate and integrate the acquired skills in one's work activity.
- From what has been said so far one can understand why a teacher's preparation requires ulterior training in the early stages of teaching, via the intervention of an expert teacher in the role of tutor, and under the supervision of the university.

4. The skills of the thinking teacher

Schön (1993) reminds us that a teacher should be a thinking professional, ready and willing to go back to basics with regard to his actions in order to comprehend their significance. Perrenoud (1999) is

a confirmed advocate of the need to develop a capacity for self-analysis, self-assessment and self-regulation, to re-think one's strategies, to draw inspiration from others and from results of research in order to avoid having to undergo continuous mental acrobatics.

Thinking requires the subject to distance himself from the situation he is facing and from the operational phase, in such a way as to define more clearly the way in which it is represented (as far as this is possible).

On this subject, starting from the research of Argyris and Schön (1974, 1978) and Argyris (1995), Le Boterf (2000) explores three forms of learning that hinge on three different cycles:

- the first form is defined as the *simple cycle*: the subject learns by correcting his actions on the basis of his original goals, but without changing these substantially, nor the values or the "theories of action" that guide him;
- the second form is the *double cycle*: the subject learns by querying his goals and their premises. He is encouraged to modify his plans of action and their relative representations, and to revise his theories of operation;
- the third form of learning is the *triple cycle*: the subject learns to modify or develop his manner of learning; he learns how to learn by improving the functioning of the two previous forms of learning.

A confirmation of these indications can also be found in the analysis carried out by Polany (1990), which led to the concept of tacit or personal knowledge (Laneve, 1990, 50-52), and D. A. Schön (1993) who developed the concept of the "thinking professional", highlighting the way in which the growth of knowledge and professional competence are linked, in particular, to the development of a capacity for reflection during the action, as well as reflection before and after it.

In order to trace the training-path of recent graduates who wish to teach we shall pause to illustrate briefly the skills of a thinking teacher, dividing them into five fields, in the manner that they have been singled out and experimented by several Canadian and French trainers:

- *Skills connected to life in the classroom*, include tasks such as management, organisation of time and timetable, how to exploit the space in a rational manner, the various types of activity and resources, adjustment to the class atmosphere.

- *Skills singled out in the relationship with pupils with their particularities*, include tasks regarding communication, knowledge and observation of types of learning difficulty and possible remedies, knowledge and observation of learning styles, teaching differentiation, pupil involvement, personalisation and individuation of diverse tasks and activities, appropriation of positive and objective evaluation.
- *Skills connected with subjects taught*, require the appropriation of theoretical knowledge with reference to each discipline, the ability to integrate it with knowledge that can be taught starting out from knowledge already possessed by the pupil, inter-disciplinary planning of subjects to be taught, in-depth knowledge of ministerial programmes.
- *Skills relating to the social environment* in which the teacher is working, have as their point of reference knowledge of the local environment.
- *Skills inherent in the person*, i.e. knowing how to be and knowing how to become, on the part of the thinking teacher, with regard to his personal actions and his personal progress. Searching for significance, adoption of new strategies, experimentation with fresh approaches and techniques, but above all the continual questioning of one's performance and decisions one has taken.

There should be personal training plans for every future teacher in these fields of competence. The fundamental problem, however, remains that of how to assess these skills. The balance of skills would seem to present few barriers in the professional orientation of recent graduates. This balance could prove useful, first of all, for assessing one's situation at the beginning of one's professional career, with the subsequent aim, following due consideration, of implementing future choices.

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Training path from School to University

*Marisa Michelini**

Introduction

Thank you for your invitation to this major conference; I hope to be able to play my small part, especially after all the work that has been done in the firm belief of the importance of the links between school and university.

I see this union as a many-handed operation, in the context of an institutional network that has many dimensions, in much the same way as the numerous modes of collaboration between school and university and teacher-training.

The actions and modalities for running activities present an opportunity for collaboration and innovation that can be placed in as many different frameworks. The most important are: initial teacher-training practice, in-service teacher-training, teaching experimentation projects, collaborative didactic research projects, cultural diffusion and its didactic role in schools, orientation and training outcomes, access and requisites for enrolling at university and continuity of education between school and university.

Collaboration leads to a sharing of skills and generates new experiences, innovation and fresh states of affairs. In order to activate this we need motivation and creativity, experiences and good practices carried out with enthusiasm and commitment on the part of those individuals who have decided to involve themselves. However, good practices remain only isolated experiences, which can only be

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reproduced as such, unable, on the system-level, to have any effect on the improvement of general knowledge as regards institutional collaboration and ways of integrating skills in the processes of orientation, in didactic continuity, in teacher-training and in cultural diffusion.

From a phase that is spontaneous and the prototype of pilot experiences, these should become structures and procedures of reference for new teachers, of consolidation for innovators, of growth for those working in this field, and of service to those exploiting them. Without institutional tools even the best experiences offer a limited solution to problems, dissipating the best resources and leading to a decrease in homogeneity.

Collaboration with schools using institutional instruments in Udine

Since 1994 at the University of Udine relations with schools have represented a considerable commitment in terms of joint collaboration and not only of an institutional nature. This commitment has featured initiatives, structures, communal projects on different topics in which all faculties have participated in a co-ordinated manner.

The interinstitutional co-ordination constitutes a reference-point for all this work, through framework conventions and reference structures.

The first Centro Orientamento e Tutorato (CORT) with specialised personnel and the first Italian set of regulations for tutoring originated at the University of Udine in 1994 in this context.

In the same year the Centro Laboratorio per la Didattica della Fisica (CLDF) was founded, along with the Centro Interdipartimentale di Ricerca Didattica (CIRD), structures in which teachers of every rank and category operate jointly with university researchers collaborating for their didactic research.

With the first University reform in 1999,¹ the schools were offered a framework convention, which, with regard to the topics in table 1, sanctioned the University of Udine's collaboration with all schools, and laid the foundations for facilitating specific agreements with the schools themselves, for every didactic and research structure in the university.

¹ University of Udine is the only Italian university to have initiated university reform by applying regulation n. 509/1999, along with the Polytechnics of Milan and Turin.

Table 1 – Topics for collaboration with schools in framework conventions at the University of Udine

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- a) training activities at the Institute for students enrolled in a specific university course;
 - b) orientation activity for students of the Institute;
 - c) development of projects for didactic experimentation;
 - d) joint organisation of several activities of cultural diffusion locally;
 - e) organisation of activities for in-service teachers interested in perfecting and/or specialising;
 - f) training and support for teachers involved in orientation and teaching research projects;
 - g) monitoring of data regarding the quality of service offered and defining of disciplinary standards.
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The 60 schools that stipulated the agreement to work on topics b)-d), had become 150 working on topic a) by the time initial teacher-training began. When the didactic research projects to be conducted in collaboration with schools were started, there was also an increase in the multiplicity and the differentiation of the collaborations that each institution had carried out with another, also working on initiatives regarding topics e) – g).

The search for quality in this commitment to a link-up with schools is also affirmed by the founding, together with the University of Genoa, of the national review *Università e Scuola* (lit. university and schools) (U&S), edited by Conferenza Nazionale dei Centri Universitari di Ricerca Educativa e Didattica (CONCURED).

U&S gave its own main contribution to initial teacher-training, becoming the only reliable point of reference for degree courses in Primary Educational Sciences and, above all, for Schools of Specialisation for Secondary Education (SSIS), which had their headquarters for institutional proposal projects at CONCURED. The meetings between the heads of the Faculty of Educational Sciences and the managers of SSIS (Codissis) now have the role of institutional co-ordination, whilst U&S contributes with research work and examples of quality experience in the same field and the fields of orientation, didactic innovation resulting from Information and Communication Technology, informal education, systems for running and managing schools, and transversal themes.

Another important theme for collaboration with schools is represented by experimental and didactic research projects.

Centro - Laboratorio per la Didattica della Fisica (CLDF), which is still today the only university centre in Italy where teachers and university lecturers, on an equal footing, and in a spirit of collaboration, have access to the same instrumental, human and financial resources. The exhibition regarding informal education

Giochi Esperimenti Idee (GEI), originated here, with 240 experiments to carry out (and not only observe), with simple materials to play with or to explore, on-line sensors with computers as an extension of the senses, so as to pass from the exploration phase to measurement.

GEI arose out of initiatives for cultural diffusion for and with schools, and availed itself of a multi-medial product called GEIWeb, an aid in long-distance activity on the internet.

In our way of seeing things cultural diffusion is planned and implemented together with schools and is used as an educational tool by the teachers. The implementation and the features of the various activities are illustrated in the web pages of the University of Udine CIRD.² It clearly emerges that, along with local bodies such as the Region Friuli Venezia Giulia, the Province of Udine, the City of Udine, there are a dozen schools that share organisational responsibility and more than fifty contribute actively with their teachers and pupils providing feedback on the optimal experiences in which they have been involved. The school itself contributes to the cultural diffusion for schools, placing its own innovative ability at the disposal of others. With regard to in-service teacher-training we give particular attention to singling out models for potential research and in which research becomes an integral part of the educational process. Thus, the question of in-service teacher-training is not only studied from the standpoint of organising didactic opportunities in the shape of specialisation and *Master* courses, which respond to the working teachers' training needs in school, but as something that renews itself and requires transversal skills and a new professional teaching profile that is multi-disciplined and flexible.

In-service teacher-training and didactic research

In 2000, with the launching of initial teacher-training, there was a major turn-around in the tradition of basing one's professional training in the field, on intuition and imitation, beginning with one's own learning experiences during one's years of schooling or from suggestions given in text-books. The effects of this new process are not yet visible in schools. Working teachers have seized every opportunity for updating, in order to acquire what they felt they were lacking; in the psycho-pedagogical and social field this has been mainly

² www.uniud.it/CIRD/

secondary school teachers, in the didactics of specific subjects mainly primary school teachers, and in general teaching, everybody. However, training opportunities have always been fragmentary, disorganised, wasteful and discontinuous. Ministerial plans for the in-service training of teachers have always envisaged many applicants for the further training opportunities in the preparation of unrestricted projects.

Research as a dimension of training and development of teaching professionalism was considered for the first time by the Ministry of Education in the Borse di Ricerca per Insegnanti (BRI) pilot project, eagerly pursued in 1999, by Mario Dutto, chief executive for the Office for Teacher-training. The BRI pilot project originally aimed to assign an active role in professional development to teachers, via research activity based on class-work. This was not strictly laid down beforehand in order to receive contributions from the scientific contingent in the three different contexts in the four centres involved (Provveditorato di Pescara, IRRSAE of Bologna and Torino, University of Udine) for a total of forty scholarships.

Styles of management and research, modes of support and consultation were compared in this field, with three strict duties, which spell out BRI precisely: a) the grants (It. borse) are for the teachers; each teacher is to be flanked by a research expert, who receives a separate consultation fee; b) the experts are chosen by the local representative and are responsible (It. responsabile) for the quality of research; c) the topic for all research derives from and concerns problems faced by the teacher (It. insegnante) in his classroom activity. With a specific agreement the Ministry allotted the task of assigning fifteen research grants to the University of Udine, which chose a scientific representative,³ a reference structure⁴ and nominated a Comitato Tecnico Scientifico (CTS) (a scientific technical committee) for the handling of the project; this comprised twenty experts for the scientific supervision of the research. The grants were assigned to qualified, full-time, working teachers, in schools in the provinces of Udine, Pordenone, Gorizia and Treviso; this was done through a public examination that selected fifteen successful candidates out of a total of seventy-eight, who had presented eighty projects in all. Co-ordination of the research carried out led to the setting-up of a research community, despite the variety

³ The author Marisa Michelini.

⁴ CIRD of the University of Udine, in whose pages (www.uniud.it/cird/) the project is documented.

of themes involved in the issues selected. This was carried out with the following three principal modalities: 1) a programme of monthly encounters, run by the person responsible for the project; 2) an internet forum reserved for the community of researchers and experts; 3) personalised back-up for the teacher-researcher from the relative expert. The research was carried out by the grant-holder at the school where he/she worked, under the guidance and monitoring of the scientific representative and the relative experts. The whole group of experts and researchers would meet periodically to discuss problems emerging from the research. The training activity did not merely centre on the teacher working in the classroom.

An intermediate report was put together by the teacher-researchers half-way through the research; a final report was produced at the end of the academic year for which the grant had been awarded.

The BRI experience has been documented in several works (Burba et al., 2001; Michellini et al., 2001; 2003) which illustrate the most important contributions, these being: a) the singling out of significant problem-areas of research linked to class teaching practice; b) the ways of carrying out research, based on reflection on one's practical work; c) ways of handling the expert-researcher collaboration, when the researcher is a teacher and the research is contextualised in teaching practice; d) training teachers towards a research mentality and methods that are removed from daily working practice; e) ways of running a research community that has several common methodological problem-areas and different themes to be studied.

In my opinion, the didactic research carried out in collaboration between school and university has two other important modalities.

The first of these is the most common and widespread.⁵ It consists in collaborating with schools and individual teachers to put finishing touches to the material and class experiments, in the sphere of teaching research proposed by university units and financed at regional, national and European levels.⁶

⁵ It needs to be said that several examples have been realised, because the diffusion is limited to didactic research units, above all in mathematics and physics.

⁶ In physics teaching, just as in maths teaching, there are many of these. The author was scientifically responsible, at the seat in Udine, for the most important of these: 1) CNR_1993_Strumenti Metodi e Percorsi nella Didattica della Fisica. Branches involved: BO, MI, NA, PA, PV, TO, UD; 2) MURST-40%_1993-1994_La didattica della fisica per una nuova secondaria. Branches involved: BO, GE, MI, MO, NA, PD, PA, PV, RM, TO, UD; 3) CNR_1994_Didattica della Fisica: esperimenti e modelli. Branches involved: PD, TS, UD; 4) CNR_1995_Didattica della fisica. Branches involved: BO, ME, MI, MO, NA, PD, PA, PV, RM, TS, UD; 5) MURST-40%_1995_Didattica della Fisica per una nuova scuola secondaria. Nuove tecnologie,

The second proposal places school and university on the same footing with regard to didactic research. In fact, BRI research has allotted to the teacher the pro-active role of proposing the topics for research; university issues are established by groups of university researchers. In 2003 the University of Udine advertised research posts with regard to the university-school link-up (PRIUS), featuring linked and joint-proposals roles, as well as joint management responsibility. The posts advertised on 18/11/02, for the two-year period 2003-2004, were to be co-financed partly by the school (at least 20% of the sum required for each project proposed, with 80% to be contributed from university funds). The project topics can concern one or more of the following areas, which characterise the framework convention:

university students' training in schools, with specific reference to inherent innovative models: 1) students taking degrees in Primary Educational Science at the University of Udine, Faculty of Educational Sciences; 2) students at the University of Udine, Schools of Specialisation in Secondary Teaching (SSIS);

university orientation, with specific reference to: 1) Institute services and orientation project; 2) aspects, methods and training orientation; 3) link-up and continuity between school and university;

didactic experimentation, with specific reference to: 1) contribution to teaching of the school's organisational aspects; 2) disciplinary didactic innovation; 3) assessment of didactic experimentation projects; 4) Institute's self-assessment;

joint university-school cultural diffusion, with specific reference to: 1) the putting together by school and university of a multi-medial (also on paper) archive of the freely available didactic material; 2) thematic events and exhibitions; 3) cultural diffusion innovative activities and modalities;

percorsi e prerequisiti, fisica moderna, formazione degli insegnanti. Branches involved: BO, GE, MI, MO, NA, PD, PA, RM, TO, UD; 6) MURST-40%_1996_Formazione in servizio per insegnanti della scuola secondaria integrata alla sperimentazione in classe e alla progettazione curricolare e appoggiata a tecnologie informatiche in classe e in rete. Branches involved: MI, MO, NA, PA, PV, TO, UD; 7) CNR_1996-1997-1998_Tecnologie dell'informazione nella didattica della fisica e nella formazione dei docenti. Branches involved: MI, MO, NA, PA, PV, TO, UD; 8) MURST-Legge 113/91_1998_Progetto GEIWEB: Realizzazione software e materiale informatico. Affidato ad Udine; 9) MPI_1999_Convenzione MPI-Università di Udine per progetto LabTec: Laboratorio scientifico con le nuove tecnologie; 10) CNR_1999_Tecnologie dell'informazione nella didattica della fisica e nella formazione dei docenti. Branches involved: MI, MO, NA, PA, PV, TO, UD; 11) MURST_PRIN_1999-2000_Spiegare e Capire in Fisica (SeCif). Branches involved: MI, NA, PA, PV, TO, UD.

didactic research, with specific reference to: 1) methodology for teaching and learning processes; 2) the contribution of research to teachers' initial and in-service training; 3) research reflection on didactic praxis in order to resolve pedagogical, psychological and didactic problems; 4) research into teachers' in-service training; 5) preparation of innovative teaching materials and methods; 6) innovative assessment methods;

in-service teacher-training, with specific reference to: 1) innovative assessment methods; 2) research and innovation in teachers' in-service training; 3) didactic projects in teacher-training; 4) effect of training models on teachers' in-service training; 5) ITC and teachers' in-service training;

standards of access and monitoring of student careers, with specific reference to: 1) self-assessment materials for students in their various study-areas; 2) skills-analysis for degree-courses; 3) student's training agenda and university career: tools, methods, experimentation, analysis.

Each project is presented by at least one "scholastic operational unit" and one "operational university unit", each of which gathers together an adequate number of participants, and in no case fewer than two. The "scholastic operational unit" is made up from full-time school personnel; the "operational university unit" is made up from the permanent staff of the University of Udine.

The operational units are formed freely and inform the legal representatives of all the structures to which the participants belong.

The co-ordination of all the scholastic operational units (unità operativa scolastica - UOS) is handed over to a permanent staff member from the school directly involved in the project; the "operational university unit" (unità operativa universitaria - UOU) is in the hands of a university teacher or researcher, each of these carrying out the function of figure "responsible for operational units". The "scholastic operational units" take their lead from the school of the person responsible for scholastic operational units, whereas the "operational university units" take theirs from a Department or the CIRD.

The participating structures are those where each participant is working. Each project is co-ordinated by a "project leader", who is selected from the actual project participants themselves, from university or school teachers involved in the project for at least 40% of their own time.

No school or university member of staff can be part of more than three projects or more than three operational units.

The projects are signed by the project leader, by operational unit leaders and by the legal representative of the project's administrative body.

Indispensable elements in the application are:

names of project leader, operational unit leader, participants and structure of belonging;

project departure point and bibliographical references;

project's contribution to the themes/problem areas in which it is interested;

the structuring of the project through its various stages of development and the timing envisaged for each phase;

project's administrative structure, to which the co-financing payments are destined (the structure to which the project leader belongs or CIRD);

duties and roles of each operational unit participating in the project;

project's financial plan with all costs specified (total and detailed for each phase) and financial resources available and/or to be procured (economic, human and instrumental, which each operational unit participating in the initiative envisages activating);

degree of progress that can be achieved in the activities with the financial, human and instrumental resources already available;

commitment to co-financing the project (as envisaged by the following art. 5);

elements and criteria with which it is deemed possible to verify the results achieved;

possible request for accountancy management of the financing by CIRD;

commitment to presenting an annual scientific and financial report and one at the end of the project.

The project's scientific representative has to certify that the project is original and must disclose the presence of any other public or private financing.

The projects are to last for two years.

Representatives for projects receiving financing must provide an annual scientific and administrative report with regard to the projects co-financed in accordance with the conditions laid down. The deadline for delivery of reports is within 60 days of concluding the first or second year.

All projects are subjected to "ex post" evaluation. The following elements were employed as selection criteria for the projects:

relevance of school-university link-up;
 theoretical and methodological points of reference, pertinent and up-to-date;
 presence of innovative elements with regard to current practice;
 spin-offs for the institutions involved;
 transferability of experiences;
 research contribution;
 degree of development and definition of project;
 sustainability of project in terms of feasibility and concrete realisation;
 singling out of qualitative/quantitative indicators;
 number of scholastic units involved.

Table 2 illustrates a synthetic presentation of the approved projects (half of the total applications).

In the various columns there are: key words characterising the project, administrative seat, the representative, the number of persons involved, the operational units and co-financing allocated.

Table 2 – Financed PRIUS projects

Representative employed: * in university, ^ in school

Project theme	Admin. seat	Representative	No. persons involved	Operational units	Allocated (Euros)
<i>Training to learn through discovery</i>	ICI Pagnacco	Fanuti ^	43	3	5745
<i>Problem-areas and argumentation</i>	ICI Fagagna	Filipponi ^	19	2	1437
<i>Sensors for exploring...</i>	ICI Pavia	Michelini *	25	5	7633
<i>Communication between school and university</i>	SMS Div. Julia	Cattarinussi *	5	2	3026
<i>Balance of skills</i>	IM Percoto	Ciani ^	6	2	498
<i>Models, deductions and circumstantial paradigm</i>	LS Copernico	Trafiletti ^	53	7	15498
<i>History laboratory</i>	IPSSCART Stringher	Salimbeni *	22	2	1912
<i>Training for programming</i>	LS Marinelli	Griggio *	13	2	1238
<i>Experimentation and control</i>	ISIS Malignani	Burba ^	9	2	4937
<i>Study tools and methods</i>	DD S. Daniele	Di Patria ^	10	2	2310
<i>Innovative didactic experimentation</i>	LS Grigoletti	Magliaro ^	11	2	5761
Totals			216	31	49995

The projecting and evaluation of this initiative is one of the results of the University-school link-up commission (CRUS), much sought after by the university in Friuli as one of its main actions for collaboration with schools. In the selection phase, for each project area, a CRUS co-ordinator looked after both the project's criteria and evaluation procedure and prepared a classification to be submitted to the University-school link-up commission (CRUS), which subsequently selected those projects which would receive financing, also making use of anonymous revisers.

CRUS and Master degrees for teachers

With the aim of sharing, defining and carrying out the actions envisaged by the “Quadro” (lit. framework) convention, in January 2002, the University of Udine officially set up the University-school link-up commission (CRUS). Initially there were about twenty members, including school managers and university teachers; on renewal there were about sixty-five members.

CRUS has two main tasks:

1) to collect and document significant experiences arising from the setting-up of this link-up in order to exemplify typologies of actions and modalities that can be encouraged for collaboration;

2) to single out the modalities of establishing the university-school collaboration in accordance with the “Quadro” convention as laid down by the University of Udine.

The effectiveness of this commission hinges on whether the school-university link-up can be established, there being coherence between requirements and availability. Singling out availability, as a priority, may mean supplying an offer to an undeclared demand; vice versa, acknowledging, as a priority, any type of requirement on the part of the school may mean creating expectations that might not be easy to follow up. In a collaborative relationship supply and demand have to be elements in projecting: the two parts supply and utilise, in a relationship of mutual exchange.

Therefore modalities have to be found for the link-up and collaboration in interinstitutional and partnership terms. Inside CRUS various issues regarding the school-university have been debated. There are two that merit a special mention here: training periods and orientation.

A Forum, to which all members of CRUS have access, has been set up in order to provide the Commission with concrete proposals.

Furthermore CRUS has elaborated a questionnaire for a survey regarding “the idea of university” in the school world. The questionnaire was administered to both teachers and pupils.

CRUS activities have led to the launching of two important initiatives, the first of their kind at the national level:

official announcement of collaborative school-university projects (PRIUS);

university *Master* for teachers regarding didactic innovation, orientation and documentation.

The Regional Scholastic Governing Body in Friuli Venezia Giulia has recognised the extraordinary collaboration of the University of Udine with schools, has given the go-ahead to activities in progress and has stipulated a convention with the University of Udine, for collaboration on various issues.⁷

CRUS is today a structured institution accepting the challenge of a three-year development programme, in which representatives from schools, autonomously at every level, meet institutional representatives from structures working in education; one of these is obviously the university, but there are others involved in projects deemed significant for growth and development.

The Master in Didactic Innovation and Orientation arose out of this context in order to provide a role and qualification for career purposes, for what was perceived as a requirement: training in transversal competences, such as those that bring about didactic innovation through ICT, give rise to orientation training activities and, through documentation, stimulate reflection about the actions and diffusion of practices. The Master was conceived as a didactic initiative integrated with the school, which allowed teachers to be able to participate freely as members of this collaborative group, but also

⁷ The convention, signed by Furio Honsell, Rector of the University of Udine, and Bruno Forte, at the time (2002) general manager of Friuli Venezia Giulia Regional Office for Schools, envisages the following terms for collaboration: a) research-action based around important themes for growth of autonomy of schools and didactic innovation; b) research relative to the development of professional school teachers and managers; c) themes concerning self-assessment and evaluation of the Regional scholastic system; d) initial teacher-training with specific reference to teaching-practice; e) orientation; f) training and support for teachers involved in orientation projects and didactic research; g) didactic innovation projects; h) organisation of one or more training activities for in-service teachers, as laid down by the law (art. 6 of the Law 341/90); i) teacher-training relative to Regional and Community languages; j) joint organisation of activities for cultural diffusion locally; k) training of school administration personnel; l) co-ordinating bodies for school-university link-ups and collaboration.

to commit themselves at the same time to a Master thesis that would be useful for both schools in general and one's own school; it would therefore only be accepted as a Master thesis insofar as it might represent a significant contribution for the school in which one was employed. Structured into four areas (general, characterising, project-based and contextualized) with 480 hours of lessons and 120 hours of practical application for 60 credits; there are three specialisation courses in "Technology of communication and information for didactic innovation" (10 credits), "Training orientation" (15 credits), "Documentation in schools" (12 credits). The structure is laid out on web-page <http://web.uniud.it/cird/Master/master.htm>. Analysis of its characteristics already constitutes a product in terms of a model for in-service teacher-training. Evaluation of the training process, under the guidance of the Nucleo di Valutazione di Ateneo (university evaluation group) and rounded off with a qualitative analysis effected via a degree thesis,⁸ supplies useful information for the possible continuation of the initiative. Of no lesser importance are the products from teachers participating in projects and preparing theses. The theses are all of an experimental nature; an obligatory requisite being teaching-practice in a school within the sphere of the subject of the thesis; the majority of the work (75%) is to be done in class with the pupils. Almost in equal numbers, these concern the themes of didactic innovation and information and communication technology (ID&T - 15) and orientation technology (OR - 16). There are no theses in the sphere of documentation because it is considered a complex area that requires specific technical skills and nobody feels like planning original projects; but it is included in each thesis as an activity to be carried out and to which attention should be paid during the training period. The theses regarding the first area (ID&T) have a methodological nature as regards innovation and a strategic one as regards disciplinary didactics. Those of a methodological nature (3) are connoted by the role of language and scientific discussion in literary teaching: scientific language in teaching Italian in secondary schools, argumentation for learning Italian and the contribution of the ICT for learning science (taking sound as the context). There are four theses in the scientific field and three in language teaching which exploit technology as a means for improving disciplinary teaching. Those of a strategic type refer to the possible reclaiming of pupils with the use of

⁸ The degree thesis in Public Relations was edited by Michela Bardus and supervised by prof. Renata Codilja, expert in the psychology of training relationships in the professional workplace.

ICT, to the didactic laboratory (also in the field of philosophy) and to curricular strategies such as those proposed by the BROCCA programmes, or specific ones in utilising technology in the scientific field, such as on-line sensors for measurement in the laboratory and computer modelling activities.

Two theses propose working with teachers in initial training and in particular on the contribution of the ICT in managing training activity. The training aspects for orientation focus the attention of eleven theses. Only one concerns the psychological aspects of orientation, and one vocational orientation. Two concentrate on orientation on starting university, and the same number on leaving, whilst the others tackle problems of orientation to be handled during the training process.

Problem-solving for orientation (PSO) is the teaching-method of principal interest (4), along with topics of self-assessment (3), and skills portfolios for orientation purposes (2); this confirms the known tendency towards developing and transforming proposals already encountered during the training phase, rather than setting out on new projects.

Each participant in the Master produced two Project Works (PW) as well as the thesis. The first is usually of an experimental nature (16) (even though this was not specifically requested), with only a few cases (5) of a theoretical type. In the second PW the theoretical approach prevails (10) over the experimental (8). In the PWs, orientation (14) and technology-based innovation (12) also attracted the greatest interest, whilst documentation was of lesser interest (4).

Continuity in teaching

For collaboration with schools it is essential to have shared initiatives and actions, conventions and institutional tools, round tables for planning, structures, resources and projects.

Good intentions are not sufficient; spontaneity is not enough. Normative, institutional instruments of co-operation have to be constructed, and structures have to be set up, in which these initiatives can be activated and where these initiatives are possible.

Among the various frameworks for collaboration one of the most appropriate, with regard to the *mission* of the two situations, is the continuity of teaching.

Law 53/2003, better known as Riforma Moratti, in the fifth year of secondary school, provides for considerable space to be devoted to

in-depth educational orientation. More specifically, the fifth year, where the priority aim is to cover the study-programme for single subjects, also requires the in-depth acquisition of knowledge and skills with regard to the study programme's educational, cultural and professional profiles; secondary schools (It. liceo, lit. lyceum) end with a state exam that has to be passed for the award of a qualification enabling one to go on to university, or further studies in art, music or dance. Admission to the fifth year enables one to go on to higher technical education and training.

In the fifth year, therefore, orientation takes on a significant role and seems capable of suppressing that role distorted by the need to endorse each study-course with the excessively superficial and fragmentary character that it has had thus far.

In connection with all this, another framework, with roots going back a long way, represents part of the university reform with regard to requirements for admission to university degree courses (art.6 DM 509/99). University reform originated in the previously mentioned decree (N. 509, November 3rd, 1999), triggering off in Italy, as the first country in Europe, the process and commitments of the international agreements of Bologna and the Sorbonne.

A recent decree (N. 270, October 22nd, 2004), which modifies decree no.509, leaves art.6 unaltered with regard to admission requirements for degree courses. They complement each other and supply a role, utility and meaning to the issue of continuity in training and orientation. In going from secondary school to university, we have, on the one hand, the secondary school leaving certificate (or some other recognised qualification obtained abroad), which gives access to university degree courses, if the initial training is adequate. The didactic regulations of university courses stipulate the qualifications required for admission, and determine, wherever necessary (also on completion of preparatory training activity), the means of verification to be carried out, if necessary, in collaboration with upper secondary school educational institutes. If the tests do not prove positive specific additional educational requirements are indicated, which have to be satisfied during the first year of the course.

An analysis of the skills of secondary school leavers has to be carried out, as well as the ways in which these skills are cemented and how they serve as preparation for the various, single university courses and constitute requirements for enrolment at university. There is also a precise function that orientation has to carry out in order to safeguard the rights of young people: to render the didactic contract

explicit and transparent, and also one's responsibilities at the secondary and university levels. The university has not done its duty in this sense: it has not indicated with precision the requirements for admission and has not studied the educational results with schools.

Outwardly it may seem that many courses have relieved themselves of the obligation of indicating requirements, often entrenched behind the statement «you don't need anything: university teaching provides all the elements necessary to follow the course», as if addressing a homogeneous group or a community from a different culture were the same thing, as if the actual language used didn't matter; one ought to be aware that when language is employed, it already intimates meanings that, in the subject's mind, might be associated with previous meanings.

When we begin speaking about a subject and use certain terminology, the semantics of these terms already supply a meaning to the signals emerging from the person standing before us; this suggests that we should always verify the context in which we are going to give our talk. The concept of teaching activity seen as merely a series of lessons, where the nectar of knowledge is poured forth in a torrent of words into the empty vessels represented by the pupils, has long been outstripped. Teaching activity should be considered in terms of learning, to be implemented via multiple activities that might have an impact on a context noted for carrying out ascertainable modifications. This is also clearly contained in the norm (DM N.509/99), though very few have seen it; much of the academic teaching tradition has been adapted to the new courses of study.

In order to encourage the implementation of the aforementioned article 6, the Conference of Italian University Rectors (CRUI) elaborated a document regarding the qualitative aspects for access to degree courses;⁹ although it is little known, its application has been advocated at all levels and I would like to describe its most important features. There are two basic assumptions: 1) the basic principles are to be safeguarded, being the responsibility of the individual and freedom of choice, and 2) a coherent and effective goal is needed in university education, via an individual educational contract, which should secure and integrate the individual's previous education with university education, without aimless duplication and without

⁹ CRUI, The qualitative aspect of access to degree courses, documented by Marisa Michelini, Gianni Michelin, Maurizio Rispoli, with the collaboration of Paola Binetti, Donato Chiatante, Giunio Luzzatto, Anna Pasquazi, Vincenzo Perciavalle, April 3rd, 2000.

education uprooted from the context in which it belongs. The requirements for access to three-year degree courses should be instruments offering educational continuity; they also act as a control over the risk of dropping out, a real risk which the educational system runs. The need for a school-university link-up, on the levels of culture and programmes for education and orientation, assumes a role of fundamental importance. The requisite conditions are:

the singling out of requisites by area and by class, with a two-level grid, if necessary;

school-university collaboration in creating an educational system offering everyone the conditions for acquiring the necessary requisites for the various profiles;

self-assessment as a cardinal point of reference for verifying requisites.

The modality for admission should be geared towards a coherent development of the students' educational processes, in which they make choices and understand the value of their choices, and any failings in the system are faced and dealt with; this is a system in which transparency should sustain the freedom of the individual and the interests of all are to be guaranteed by the didactic contract.

To this end, each school has to make clear its educational planning, matching up the school-leaver skills with the plan for educational possibilities (Piano dell'Offerta Formativa - POF) and certifying knowledge, skills and abilities through the State exam (Law 5425/97 art.6). At the same time each university must identify and make public the knowledge and abilities required for admission to each course. This important dialogue and exchange, which is decisive for the possibility of success in the educational process, has not yet been established between school and university.

Four years on from the launching of the reform, in all universities, data is being analysed with regard to the credits acquired by students in each year of their courses, and it has been noted that projected three-year degree courses actually last for four years. The acquisition of university credits by students is unsatisfactory in terms of the original planning, and it is difficult to pinpoint what action needs to be taken, because the study programmes have not defined clearly the results they are aiming for, the way in which they can be obtained nor the basic starting conditions to obtain them. It is impossible to pursue goals without determining the initial conditions.

Teaching continuity should be activated in an educational system offering to all the conditions for acquiring the necessary requisites for

the various profiles, and therefore, in a system that has been planned out, is controlled, followed and sustained. Self-assessment is only possible in a clearly defined system. The coherence of the educational process is the joint responsibility of the individual and the institution that supplies the education. If an individual chooses a secondary path hinging on one subject area and then decides to change to another area, he/she must endeavour to cover any gaps that have materialised because he/she did not choose a secondary educational path that fitted in with the mainline university one.

The university reform advocates a link-up between school and university in terms of educational orientation and access.

Training orientation

The transversal and multifunctional nature of orientation leads to numerous interpretations. The image that the school has of the university and orientation influences various areas of interaction and relationships. What exactly do we mean by orientation? For orientation of an educational and disciplinary nature one needs to go through profitable experiences; on the one hand, these help one to know oneself better, and on the other, to understand the process of choice, in a framework of educational continuity and individual paths of study, in which experience, and especially the individual's personal operational involvement, has a particular value in the educational context.

Orientation based on experience, on the ability to be personally aware of a context, in order to discover its values, motivations and potential interests, has a particular importance.

It is claimed that one orientates oneself through teaching; this is only true to a certain extent. If due attention is not given to orientation, and no activities geared towards it are carried out, one can not be certain that it has been grasped and is, thus, effective; it can not be assigned a function.

Research based on the methodology of problem-solving has allowed us to refine an approach for educational orientation, in the subject area, tried and tested in many situations, which can be defined as a teaching/learning strategy based on the utilisation of operational problems, i.e. the challenge in tackling problems in a subject area, in which the student is asked to assume responsibility with regard to the solution. The forms in which it has been tested are many; we began including teacher-training at the school of specialisation among them.

The motivations for choosing problem-solving as a teaching strategy are listed by Watts:

- allows one to deal with an activity;
- allows one to deal with a task;
- pushes one to take decisions;
- develops social skills;
- is a form of active and exploratory learning (“by discovery”);
- teaches methods as well as contents;
- encourages cross-curricular activity;
- offers relevance through real-life contexts;
- PS and creative thought are the highest and most complex forms of human activity;
- increases communication.

In fact, it conveys to the learner certain responsibilities and properties of learning, and ensures the activation of learning processes when choices have to be made.

It is not so much the means adopted that are relevant, as the methods.

The features, peculiarities and values are:

- learning by doing rather than by reading;
- acquiring basic information during the resolving of a problem;
- giving space to different approaches that can be followed to arrive at the solution;
- acquiring not only new knowledge and techniques, but also the ability to apply them to new contexts in an adequate way;
- constructing general procedures capable of adapting themselves to differentiated contingent situations;
- explaining and using daily life-experiences, transferring them to wider contexts, acquiring investigative abilities;
- facing every new situation with an investigative and critical approach, recognising analogies with previously encountered situations;
- learning to create mental models to be compared with experimental evidence.

Therefore, it offers several important advantages for learning: 1) leads to one’s mastering a task (assigned/assumed); 2) pushes one to take decisions, acquire social skills, assume responsibility for one’s own actions; 3) builds a bridge with daily life; 4) increases skills,

including communicative ones; 5) actively involves young people and facilitates their interaction with teachers; 6) generates amongst youngsters a high level of maturity and satisfaction.

The PSO proposal, specifically applied to orientation, is laid out in the following protocol, which lasts about ten hours: i.e. a morning and two two-hour sessions.

THE PROBLEM	Formulation of an open problem in the form of a game or challenge; the specific problem area remaining to be defined by the student.
1° individual phase – 1 hour	Request for a brief written report about the identification of the problem area, stipulation of the elements that constitute the problem, proposed solution and relative procedure (hypotheses for one or more procedures towards solution, feasibility study, ways of verifying and validating the results, arguments for or against the various alternative choices).
2° phase – group – 2 hours	Discussion of individual problems, sharing of an aim and strategies, organisation and division of labour to carry out the project. Also, drafting of a work diary that records the work done by the group.
3° phase – group – 1 hour	Written draft of a report synthesising and interpreting the results from a technical point of view.
	Compilation of a multiple-choice psychological questionnaire.
4° phase – individual – for home	Drafting of a critical analysis regarding solutions to problems, disciplinary procedure and personal opinions on these topics.
5° phase – assembled (for all groups on the same problem) – 2 or 3 hours – after about 10 days since the 1° encounter	Discussion about aspects dealt with in the reports by individual students at home, critical analysis of solutions, procedures, personal thoughts regarding the role of orientation of experience and assessment of one's own performance. N.B. The teacher should indicate the points on which to base the discussion, with regard to the solutions proposed and the orientation aspects that should emerge.
	Compilation of 2° multiple-choice psychological questionnaire.
6° phase – individual – for home	Open report on the entire experience.

Various aspects of orientation

For the teacher orientation has at least four different aspects affecting the teacher's professional activity: regarding information, education, training and management.

The informative one involves social and communicative aspects, the models with which informative orientation is proposed, often reduced to impromptu meetings in which representatives of the university are invited to schools to talk about courses of study. Little

thought goes into how to prepare these sessions and how they relate to school activities. There are also various models and tools for informative orientation; in a wonderful work issued after the Conference of Rectors there is material from all the contexts connected to orientation: in the book which was issued subsequently¹⁰ this is illustrated and discussed. Nowadays, this commitment, in the eyes of many, might seem merely a fashion; it is not, it is a right to citizenship, inasmuch that, in the oft-mentioned complexity and voracity of our society and our world, the opportunity to understand the possible paths of personal growth (comprising intellectual, cultural and professional) are determined by the capacity to identify and recognise potential interests, motivations and opportunities.

The psychological aspects, the school's social context, the teaching of subjects are all important and separate aspects of orientation, which should be studied in such a way that orientation has its own clearly laid-down parameters.

Furthermore, there are projects, the management of services and institutional relationships, from which one can evoke ideas and images of the university context, the world of work and local services.

It might be opportune to reflect on the role played by the image one has of actuality and one's actual relationship to this actuality. In Udine a study was carried out into school and the idea of university in the third millennium, employing a survey that was conceived during a convention, and followed a line of thought emerging from a study that was carried out in Pavia by a sociologist, Andrea Messeri, and a philosopher, Salvatore Veca. There are five images of university that people, especially university teachers, might have:

1. University as life-experience. One goes to university because it is a seat of knowledge and culture: it is already a plus-value *per se* to undergo this experience, regardless of work and subsequent occupations. Going to university shapes one as a cultural and intellectual being, and this is sufficient to provide one with tools for the future.
2. University as higher education or super secondary school. According to more recent opinions, the university is losing its *missionary* role, as a result of the almost discredited image accorded to it by the whole pre-university system, requiring it to perform the task of higher vocational training in close contact with the local

¹⁰ M. Michelini, M. Strassoldo eds., *Modelli e Strumenti per l'Orientamento Universitario, in una struttura territoriale di orientamento*, CRUI - Università di Udine, Forum 1999.

context; it is required to be present in all cities, carrying out general educational duties, and is no longer characterised by specific skills.

3. Università degli studi (lit. the university for *studies*, and not, therefore, for *students*) in the sense that its accorded image is of a place where the emphasis is solely on research and increasing knowledge, and where didactics are considered an inconvenience, practically in opposition to these roles.
4. The university as a business enterprise for functional education; the university has to give something back to the country, to the businesses, to local industry, and the nation should sustain it and finance it; so the university should be linked to the local context as an expression of what the requirements of that local context are.
5. The university as an internal labour market; the university is considered by some as a seat in which scholars extend their knowledge and become experts, specialists in a sector where they train other specialists who will eventually take their places.

Five very different visions that exist side by side among university teachers, as demonstrated by Andrea Messeri's survey.

An individual's or group's ideas of a reality generate images, diagrams in the mind, which are essential for relating to this reality, for recognising and understanding the actions, for planning ways of relating to it. Therefore, depending on how we view the university, we relate to it and demand different things of it. The image of a context determines the expectations of whoever, at all levels, has a relationship with it, and subsequently guides his/her choices. This is one aspect of orientation that is not commonly considered or analysed, but which is relevant, above all, for anybody who might have a relationship with a particular state of affairs and must decide which are to be his/her choices. Therefore we have at least three different university worlds: that of the university teachers, that of schools, which is founded on experiences far removed from teachers, and the students' imagined expectations, which are quite different from the university of today. Today, in fact, the university is going through the Bologna and Sorbonne process; three-year degrees are very different¹¹ from the degrees we had, but all the same we must permit ourselves

¹¹ Three-year degrees, according to the Bologna process, are still too similar to the previous system, because of the inertia in renewing the teaching staff, who do have the merit of being able to construct fresh educational opportunities in a five-year period: from university diplomas to three-year degrees, from academic courses to IFTS.

to offer suggestions based on our own experience, to describe what a degree-course might offer. This good-will betrays a superficiality that is most misguided and unsound; a context needs to be constructed where young people might be offered the means and instruments to reflect on this for themselves.

Other mistaken images are spread throughout society via mass communication, which produces mythical and imprecise ideas, vague and personalised depictions of professional figures and professions.¹²

The significance and role of the university are often taken for granted, as implicit in student choices, proposals and decisions regarding organisational didactic innovations.

Therefore, we should encourage this process, in which diversity becomes a resource, via personal interpretations of a context; a general idea evolves in relation to the individual's interpretations of a context and the way in which these interpretations relate to each other. Everybody involved needs to think deeply, university teachers and students, teachers and pupils in schools, representatives of local bodies, associations in the sector, those who need a qualified workforce in order to construct a new model of the university that can be shared and diffused, which might integrate the models described above. This is an important condition for reflection that has as its aim the singling out of elements that qualify decisions, encouraging awareness in organisational teaching choices and contributing to university orientation. It is a very different view of orientation to the one we are used to, but it is a view of orientation that we must think about, because it represents the very elements at the basis of continuity.

In the wake of this reflection we carried out an investigation regarding the teachers' and students' idea of university. With the help of many schools we compiled a questionnaire that was administered to 275 teachers and over 2000 students, with the aim of clearing up the picture for a wider debate to help improve orientation and transform the relationship between school and university into constant and continuous collaboration; the aim was also to eventually arrive at a shared idea, made up of many ideas, which might help a fresh vision of the university to evolve.

The principal views of university that we came across in our investigation were rather limited; they do not describe the roles and functions that the university today carries out; it is a context that is

¹² The TV series about "doctors in the front line", engineers of great projects, financiers of illegal trafficking etc. create images and myths that do not help to construct a true and modern image of these professions.

not viewed in its entirety. This requires us to bear in mind that, when we train teachers, we also have to prepare them appropriately to exploit the university's functions and roles.

In the results of our investigation the function that students and teachers attribute to the university is that of complete training to produce professional persons, and no heed is paid (except in a very low percentage of cases) to research as a university duty and function for development. So, mainly, there is a prevailing view of the university as higher education; the role of research has to be re-defined, along with its extent and relevance for education. As for the purpose of universities, students stress the role of cultural education and vocational training, and the teachers place alongside this the role of developing knowledge. The university's autonomy is only recognised by 50%, since the State is assigned a role that is predominantly supervisory regarding teaching, whereas autonomy is recognised from the point of view of research. This does not correspond to reality, because the university is relatively autonomous from the point of view of teaching and is bound to a greater extent by financial projects from the research point of view. The most frequently mentioned actions for improving the image of the university are those of continuity of passage and working together for orientation and transition.

Proposals for student orientation emerge from this work; these are in a certain sense yet to be explored, but equally important, and include analysis of the scientific-disciplinary sectors, in order to find out exactly what a course of study is. We are in the habit of requiring university teachers to tell us what a course of study is, and they will then bring us their own picture or idea of university, whereas what we should really do is actually take the scientific-disciplinary sector in hand; this describes the subject, gives it its own characteristics, its epistemic roots, the founding nuclei, in order to identify the extent of the contribution of the discipline to knowledge and to education in the classroom, where the scientific-disciplinary sectors are clearly singled out. Therefore, we should explore the curricula, acquaint ourselves with research, note the excellence of each university, in order to identify what it means to analyse the degree of innovation, to give experience of a context to students, having the opportunity to take their place in it, knowing how to prepare a personal study-path through the explicit and non-mediated (not determined by others) discovery of what might be a course of study. The experience of a context and educational orientation, as well as the aforementioned problem-solving activities for disciplinary orientation, also represent

important points of reference to provide the students with a meaningful experience.

Thus, school orientation has many dimensions; its multi-functional and transversal nature can not be replaced by impromptu actions; programming is required so as to provide an organic framework. These are the tasks and duty of universities and teacher-training, to give this task a link-up in the common management of school and university together, so that collaboration might establish its specific role as an orientating action.

Cultural diffusion and informal education

The context for cultural diffusion for collaboration with schools has already been mentioned

Alongside orientation activity in Udine, we also set up an initiative called *libretto azzurro* (lit. blue book), the initiative's instrument of diffusion, which consists in bringing together the various faculty experiences in collective work with schools; this could take the form of short theses for the school-leaving certificate, joint school-university activities, with students and teachers playing leading roles.

In this framework of differentiated didactic proposals there are various suggestions at various levels, for teaching activity environments, e.g. the previously mentioned exhibition: *Giochi Esperimenti Idee* (Games, experiments, ideas),¹³ a context for informal education in which, along with cultural diffusion, we are offering teachers training in informal education. Proposals for building up one's own knowledge consist in personal exploration, not necessarily structured, in various contexts, including the school.

Other examples are the Cognitive Laboratory for Operative Exploration – CLOE, based on semi-structured interviews, arising from daily life scenarios, to explore conceptual issues and construct a pathway from common sense to scientific education, via personal experience of work in context. The contexts for exploration of interpretative ideas, in small groups, are another type of laboratory that is suggested as a link between ordinary life, daily experience and codified knowledge, as an opportunity for collaboration between school and university that turns into an experience of effecting teaching innovation in schools together. In this area we also produced

¹³ The GEI exhibition is being held in Palermo during this international convention.

game-experiences, such as the treasure hunt, in which the hunt did not become a challenge, but a cognitive exploration in scientific contexts proposed both by students/teachers¹⁴ and in-service teachers, who were collaborating at this level.

In the CIRD and CORT¹⁵ contexts, materials and proposals for teaching were developed, as common resources deriving from research into teaching; these establish another common framework in which school and university might work together.

Teacher-training

In a context of rapid evolution such as our society, greatly influenced by new technology, many professional figures are subject to changes; the figure of the teacher is among those that expresses the greatest need for innovation. The school is adapting to these social changes, assuming greater autonomy in order to reduce the gap between teaching and formal education and the outside world.

Working teachers who have had no initial training, have learnt their profession in the field, with intuitive experience as a basis, and as the only reference point for didactic educational choices. Awareness of this situation has often provoked active responses from working teachers, of experimentation, of participation, of updating, which at the same time underline the need for training on the pedagogic-didactic level and the need to reflect on actual teaching activity. The in-service training so far offered has been characterised by a wide-ranging and wasteful series of refresher courses, which are disorientating because of their lack of homogeneity, with contents, methods, duration and also organisers, of the most varied quality. There is a need for continuity between personal conceptual strategies and knowledge being confronted, the relating of knowledge to the specific context employed, and the sharing of all this.

Furthermore, individual teachers have a personal viewpoint regarding activities that determine approaches to their work, choice of contents, which indicates a need for initial in-service training, and

¹⁴ The students/teachers are the teachers being trained at the university in order to teach in primary and secondary schools.

¹⁵ The inter-departmental centre for didactic research (Il Centro Interdipartimentale di Ricerca Didattica - CIRD) deals mainly with research at the level of compulsory schooling. The orientation and tutoring centre (Centro Orientamento e Tutorato - CORT), apart from orientation, deals with collaboration in initiatives for teaching continuity and educational orientation.

consequently, continuous training in order to combine expected needs in a close-knit relationship between ability to manage learning contexts and handle general and subject-based teaching problems, with a well-constructed modality of interaction between trainer and trainee. The link-up also constitutes a necessity for in-service training; assuming that the task of formulating is in the hands of the teacher, along with choice, management and integration of scholastic activity into the overall educational plan, it should be recognised that, in order to tackle these, specific skill is needed, requiring contemplation on various levels. There is a lot of research literature, with particular emphasis on the role (demanded of the teacher) of learning-mediator; this requires the development of professional skills that might outstrip (as mentioned by our Belgian colleague this morning) the classic model and consolidate, in the application of teaching interaction in class, the teacher's professional status.

So, for significant didactic innovation and a dynamic evolution of the School, there seems to be the need for specific, non-academic teacher-training that integrates different models of a meta-cultural, experiential type, where meta-cultural signifies exploring proposals for teacher-training that are suggestions for class activity, but which leave the teacher the role of analysing, re-elaborating and putting into practice. By experiential we mean that the teacher goes through the same experience that he will propose to the pupils as a specific test of the precise proposals that are being made; last but not least important, the question of contextualisation, where, after continuous reflection about teaching practice, about innovation that is launched after consideration of proposals and processes, elaboration and research can continue, while innovations are being applied.

That which I mentioned a moment ago was launched in an experiment that first took place in 1999 with fifteen research grants, supervised by twenty experts at national level. It was carried out by the University of Udine and was an experience that was subsequently transferred by IRRE to various regions of Italy; it involved teachers being in charge of a research proposal, singling out a problem that was meaningful for their professional preparation, which presented a need for in-depth study of their own competencies, and was not at all abstract; a competence that re-worked a problem that the teacher had encountered in his/her teaching, and then proposed for his/her research. The university collaborated in this research offering expertise and support and tools to carry out the research in collaboration and in support of the proposal. The work was carried out together and the results are now the subject of a book that is,

unfortunately, only available in Italian; this book, produced at international level, GIRE BOOK, (i.e. gruppo internazionale di ricerca sull'insegnamento della fisica – international research group into the teaching of physics), which I shall be mentioning in a minute, represents forty-one countries around the world, together with the International Commission for Physics Teaching, the European Society of Physics, the European Physics Education Network, the American Association of Physics Teachers and our university; we put out this book, which witnessed forty-one countries around the world working together on the study of Quality Development in Teacher Education and Training. The book is available on the web, for whoever might be interested, and contains the results of this international experiment. The work carried out with the research grants is therefore available in Italian in this book published by the review *Università e Scuola*; it is also available as an article in the other book. There is also a web-site that gathers together some of the experiences, but unfortunately it is only in Italian and in this site, at our University, all the research grant experiences and what we call BRI (Borse Ricerca Insegnanti – lit. Research Grant Teachers) experiences, are documented. As I said, therefore, collaboration and school-university innovation, should not be merely spontaneous, they should be planned; I have just mentioned the BRI project, and I would also like to mention the CRUS round table. As I was saying, CRUS is a Commission for the link-up between school and university, which has as its main goal the collecting and documenting of significant experiences regarding the setting up of the link-up, and identification of the modalities. The main operations that it has carried out in the last few years and which have now been approved by the three-year ministerial project for university development, are three in number; there are meetings with all the schools in order to think about the school and university reform, with a discussion forum about the reform to investigate the idea of university, but above all, there are several official, collaborative, university-school projects, which I have already spoken about and shall not repeat; and then there is the university Master for teachers regarding didactic innovation, documentation and orientation. I would like to underline certain elements of the Master; it was projected by the Commission for the link-up between school and university, and so it is not something that originated from the university as a proposal for teacher-training, but is something that was projected together by school and university; it includes three courses of specialisation for those who do not want to commit themselves to a long-term Master, and the promoters are CRUS, and the university

Commission. Therefore, it is not a Master of one specific faculty, but of the whole university, of the Research Centre, of the School of Specialisation and the Faculty of Educational Sciences. The main goals are to qualify teachers in the field of teaching innovation, orientation and communication. There are four areas that characterise it: general; characterising; project; applicational and contextualized. Teachers taking the Master can obtain free enrolment on the condition that they make a significant contribution in their own school with regard to the topics touched on by the Master. So, there is didactic innovation in technology and the execution of innovative projects. Here there is data regarding the students enrolled and the characteristics of their degrees, which, as we can see, are very different, but this does not really matter. I would like to describe the other initiative representing an experience that we would like to be shared and exported to all other centres; this regards collaboration through collaborative school-university research. The characteristics that interest me are described here; the advertisement of the post envisages that the projects for the school-university link-up be analysed by a series of representatives from schools (shown here in green) with their own leader (the little red face in the middle of the school group). So, a number of schools decide to form groups to tackle a research topic and all these groups have a leader. Then the university groups assess the relevance and interest of this research topic, and with whom to collaborate, and a single research leader is picked, on condition that there are at least two school groups and at least two university groups; the leader can be either from the university or the schools. 80% of the resources are from university research funds and 20% from school funds. Was there much of a response to the advertisement of the posts? Yes. The projects that were approved are in violet; fifty were presented, and in the first experience eleven were approved, and the basic schooling are in violet, whilst secondary school are in blue. As you can see they range from the use of sensors for science education to the problems of education in schools, to relationships with parents, formulating a teaching programme, the presentation of modern physics in schools or the problem of advanced competences, or self-assessment and requisites for being admitted to university, instruments and methods for didactic continuity; as you can see there are many different topics that characterise the problems of the university-school link-up, as well as didactic experimentation at the intersection between initial and in-service training.

So I would like to conclude my talk regarding the problems of the school-university link-up, by speaking briefly about initial teacher-

training. There was a long delay before launching initial training, above all because of deeply-rooted and widespread, time-worn beliefs, especially, dare I say, among the incompetent persons entrusted with training teachers; they viewed the university as a source of non-finalised knowledge, and teaching as an art, a gift, to be nurtured through teaching experience, starting from strictly subject-based, higher learning, rather than professional behaviour to be acquired through specialised training. This teacher-training project preceded university reform and is another sound Italian project that has been difficult to apply precisely because of this vision, these contexts, these images, which persisted and hindered the application. One advantage of this delay, however, was that this is one of the best European projects. As Prof. Luzzatto mentioned this morning, in the Green Paper from the TNT European Commission , May 2000, there are certain people who define it as one of the very best teacher-training projects, because of the fact that vocational training is set in motion in disciplinary education, but is not specifically disciplinary; the fact that the focus is on the professional behaviour of the teacher and transversal, teaching, historic and epistemological skills in the subjects, to the exclusion of subject-teachers who should look for another solution or, anyway, a specifically indicated centre; all this to identify the context that best characterises the training of professional teachers. The importance of teaching practice, the obligatory activity in the didactic laboratory, in which the elements of the teacher's professional training are transformed into operational elements and equal weight is attributed to the various areas of teacher-training: those of a socio-psycho-pedagogic nature, those of the teaching of subjects, those of the laboratory and the optional transversal ones. Moreover, the importance accorded to the coupling of these elements in professional, and also cultural and educational behaviour, in order to build up the professional figure. Moreover, there is the presence of specific figures in the school-university link-up such as teaching-practice supervisors, who are teachers, partially removed from the schools. These preceded the university reform and I would like to stress how training teachers for science education, something which was previously deemed unnecessary (because in order to train teachers it was sufficient to educate them on the pedagogic level), is a challenge in which there is the possibility of transferring to coming generations a culture, where science is an integral, and not marginal, part; it is a challenge that involves the possibility of giving students the basic elements of scientific knowledge in a form that allows them to be able to manipulate it not as knowledge to be passed on, but in games,

stories, in the curiosity of children, in moments of organised analysis, in which science belongs personally to these new teachers who are capable of re-working it in order to educate children. The difficulties to overcome in initial teacher-training are the following: the academic idea of education connected to old models; the lack of willingness on the part of university teachers to prepare for this new task; the lack of necessary transversal structures, such as university link-up centres for teacher-training; collaboration, not only through the school link-up; the link-up that is lacking with educational and didactic research, and the scarce involvement and commitment on the part of schools. Some of these distortions are peculiar to the project, in the same way as the project found its activation in the context in which it was structured; in particular, much of the teaching of a psychological and pedagogical nature, as well as that of professional preparation, has been organised only in general terms and not in terms of the professional aspects.

The teaching of disciplinary didactics has occasionally been transformed into teaching of a purely disciplinary character and the laboratory activity has often been reduced to a place for didactic accounts by teachers, who were considered by the teachers-to-be as not very active (compared to what the project would have wished), in their re-elaboration of the proposals, directions, tools and methods for an education (also of a disciplinary nature).

Moreover, the teaching practice has sometimes been delegated totally to the supervisors; the other flaw is the tendency to leave each area of study to organise itself independently, but the quality of the specialists, the improvement in the organisational structures, highlight the capacity of the project to train its own operators towards a high-level educational process to be integrated with research. We should put this project into practice by establishing a sound link-up with schools, and exploiting art.5, which intends the university premises for teacher-training and also for in-service teacher-training; in order to accomplish this, four issues at institutional level have to be tackled: the idea of university that I discussed previously, and the functions attributed to it; the school-university link-up; in-service teacher-training; teachers' careers, based on serious and high-level training, rendering the whole more professional (as previously mentioned). To train teachers professionally operational proposals in context are required, as well as attention to the project aspect, and reflection on teaching activity. This was also ratified in the ten points that were singled out at the previously mentioned convention "Quality Development in Teacher Education and Training", which was held in September, 2003, in

Udine. The ten relevant points passed on to the Berlin convention of European ministers, in which the extent of research into training was the element mainly underlined as relevant for teacher-training. A few final thoughts: the school-university link-up has many dimensions, such as cultural diffusion and its didactic role, student orientation, educational results and teaching continuity, teaching experimentation projects, collaborational research projects, initial teacher-training teaching practice, in-service teacher-training and teachers' action research. These can lead to fresh images and values emerging from the collaborational experience that we underwent. We are building up a shared idea, made up of many values. Structures are needed, along with tools, round tables, ideas, projects and actions; we have to handle orientation in a formative fashion, and this is a necessity dictated by the principal of responsibility, by the right to study, the need for educational continuity and the guarantee of success that we wish to give to those students who believe in our work. Collaboration involves teachers in the classroom, requires the training of teachers for specific action and research activity. Research is the thread that links schools and university and can give meaning to this collaboration, which has to be turned into the capacity to grow and innovate. Thank you.

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Reform in teacher education in Norway from a European Perspective

*Elisabeth Nilsen**

First of all, I want to thank you for the chance to be here in Palermo at this conference, marking the end of the project “Docente Europeo”. It has been a great pleasure for us at the University College in Bodø, north of the Arctic Circle, to co-operate with colleges from Palermo and Bratislava, to meet your students and to get to know them.

I also want to thank you for the way you looked after our students from Norway. I know that they had a good time here, and that they underwent experiences that will give them a good background for their reflections about their own teacher-training and the role of the teacher in Norway when compared to the role of the teacher in other countries.

Different systems of Teacher-Training in Europe (and in Norway)

In Norway you will find many models for teacher-training, for pre-school (kindergarten), primary, lower and upper secondary school. In my own institution, Bodø University College, we have different models: one where the students take a bachelor or a master in two or more subjects, followed by a one-year teacher-training programme. In my institution this one-year programme is organised flexibly as part time study over two years. We also have integrated subject-teacher

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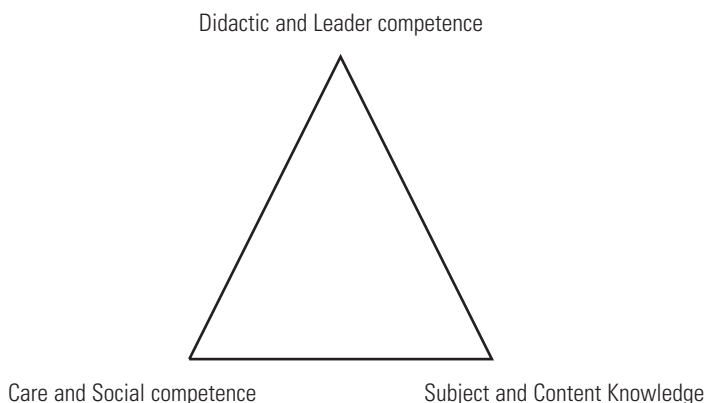
programmes (bachelor programmes) for teachers in different subject areas. In my institution we have this programme for teachers who intend to be subject teachers in Sport, Music, Dance and Drama. We also have a bachelor programme for pre-school teachers and finally a four-year integrated teacher education programme for generalist teachers at primary and lower secondary level.

The students from Norway that you have met in this project come from this integrated programme, and they are in general younger than your students coming to Norway. The students coming to Norway from Bratislava and Palermo are, as far I understand, from a teacher education programme undertaken after a subject study. It is necessary to be aware of these differences in the evaluation of the project.

	Concurrent (Integrated)	Consecutive (Specialised)
Bachelor level 3-4 years	Bodø: A 4-year concurrent TE programme for the compulsory school (Primary and Lower Secondary School)	
Master level 5-8 years	In Bodø it is possible to take two years extra after the TE to get a Master in (Special) Education	Palermo & Bratislava: Master Programmes in Subject Studies followed by a TE-programme

Different points of focus in Teacher Education

If we study teacher education programmes in different countries we will find that they have their main focus on different parts of the programme, in the same way as the school systems for which they train teachers. In this way they will educate teachers with a focus on different competences.



I assume that we, in our integrated teacher education programme, give more time and space to didactic and leader competence, and to care and social competence, than in our university subject-oriented studies. This means that teachers educated in different ways will have different strengths and weaknesses. In Norway we therefore want to keep different teacher education models side by side.

The School Structure in Norway

The school structure in Norway is organised to meet the needs of a country with certain characteristics:

- a long and sparsely populated area (4.6 millions inhabitants spread over 387.000 square kilometres);
- political priority to community schools, functioning as cultural centres in the local community;
- more than 50% of the schools are very small (few teachers, who must teach most of the subjects and therefore a need for generalists);
- most teachers in primary and lower secondary schools in Norway are educated in four-year integrated teacher education programmes in regional university colleges.

You need to bear this context in mind in order to understand the Norwegian school system. Since 2003 we have had a new national curriculum for all teacher education programmes in Norway. According to debates going on in Norway, and inspired by changes taking place in other European countries, we now have more focus on subject knowledge in schools. Especially in the integrated teacher education programme we now see changes that give the students the possibility to choose to study a few subjects in depth during the last two years of their studies.

The four-year Teacher Education Programme in Bodø: a typical Norwegian example

To understand this special programme, I want to give you a little background information about my institution in Norway:

It is a medium-sized Norwegian University College, but small in a European context. We have 400 university teachers and 4500 students. The Institute for Education and Culture has 62 university teachers and approximately 900 students.

In the four-year teacher education programme students have two years with compulsory subjects: Norwegian Language and Literature, Educational Theory, Mathematics, Christianity, Other Religions and Philosophy and a course in the fundamentals for teaching reading, writing and mathematics. They will have two years with electives where they can choose to study some of the compulsory subjects in greater depth, or they can choose new subjects to attain a broader competence profile. All subjects in this programme have subject didactics integrated.

The students must spend at least 18-20 weeks doing teaching practice in primary and lower secondary schools during the four-years. In the practice periods they have a mentor in the school. The subject teachers from the university visit the students to offer guidance and support.

In this integrated teacher education programme we educate teachers who will have a special competence as generalists to be class-leaders, with responsibility for the totality of the children's learning programme. They will also have a special responsibility for co-operation with the local community and with parents.

The Impact of European Initiatives on Norwegian Teacher Education

Educational policy and debate in Norway are of course strongly affected by developments in other European countries. In the Bologna Process Norway is one of the leading countries. Since 2003 almost all institutions for higher education in Norway have developed bachelor programmes for different models of teacher education, but the general four-year programme is the most common at every regional university college. The universities offer only the one-year programme on top of a disciplinary bachelor or master.

According to the Lisbon Process Norway - like the EU countries - focuses on standards for teachers and on specific competences for teachers. The 2003 national curriculum for teacher education lays down five competences for all the different teacher education programmes:

- subject knowledge and competence;
- didactic competence (how to plan and organise good and differentiated learning experiences for each individual child);
- social competence;
- change and school development competence;
- professional ethical competence (deontology).

We now give much more attention to Basic Learning Competencies: Reading, Writing, Mathematics, and the educational use of ICT in learning. A need to make the teacher education programmes more relevant has led to more emphasis being put on the practical, and more co-operation between the teaching of subjects and practical experience.

For many years there has been criticism that the general Norwegian teacher has a weak knowledge base in the school subjects. In the last teacher education reform we therefore gave one more year for electives, with the individual opportunity of choosing more specialised studies in two of the four years of the integrated programme. We also give more attention to the results of learning, evaluation, competition and measuring and comparison of quality between schools. All institutions of higher education (including teacher education) are evaluated and accredited by the Norwegian Agency for Quality Assurance in Education.

As you can see, you find the same tendencies in Norway as in most EU countries.

Lifelong Professional Development for Teachers in Norway?

Research regarding teachers in many countries has shown that professional development starts in pre-service teacher education, but must continue with in-service training and counselling and in the various further education programmes for teachers. Many countries have special inset programmes for the first years of service.

In Norway we have not had an inset programme, but in the last few years some of the teacher education institutions have been running projects with mentor programmes for new teachers. We also have a tradition for giving higher salaries to teachers taking further education. So after a few years most teachers come back to the universities and university colleges for new courses.

Nevertheless, in general terms I would characterise the Norwegian teacher education system in this way:

- most emphasis is laid on pre-service teacher education and on the Teacher Certificate;
- we have no coherent system for induction programmes, but a national project is now developing models for this;
- from this year and over the next three years we have our largest

ever budget (300 mill. Norwegian kr. Per year) for further education for teachers, related to the recent school reform: “A Culture for Learning” (A new National Core Curriculum will be implemented in 2005 for Primary, Lower and Upper Secondary School);

- priority is given to competence development and school development in inclusive education (Learning for all), development of learning skills and -strategies in core subjects (Norwegian language, Mathematics, Natural Science and a second Foreign Language).

Many teachers are afraid that the “soft” subjects (arts and craft, music and so on) will suffer from this new reform. The future will show what the results will be.

All teacher education institutions are expected to take part in different competence and school development programmes. We are therefore developing new programmes and projects in co-operation with the school owners. We see this as a possibility to develop and vitalise our ordinary programmes and to be more up to date and relevant.

Common challenges in Teacher Education in Europe

In Norway, as in other European countries, we are discussing how to develop teacher education programmes that can give us good, professional teachers – to provide effective learning for all pupils. We realise that we need much more and better research into pupils’ learning in school. We also need more research about teachers: what it is they do when they are teaching well and achieving good learning results with their pupils. Some of us believe there is a need for more research into students’ learning and professional development in their pre-service teacher education and in their first years as teachers.

I truly believe that to do this we need more co-operation between European teacher education institutions. We need more comparison, co-operation and student-exchanges, teacher trainers and researchers into teachers’ professional development.

“Docente Europeo – The European Teacher” was a project that offered us the opportunity for this - for co-operative learning and development in teacher education in Europe. I thank you all for this and I really look forward to fresh possibilities in future European projects.

School system and reform

*Vladislav Rosa**

Ladies and gentlemen,

first, let me thank the organisers for giving me the opportunity to contribute to this conference with my presentation. Really, this is a great honour for me.

The fundamental mission of schools has long been to prepare their pupils and students for work, and for them to play a full part in society in general. This aim is unchanging, but schools need to consider what achieving this aim entails today and for the years to come. In fact, before the 2nd World War behaviourism was the dominant approach to teaching and learning; it defines learning as a change in behaviour induced by external stimuli. Instruction transfers knowledge and skills from teacher to learner. Positive reinforcement encourages the desirable response in pupils and students. During the 1960s, this model was gradually replaced by the cognitivist and constructivist approaches, which share fundamental similarities, as well as some important differences. Cognitivism analyses the mental processes that lead to the acquisition of knowledge. The human mind is regarded as an information processor, a view encouraged by the emergence of computers during the same period. Information as input is converted into symbols, processed and stored in memory in a meaningful way. Instruction must therefore create learning environments and develop learning strategies that favour optimal processing. According to constructivism pupils and students build symbolic representations of knowledge and mental concepts. Learning is not seen as simply adding new representations to prior knowledge

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and beliefs, but as re-organising old knowledge in order to integrate new elements, and subsequently, to construct new cognitive structures and store them in memory. Everybody's past experiences differ, as does their way of linking existing knowledge and fresh knowledge. Instruction encourages pupils and students to actively interpret the world around them and construct their personal knowledge and beliefs by promoting critical thinking skills and independent learning. Pupils and students discover and interpret the world around them through active participation and interaction with it. Teachers no longer control the learning process but facilitate it.

Developments during the final decades of the 20th century brought not only radical social, economic and technological change, but also change in the sphere of education. Globalisation and its manifestation in the cultural, political, economic and environmental fields has been the major force behind the transformation. Scientific and technological progress, especially in the communications industry, have promoted international integration and co-operation but also intensified international competition. In order to develop quick responses to the challenges of this new order, while safeguarding and improving their socio-economic standards, many countries have recognised knowledge as their most valuable resource for fuelling economic growth. Increased production, distribution and application of knowledge in all its forms are instrumental in the creation of economic and cultural prosperity. Knowledge is recognised as the driving force behind personal and professional development. Wherever people acquire knowledge, learn skills and transform them into competencies for meaningful use, they not only stimulate economic and technological progress but derive much personal satisfaction and well-being from their endeavours.

Teaching for transfer demands a shift from teacher-centred to learner-centred teaching methods. Teachers no longer supply knowledge for memorisation, but support pupils and students in their competence-building process. On the basis of prior knowledge and experience, they teach subject-specific knowledge, but also foster creative and critical thinking skills and the ability to learn, by engaging pupils and students in classroom work. The “new” role of the teacher is to facilitate learning by guiding pupils and students in their efforts to apply knowledge and skills to fresh situations so that they become competent individuals. This leads to a demand for “upgrading” knowledge as an open-ended process, which starts with a solid basic education and is sustained through lifelong learning. Countries are increasingly concerned about identifying the knowledge,

skills, competence, abilities and aptitudes that will equip their citizens to play an active role in this emerging knowledge-driven society.

Considerations like these take into account the links between education and society and form a basis for reform in school systems in many countries. Below we attempt to summarise the crucial features of the proposals, recommendations, activities, expectations and also adopted plans and programmes, which should adhere to the commonly agreed goals and objectives of those reforms, concisely expressed as follows: “*Education must provide the maps of a complex and ever changing world and the compass to find one’s way*” (UNESCO Report on Education). We start from the national documents, reports and other materials from many countries (mainly European ones) and also from working documents from the most important international bodies (mainly EC, EU, OECD, UNESCO).

For a better understanding the review is arranged into four answerable parts:

Why?

In the 20th century, developed countries succeeded in making education accessible for all and tackled the challenge of gearing their schools towards universal education, without any accompanying change in the nature and organisation of schools; the challenge for education in this century is to respond to new needs, and ensure that national education systems build in incentives for continuous improvement in quality. Many proposals are put forward on the basis that only high quality education systems can guarantee social cohesion, progress and sustainable economic growth;

the skills and knowledge that will be required within twenty, or even ten years, might be quite different from those required today; economic trends are now hinting at the scenario for the near future:

- the pace of change will be fast; knowledge and skills will quickly become out of date;

- technological change will become even more prominent in life and in work;

- globalisation of trade, and its impact on our life, is likely to become more, not less, intense;

- the individual’s skills and abilities will be the major factor in competitiveness, national prosperity, the individual’s employability and the quality of his/her life;

- labour markets will remain open, flexible and challenging;

in the 21st century, schools will operate in an environment which will be altered radically by new media, advances in information and

communication technology, and new ways of satisfying the demand for information and education; so schools must equip students to use new media, to choose between the information on offer and to use their knowledge; at the same time schools will no longer be the main source of information and education and will have to compete with other methods of education;

there is a gap between the skills which the labour market will increasingly look for in their employees, and the skills schools currently equip their students with; the gap is getting wider; students should be qualified to the highest standards, both to preserve and extend the cultural wealth of our countries and to reinforce the competitiveness of our economies;

failure to meet these challenges will impoverish students and society as a whole; students should complete their education, none should abandon it early; we should expect and demand high aspirations on the part of students, teachers, parents and governments;

quality control in teaching and learning is not adequate; public education is considered “free” for parents and students, but the community as a whole pays a lot for its educational system (in all developed countries an average of 5-6% GDP is spent on national education, including tertiary education); reliable systems of accountability are needed to help ensure that schools provide value for money, and to ensure that the main cost elements (of which teacher costs are the most significant) are put under rigorous control;

there is clear evidence to support the need for participation in international surveys; in TIMSS (Trends in International Mathematics and Science Studies), European results are poor compared to those from other developed countries; PISA (Programme of International Students Assessment) also provides useful information for governments on where their national educational systems are failing to prepare pupils and students for working life.

What?

The majority of documents recommend that school must ensure that equal attention is paid to the four principal elements:

- learning to know
- learning to do
- learning to live with others
- learning to be;

these principles mean providing pupils and students with

- basic skills, literacy and numeracy, up to date and relevant

knowledge and understanding

- practical skills, such as problem solving, the ability to use ICT, having a work ethic
- social skills, such as communication with others, working with others in a wide range of environments and cultures, foreign languages, the core values of citizenship
- personal skills and values including a sense of autonomy and responsibility, emotional intelligence, an entrepreneurial attitude, the desire and capacity to learn, knowing how to apply learning, the ability to take advantage of change and the ability to assess one's own strengths and weaknesses and address them;

schools must also equip pupils and students with the skills and aptitudes which will help them play a full part in the community and in an increasingly globalised environment; virtually no student should leave school without formal qualifications;

to meet those needs, schools must revitalise not just their aims, but also their methods; modern education methods must be used to help pupils and students develop the skills set out above in an integrated way – developing several skills at once, just as they will in working life;

in many schools pupils and students are learning in the same environment and with the same tools used by their parents, or even grandparents, but to prepare for a very different world; schools should be challenging and stimulating institutions; information and communication technology should provide a tool to help transform them;

learning no longer stops at the school gates; the essence of 21st century employment is the ability to learn and adapt throughout one's working life; schools must teach pupils and students the value of lifelong learning and give them the tools and the desire to pursue it; schools must help young people to understand their responsibility to continue learning (as set out in the EU White Paper "Towards the Learning Society"), we should aim for a learning society for which schools should be the foundation and the inspiration.

How?

The key reforms that we consider are those needed to stimulate the process of change. Some of these changes have already begun in individual countries, but nowhere are they complete. Which are the most important spheres where these changes are apparent?

A. National standards of achievement and independent evaluation

Clearly defined national standards of knowledge and competencies are needed as means of measuring achievement in each national

curriculum subject and providing the information schools need to evaluate their performance; national standards should lead to the highest standards of achievement; all schools must continuously set themselves targets to reach those standards; pupil and student performance must be objectively assessed through a central exam system at each of the main stages of the school curriculum; as well as formal academic achievement, the practical skills which students need to learn should also be assessed;

governments and schools must set targets for progress on the basis of national results; an objective assessment of achievement allows government, parents and employers to make informed choices; virtually no student should leave school without qualifications;

the use of national standards to measure performance is also important from the international perspective; international benchmarking should make educational performance more transparent, enhance co-operation and mobility; this could be particularly relevant for science subjects, for which adoption of similar standards in different countries is possible and practical;

the development of criteria to evaluate personal and social skills as well as academic achievement would be useful (we have to recognise that further research would be helpful on this issue);

an independent body must evaluate schools' performance against national standards; it must evaluate the overall quality of the national school system, allowing comparisons with international standards; it should offer constructive advice in its evaluation of schools' performance; within the national school system, each school should be evaluated externally against national standards; governments and parents can then assess comparable schools and look at individual schools' progress against their past performance; individual schools, and individual teachers, should be able to evaluate their performance and measure their progress against that of others; a culture of self-assessment, and improvement, must be encouraged; to achieve these aims effectively, the independent body for evaluation must report the results of school performance to the government and these results should be publicly available; failure at school should be unacceptable – young people only get one chance at school!

B. Co-operation and competition

Schools' responsiveness to the needs of their pupils and students will be effectively tested through parental choice; this choice, based on accurate information about school achievement, rewards the schools which best meet their pupils' and students' needs; this

provides the necessary incentive to learn from the best, to innovate and to raise standards; schools should both co-operate and compete with each other; schools should not be afraid of this element of competition – this will help them become better schools; this is the sense in which competition is recommended between comparable schools to meet pupils' and students' needs more effectively;

public funding should be mainly based on pupil or student numbers and school performance; this provides the necessary financial dynamic to make parental choice a reality and creates a demand-system; funding should also reward the progress which schools make with their pupils or students; schools must take responsibility for their budget and cost control; if schools are to be given the responsibility for achieving targets, they need the means to do so;

resources must be linked to results, providing the incentive to meet pupils' and students' needs better; more money does not necessarily mean more quality; the priority must be to reform the management of staff, teaching methods and organisation; education must be able to provide incentives for better performance, both of individual schools and of teachers, pupils and students within those schools, to create a rewarding system for each school and for its personnel.

C. A 21st century curriculum

A balanced curriculum can help pupils' and students' needs by reflecting the importance of arts, scientific and technical subjects; schools should aim to produce rounded individuals, who are ready and equipped to participate fully in the wider world and understand the core obligations of citizenship; schools should also instil the good reasons for sharing the fundamental values of our society, towards which schools cannot remain neutral; pupils and students must be prepared for mobility by developing their language skills and ICT competencies; the business world should make a particular contribution to the development of vocational education and to helping the student's transition from school to work; employers who recruit former students should play a part in preparing them for the transition to employment;

learning must be tailored to individual needs as far as possible, and should prepare pupils and students for society, so they should increasingly be treated as active participants in learning, rather than passive recipients of teaching; the teacher should help pupils and students to learn autonomously and schools should consider how, for example, they can strike a balance between teaching pupils and students and teaching them how to learn in the future; schools should

also aim to nurture and inspire pupils' and students' lifelong learning, recognising that learning will continue throughout one's working life; schools should encourage the curiosity of their pupils and students by emphasising the practical and functional application of their knowledge and understanding;

schools need to provide high quality careers guidance to help pupils and students to move from school into work; parents, schools and employers in particular should co-operate to help pupils and students make informed choices about their careers; they should also encourage them to recognise that education is a good investment and emphasise their responsibilities regarding their own future;

the early years of education (nursery and primary education) are as important as the ones dedicated to secondary and higher education, so investment of financial and teaching resources should reflect that balance.

D. Autonomy for schools

Schools need the freedom to manage themselves and decide their own teaching methods; in order to improve quality schools must take responsibility for continually raising their performance against national standards, towards the highest levels of achievement; governing bodies or the relevant public authority must have the right to choose heads; schools (heads or governing bodies) must be able to choose their teachers, reward the best teachers and remove those who have a really damaging effect on pupils' or students' education; self-management could be achieved through school governing bodies who, together with heads, are accountable to parents and the government for the performance of the school; such governing bodies should represent both those directly involved with the school, and external stakeholders;

school autonomy should allow schools flexibility in the organisation of their resources; schools must have the freedom to make the most effective use of their premises and other resources, and open themselves up to adult education and to the community in general;

schools must have access to research and analysis regarding best practices in teaching and school management; individual teachers and schools should themselves establish links to promote this aim, but they will also need to link up with university and other research bodies to make best use of available material; innovation should be encouraged by governments, and employers should be willing to share good practice in management and be open to placements of teachers and heads;

schools must seek to learn lessons regarding best practice, innovation and guiding values from a wide range of environments, including the entrepreneurial world of business; schools and employers should recognise that they can both learn valuable lessons from each other, and that they share an important common task in the preparation of pupils and students for working life and society.

E. A top quality teaching profession

In most documents the teacher is characterised as a decisive agent in education and in the implementation of educational reforms in everyday school life;

heads should be leaders of their school, qualified for the task and with the autonomy and the responsibility to make that leadership a reality; they should be evaluated on results;

teachers should be valued professionals with the opportunity of a career which rewards better performance, offers incentives for committed and motivated teachers and greater flexibility in teachers' employment contracts – for example, full time, part time and short term contracts;

a rigorous system of training and selection for teachers, supported by investment, is needed to equip heads and teachers for new challenges; each teacher should be qualified up to university level, or equivalent, or beyond, and should have a period of practical training in a school; in order to ensure serving teachers are up to date with professional developments, training must be available on an ongoing basis, including training in non-educational environments; businesses can help by being open to mutual exchanges of staff; the head should take responsibility for the development of his or her staff;

teachers must be equipped to make full use of information technology; ICT has the potential to transform teaching methods and individual study by opening up learning to pupil and student control; schools and policy makers should consider the potential for distance learning, and for developing teachers' skills, which multimedia technology offers; in order to make full use of these opportunities, investment should not just be in hardware and software, but in training the actual teacher how to shape learning through ITC.

Who and When?

This summary sets out a broad framework for reform, it represents what the countries or institutions believe is needed to make successful reform a reality; it requires a systematic vision in which every element is seen as important and interdependent;

we recognise that different countries are undertaking reform at different speeds; in each of the countries monitored some progress has been made, but in each there is still some way to go before the systematic reform we envisage is fully achieved; in order to remain competitive countries need to make education reform a priority; the role of governments is fundamental: they must set new rules for the game to release new energy and build on this and the talents which are already present in our schools;

we believe that reform is a matter of urgency – wide-scale consultation, which should cross national borders, would help inform this process.

It is obvious that not all the recommendations, proposals, activities or programmes mentioned are acceptable or realisable in all countries, at least within Europe. Despite this we are convinced that this synopsis could contribute towards an increase in the level of knowledge in this area and act as a stimulus in thinking connected with the present situation in your domestic school system. It might well inspire you to join those who are preparing or effecting some of the above-mentioned changes in your countries. Good luck to you!

Ladies and gentlemen, thank you for your attention!

Main results of the Mobility Phase

*Per Sivertsen, Filippo Spagnolo, Ivan Trenčanský**

Student mobility has had a central place in the Comenius 2.1 project “Docente Europeo – The European Teacher”. During the two four-week mobility periods a total of seventy-two students participated in the mobility between the partner universities in Bodø (Norway), Bratislava (Slovakia) and Palermo (Italy). Students took part in different activities during the mobility, both on campus and in secondary schools. This report will describe some of these activities and will focus on the main results of the mobility project.

Main results of Mobility Phase: Examples from Bodø

Activities on campus

During the mobility, students took part in several activities on campus. The most important of these were:

- Introduction to the host university
- Introduction to European programmes (Socrates, Leonardo...)
- Cultural course:
 - Introduction to host country language and society
 - Introduction to host country history and politics
- Practical exercise: “Aquarium activity”
- International Round Table (Focus Group Discussion)
- Observation of lectures at host university
- Information briefings

* Per Sivertsen, Bodø University College; Filippo Spagnolo, SISSIS, University of Palermo; Ivan Trenčanský, Comenius University, Bratislava.

Activities off campus

The most important activities off campus were the following:

- visit to institutions (kindergarten, primary and secondary schools...) of special interest;
- visit to places of special interest (museums, historical buildings, sights and landmarks...);
- practice in secondary school:
 - observation of teaching activities in class,
 - preparation of didactical situation together with tutor,
 - documentation (videos, photos, written report) of didactical situation.

Main results of Mobility Phase: Examples from Bratislava

Presentation of the Comenius University, Bratislava

The Comenius University in Bratislava, Slovakia, consists of twelve faculties. The following faculties deal with Initial Teacher-Training:

The Faculty of Philosophy (FPHIL), the Faculty of Natural Sciences (FNS), the Faculty of Mathematics, Physics and Informatics (FMPHI), the Faculty of Physical Education and Sports (FSPORT) and the Faculty of Education (FEDU).

The Faculty of Mathematics, Physics and Informatics of Comenius University has the following structure:

Mathematics departments	Physics departments	Informatics departments
- Algebra, Geometry and Didactics of Mathematics	- Astronomy, Physics of the Earth and Meteorology	- Applied Informatics - Informatics
- Applied Mathematics and Statistics	- Experimental Physics Nuclear Physics and Biophysics	- Teaching of Informatics and Basics of Informatics
- Mathematical Analysis and Numerical mathematics	- Theoretical Physics and Didactics of Physics	

The department of Algebra, Geometry and Didactics of Mathematics consists of the following sections:

- Algebra section
- Geometry and Computer Graphics section
- Didactics of Mathematics section

Report on teaching situations prepared by the students during their mobility

The teaching model used was inspired by the theory of didactical situations (*Guy Brousseau*), with four different phases:

Phase 1: Information

- Slovak language course
- Visit to Bratislava
- Visit to different schools
- Attending lectures in Faculty of Mathematics, Physics and Informatics (FMPHI)
- Introduction to the education system in Slovakia

Phase 2: Observation

- four groups of students in different schools
- Observation of teacher and pupils in the learning situation

Phase 3: Planning

- Selection of the teaching subject
- Reflections on noospherics
- Descending a priori analysis
- Ascending a priori analysis
- Analysis of possible pupils' strategies

Example 1: Choosing the teaching subject

Required abilities:

- To know the concept of logarithm and its relationship to potency
- To understand exponential and logarithmic function and the related graphic representations
- To be able to apply all rules of calculation
- To know an exponential inequation and a logarithmic one
- To be able to transform an exponential inequation into a logarithmic one and vice versa

Example 2: Reflections on noospherics

In text-books it is possible to find a lot of different definitions of absolute value, and each of them shows some interesting propriety:

- We define $|a|$ as absolute value of the real number, the same number $|a|$, whether $|a|$ is positive or zero, the opposite if $|a|$ is negative
- Absolute value is a term used to indicate the distance of a point or number from the origin (zero point) of a number line or co-ordinate system. The symbol for absolute value is a pair of vertical lines, one on either side of the quantity whose absolute value is to be determined
- Absolute value of the real number is called the maximum between a and $-a$.

Phase 4: Didactical situation

All students collaborated in preparing the theoretical and practical activities, learning evaluation, etc. (See paragraph 3 below).

Phase 5: Reflection about process

- Didactical situation
- A posteriori analysis of didactic situation
- Qualitative analysis
- Quantitative analysis

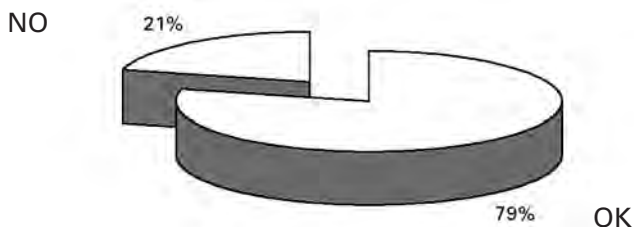
Example: a posteriori analysis of didactic situation

Qualitative analysis:

- The class is made up of 31 students.
- The test was administered during the first hour of lessons.
- In the class there were 11 boys and 20 girls.
- As regards the second exercise, the students were grouped into 8 groups.
- The students did not feel comfortable in front of the camera.

Quantitative analysis:

Exercise 1: **Knowledge and comprehension of the absolute value definition**



Some conclusions

- Remarkable interest of all students for subject taught
- Successful co-operation between international groups (Norway, Italy and Slovakia)
- Preparation of video records led to a detailed *a priori* analysis of prepared teaching situation
- Student reports were a good basic document for publication of articles in journal (didactics of mathematics)

- Problem (linguistic) of communication between students and teachers at secondary schools
- Differences in theoretical preparation of future teachers arose
- Experiences of co-operation between universities were a basis for a proposal for a new system of preparation of future mathematics teachers at Comenius University – it is at the approval stage at the Ministry of Education of the Slovak Republic.

Remarks: All the reports from the research of the Italian and Norwegian students have been published in the *Revue de Bratislava de la seminaire de la Didactique des Mathématiques* (Zborník bratislavského semináru z Didaktiky matematiky), No 6, No 7, No 8 (2003, 2004) et No 9 (to be published) in English.

Main results of Mobility Phase: Examples from Palermo

Presentation of teaching situations prepared by the students during mobility

A. What were the expectations?

Indicative concerning the activities of future teachers (1st Mobility):

- to single out epistemological and historical-epistemological representations of a problem situation, which might be used in the interpretation of learning/teaching phenomena;
- to prepare *a priori* analysis of a problem situation;
- to interpret group-dynamics;
- to interpret the reaching of the meta-cognitive phase using points 1 and 2 meaningfully;
- to know how to put over one's own ideas with regard to the experimental situation;
- to know how to identify the phase in which “conjecturing” with regard to the knowledge in question, is highlighted. In this phase one needs to be able to single out the meaningful semantic indicators for one's own subject;
- to know how to discuss the experimental results (qualitative and quantitative) with regard to the aims of the project. To correlate hypotheses and experimental data also by discussing, wherever necessary, the project work.

B. Second Mobility

“Protocol of Bodø”: Practical training activity during 2nd Mobility.

Phase 1: Information

Tutor gives information about: the school in which they operate, the student level, curriculum of the class, subject planning.

Phase 2: Observation

The students observe the teacher and pupils in the learning situation and gather information about: learning style, pupils' knowledge, ability, behaviour of the pupils and the school setting.

Phase 3: Planning

Students choose a didactical situation (one lesson, 2-4 hours) for their training. They plan activities to do together with the pupils, one plan for each national group. The students compare the plans and reflect on the different choices. They make a common plan.

Phase 4: Teaching situation

All students collaborate in preparing the teaching situation (theoretical and practical activities, learning evaluation, etc.). Afterwards, they evaluate the results.

Phase 5: Reflection about process

All students reflect about experience: Why have we made the content, didactical and methodological choices?

Were different experiences integrated in the realisation of the didactical activity?

How did we operate?

What are the results?

Do the results meet expectations? Why or why not?

Reflect on the most important reason why this didactical situation works - or does not work.

Analysis of some products

1. Fundamental, historical experiments in the teaching of Physics:
 - Check if the realisation of historical experiments can increase the students understanding of physical process.
 - Present physics as an interesting and useful science about things to be found everywhere around us.
2. Teaching situations structured for the observation of teaching/learning situations with regard to specific disciplinary

contents. The teaching situations are planned for the students with the support of colleagues of the host university.

3. Mathematics and blind people:

- Preparation of questionnaires for blind students.
- Analysis of the differences with regard to Braille for mathematical languages.
- Interviews with blind high school and university students about the mathematical languages they have used.

Some conclusions

- Everybody took part in observation of individual subject learning/teaching.
- Almost everybody stressed the analogies and the differences of a methodological nature.
- Not everybody confronted the issues related to the disciplinary approach: construction and planning of didactic situations, epistemological reflections, etc...

Differences with the first mobility period

- Greater attention to the preparation of teaching materials
- Different types of materials: the structure of teaching situations, use of history and epistemology to analyse errors in teaching situations, and lastly, the “Protocol of Bodø” for in-class training activity.
- Use of video and photos to document experiences in the ways illustrated in the Powerpoint presentation.

Main results of Mobility Phase: Examples from Bodø

Practical exercise: “Aquarium activity”

Guidelines

In the “aquarium activity” students were divided into two groups, A and B. The activity was conducted by supervisors from the university and consisted of three stages:

Stage 1

Group A was simulating a *simple, non-professional everyday situation*, during which a task had to be carried out in a given amount of time. Group B observed with the aid of a checklist or with specific observation tasks in mind.

Stage 2

Group B carried out a similar simulation, whilst the first group, in its turn, observed, utilising the same instruments, and/or with the same tasks.

Stage 3

On completion of the activity, the two groups came together again, and the moment of “examining reality” took place, during which individuals brought up points linked to their observation in the course of the simulation.

Observation criteria

Interactive communicative competences:	Planning competences:
How does the group/the participants <ul style="list-style-type: none">• deal with linguistic and cultural obstacles?• give signs of feedback?• express and interpret non-verbal messages?• act on behaviour of approval, disapproval, and refusal?• check if the message has been understood?	How does the group/the participants <ul style="list-style-type: none">• decode the needs of the others?• set aims concerning the perceived needs?• choose methods, tools, and working ways to obtain their goals?• check the courses, processes, and outcomes that have been started?

Examples of practical exercises

A. Interactive communicative skills:

A group of international students, taking part in a student exchange program in Bodø are making plans for a joint weekend tour. The group members differ in their preferences as well as in their budgeting.

B. Planning skills:

- The group is making plans for, and organising a trip to *Svalbard/Spitzbergen* with an international group of students.
- The group represents a student organisation planning an international day at the university.

Feedback from students

Comments from the student “diaries”:

- The aquarium activity was useful for thinking with greater attention about the procedure that a group usually follows in order to arrive at a result, and also about the difficulties of communication (not only due to linguistic or cultural differences).

- It was fun and interesting to find out more about the other people in the group.
- I liked the way in which we conversed, because we noted several aspects of the personality of each one of us and the different roles that everyone had.
- The aquarium activity was very interesting and motivating both as observer and participant. The feedback was very important.
- You learn from observing others, but the “confrontation with reality” is the most important part.

The supervisors' evaluation

- The students seemed to take the assignments seriously. Despite some language problems, almost everybody took part (more or less) in the discussions.
- The fact of being observed was not important for the aquarium group members. From the beginning of the activity they were fully concentrated on the task to be completed, and they forgot about the observers.
- The plenary discussion, at the end, provided insights for some of the students in the “aquarium group”. They were not aware of their use of body language, facial expressions etc... Neither were they fully aware of the roles of the group members (one or two seemed to be leaders, one a secretary etc, without being specifically assigned to their roles).

International Round Table: Focus Group Discussion

Guidelines

The supervisors chose a group of students from Italy, Slovakia and Norway, using the following criteria when choosing the participants: nationality, fluency in English and gender.

During the first mobility, the group size was ten. In the second mobility the size was reduced to six.

The group of students were given themes to discuss, while the other students observed.

One of the supervisors acted as a moderator for the discussion. The round table discussion lasted for about one hour. After a short break, supervisors and the observing group of students made a few comments about the discussion.

Criteria for choosing themes of the discussion

1st Mobility: Attitude scale questionnaire

- Students were invited to express their agreement or disagreement with twenty-six statements. The themes for the discussion were chosen from the statements with the greatest degree of disagreement.
- Based on the results of the attitude scale the supervisor proposed the following themes: planning, the role of syllabus and motivation.

2nd Mobility: Themes proposed by supervisors

- Similarities and differences between the school systems in the participating countries.

Feedback from students

Comments from student “diaries”:

- I like listening to others’ opinion. I have to exercise my listening ability. I think that to be a good speaker, you first have to be a good listener.
- Round tables are very useful. I think it would be very good to use this method to change our ideas and to learn more about others.
- The round table discussion was really interesting, because it gave us the possibility to express and compare our opinions about differences and similarities between Slovak or Italian school systems and the Norwegian one; the presence of Norwegian students was very important to ascertain whether what we had noticed could be confirmed by a person directly involved in the system we were observing from an external point of view.
- I liked the atmosphere of this round table discussion because it was like a big symphony, with respect and calm tones, even though we talked about different situations and had different points of view.
- I suggest having more discussions during mobility; it’s another way of getting more information about which methods give which results.
- The round table idea was really great, although maybe it came a little too late.
- I liked the conversation, which was very interesting and “hot”. I liked to listen to what the group was taking about. I learned new things and even though I was not involved in the discussion, I agreed with the people who were involved.

The supervisors' evaluation

- The international round table discussion is a valuable activity in an exchange programme like “Docente Europeo”.
- The theme most likely to give a fruitful discussion among the students is probably the observed differences and similarities between school systems in the countries involved. This theme should be one of the focus areas.
- six-eight persons seem to be a good group size. If possible, both male and female students should participate and all students should have adequate English skills.

Some concluding remarks

Together with the teaching activities in secondary schools, practical exercises like the “aquarium activity” and the International Round Table (focus group discussion) have been an important part of the “total mobility experience” for the students taking part in the “Docente Europeo” mobility programme. Feedback from students shows that these exercises were “eye opening” experiences when it comes to realise and understand the similarities and differences between school systems in the countries involved.

Such activities should include students from all the participating countries and should take place several times during the mobility.

ROUND TABLE

*“Mobility as possibility of growth in terms
of intercultural knowledge and professional skills”*

International comparison of school systems

Francesco Lannino*

The Comenius project is an international partnership which helps educational experts to become more aware of the different ways in which school systems, which vary from country to country, might be implemented. This experience leads to a radical reappraisal of the categories at the heart of the partners' educational realities, in a search for an "ideal model" respecting the various, specific, cultural identities, while drawing upon the qualities that each system possesses.

However, this comparison cannot be carried out if reflection falters in the face of prejudicial narrow-mindedness, which sometimes hides behind a so-called national "culture" or "tradition", but in fact represents one of the biggest obstacles to change, and does not allow the school system to progress. Comparing means learning – as far as possible – from each other's qualities, continually trying to improve oneself in an ever less "locally-centred" context. This implies, naturally, the will to *operate change*, once the effective potential for improvement has been recognised.

This preamble aims to introduce the debate surrounding what is probably the first reason for disagreement between the educational systems linked by Comenius. We are referring to *school evaluation systems*, especially with reference to the process of change which the Italian school system has undergone in the recent past. We know that the usual method of evaluation (based on the annual attribution of term marks, which includes the possibility of obliging the pupil to repeat his/her school year) is going to be abandoned in order to arrive

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at a different evaluation of the curriculum, based on a 2 + 2 + 1 division of the upper secondary school cycle; consequently pupils will have educational continuity (at least for two years) which will be evaluated with the *portfolio system*.¹ According to this idea a new role will be created in school classes providing educational continuity: the *tutor*, who is supposed to be a link between the teachers and the pupils. It is quite easy to understand that this will imply revolutionary change in the Italian school system.

Quoting Fischer,² one of the most important Italian educational sociologists: «*The Scandinavian model has as its priority aim the greater equality of opportunity, giving all children the same education until their sixteenth year of age – for the whole period of compulsory education. [...] all the pupils in the same school, receive the same education, from a group of teachers that is expected – for as long as possible – to remain the same for the whole period. [...] The target is to obtain for every pupil, the same basic instruction, [...] tied [...] to the meaning of compulsory education: the necessary knowledge for complete citizenship, to be able to fit as well as possible into a democratic society.* According to this, marks (and the consequent possibility of obliging someone to repeat a year) do not mean *anything*: there is no school failure, because everyone has the possibility of attaining a good level of general knowledge, with high qualitative levels. This seems the best way of arriving at a “*fair and efficient*” school, *as the international comparisons confirm*».

In another book by Vaniscotte³ we read instead that: «Latin countries are generally *more worried about school failure*, and combat it for many reasons: a relatively late process of democratisation and/or disadvantageous economical conditions (for some countries), but above all *the will to take all the school's pupils to the highest grade of knowledge possible*. Those are maybe the countries which have most difficulty with their educational systems, because *they pursue the Scandinavian model of egalitarian school*, while their pedagogical tradition leads them to be more closely tied to the pursuit of knowledge, exams, marks and an ingrained habit of repeating school years».

We have chosen to include these two informed opinions for a precise aim: notwithstanding the fact that comparative statistics assign the “gold medal” to the Scandinavian system (which I had the fortune to experience in person during my Comenius mobility in Bodø), there

¹ Something like an individual's career book, which contains information about the pupil's knowledge and abilities, together with an evaluation of his/her skills.

² L. Fischer, *Sociologia della scuola*, Il Mulino, Bologna 2003.

³ F. Vaniscotte, “Profili e tendenze dell'autonomia in Europa”, in L. Bognandi (a cura di), *Scuole dell'autonomia in Europa*, La Scuola, Brescia 2000.

are serious difficulties and reservations about the application of this model, *mutatis mutandis*, to another country, such as Italy, for example. However, we can discern small signs of change, implying a desire to refashion our pedagogical tradition in a way that involves not just structures and methods, but the whole *concept* itself, through a search for real change in Italian schools.

The question of evaluation marks the borderline between the idea of school as a *socialisation agency* – Talcott Parsons⁴ concept – and that of school as a structure for selection: what is the aim of the Italian school? What is the aim, if we can find one to be shared *erga omnes*, of the school system? Comparison between nations is based on this paradigmatic difference, and international comparison (and mobility, of course) is the test for establishing communication between apparently incommensurable systems.

Norwegian schools have chosen the criteria of equal opportunity, by forming strong class groups at school, a little like teams with teachers also involved as important players. Within these groups the learning and teaching process is doubly linked to socialisation and team work, like a sort of “democracy gym” based on co-operative learning and knowledge sharing.

Italian schools have worked until now according to “meritocracy” criteria, the sole administrators of which have been the teachers; this means that they bear all the responsibility for a correct evaluation. What is more, the high challenge factor which develops in a school system aimed strongly towards the excellence of a small percentage of students (and often this is possible by simply giving up with all the “non-scholarisable” elements) may well contribute to the acquisition of sound knowledge for a few, but will surely not boost the *socialising* function of the school institution; this becomes secondary when compared to the major attention directed towards “pure knowledge”.

Following this path, the Italian school is destined to lose out in a statistical analysis. Individual levels may sometimes be really high, but the national average is compromised by the large percentage of school failures.⁵ Besides, the pursuit of knowledge is often not supported by

⁴ T. Parsons, “The school class as a social system: some of its functions in American Society”, in *Harvard Educational Review*, 29 (1959), pp. 297-318.

⁵ «The real secret of culture is this, that many men seek culture, and work in the direction of it, apparently for themselves, but really only to allow a few men to reach it». The sentence is from F.W.Nietzsche, *Ueber die Zukunft unserer Bildungsanstalten*. In the same essay, the author states, «the *as universal as possible* culture enfeebles culture to a point where it is no more able to concede any privileges, nor to guarantee any respect. If it is common for everyone, culture is just uncouthness». Is this the Italian school's philosophy?

adequate attention to specific and transversal *skills*, of great importance for the scholar and his/her extra-curricular life; quoting the categories of Delors as explained by Edgar Morin, this kind of school cares a lot about “knowing what” rather than about “knowing how” or, especially, about “knowing *how to be*”, which is a point of excellence in the Scandinavian system.

Italy is starting to open up to these influences. Notwithstanding the deep wisdom of the Greek philosophical principle of the “virtue of the medium”, we have no doubts that, in this case, virtue does not lie in the perfect blend of the systems described; maybe, and of this I am quite sure, Italy needs to change more than Norway. Might it be a right step to propose a less obstructive curriculum, dismantling the rigidity of the year’s-end barriers? According to me, it is the first step, and it is in the right direction.

The Socrates Comenius project in terms of School, University and Research

Benedetto Di Paola*

This presentation aims to be a sort of a-posteriori reflection on the experience of the Socrates Comenius project. Through a brief report regarding research carried out during the first and second mobility, I will try to show elements of diversity and contact between the two different scholastic realities: Italian and Slovak; diversity and contact emphasised by the experimentation conducted in the various studies realised in the two countries.

In this context, I refer in particular to research carried out in Bratislava with my colleagues Daniele Benfanti and Salvatore Raimondi during the second mobility, aimed at analysing the different schemes of reasoning adopted by Italian and Slovak students in order to solve the same test administered in Italy and in Slovakia.

In a society such as ours, in a continual state of social and cultural flux, what is asked of a teacher is certainly the ability to change, to improve himself in relation to his subject, not only from the point of view of the specific subject itself, but also with regard to the teaching methods to be adopted.

In the light of recent developments in research into teaching, the renewal and updating of the subject being taught and of applications and their interdisciplinary aspects, seem to be the basis for rigorous training in order to ensure that young people grow up as active and responsible citizens in a European context.

In the specific case of the teaching of mathematics, the object of discussion today is: “which mathematics to teach” and above all “how to teach it”.

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What should the future teacher, the teacher of tomorrow, be like? Which abilities should the European teacher possess?

The Socrates Comenius project encourages mobility with regard to education, training and research, and lies securely within this framework.

In fact, by fostering the development of a European perspective through the discovery of new social and cultural realities, it encourages directly the exchange of professional skills and knowledge, giving us, future teachers at secondary school, the possibility to experience the *reality of the classroom* in a more dynamic, extra-national context.

Of course it is not the aim of this presentation to illustrate in great depth all the phases of the project in the two mobilities of September 2003 and March 2004; my contribution might instead be considered a sort of a-posteriori reflection on the Socrates experience.

The Comenius project, through brief reports regarding research realised during the first and second mobility, highlighted elements of diversity and contact between the two different scholastic realities, Italian and Slovak: analogies and differences in the learning/teaching process made evident in the two countries and emphasised via the experimentation carried out in the various studies realised in the two countries.

These results might represent an important point of interaction between the school of the future and university, the teacher of tomorrow and the researcher in teaching interested in the various, possible styles of student-learning.

In this context, I would like to discuss in particular a research carried out in Bratislava with my colleagues Daniele Benfanti and Salvatore Raimondi during the second mobility; this attempts to analyse the different reasoning strategies adopted by Italian and Slovak students in solving a series of algebra problems (some expressed in natural language, others in pure algebraic language), posed for them through a test (the same test for each country).

In my presentation, using graphs created *ad hoc* in Excel, I try to compare, in an initial analysis, the contrasting performances of the Slovak and Italian students in tackling the test used for the teaching experience, highlighting the different behaviour and reasoning of the students from the two countries in their approach to the same algebraic problems.

Reading the results, we notice in fact that it is possible to find a sort of initial correlation between Italian and Slovak students, but not all the results are the same in the two countries.

In particular, comparing the two experimental analyses, we had occasion to notice that more Italian students than Slovak students used, in some of the exercises proposed in the test, arithmetical thinking instead of algebraic.

However these results cannot be considered definitive, further, deeper analysis is necessary, for example, to compare the two different school systems.

My wonderful personal experience of the Socrates Comenius project gave me the opportunity, as a trainee teacher and future researcher in the teaching of Mathematics, not only to acquire new knowledge in a different way, but above all, to follow, observe and learn new/different teaching methods, teaching practices adopted in the hosting (partner) country, and compare them directly with those in Italy.

The experience of Comenius, inserted in the wider context of the SISIS (Graduate School for Secondary School Teacher Preparation), should certainly be considered as a direct instrument of change and improvement, in the sense of abandoning stereotyped, standardised schemes of teaching, and the possibility of widening my own horizons regarding research in the teaching of Mathematics.

Initial Training for Future Secondary School Teachers

*Iveta Kohanová**

In order to gain experience of teaching in one of the European countries, this project provided the opportunity for nine Slovak students (future teachers) to take part in a mobility-programme in Italy. In the first period (September/October 2003) four girls, and in the second period (March/April 2004) five students went to Palermo. All of us are undergraduate or postgraduate students at the Faculty of Mathematics, Physics and Informatics at the Comenius University in Bratislava.

Before going abroad we took English courses, familiarised ourselves with the project and filled in a few questionnaires. The mobility itself lasted for four weeks, and during it we worked on projects or had cultural courses. The project we worked on was actually the instrument through which we had the possibility

- to learn new teaching methods;
- to find differences in school systems;
- to improve our language skills;
- for personal growth.

The following table shows the project activities that were carried out:

- 1st week - getting to know the school and people, choosing the topic area for the project;
- 2nd week - observation in the school, preparation of the materials and tools;
- 3rd week - teaching in English, didactic situation;
- 4th week - evaluation and presentation of the project.

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Since all of us are student teachers of mathematics or physics we prepared mathematics or physics projects on the topic of: Isometry in the Plane, Squares of Palermo, Mathematics and blind people, Graphs of goniometric function, fundamental historical experiments in Physics teaching, etc.

For the students at school we visited we represented some kind of “attraction”, it was mostly the first time they had been taught in English by foreign teachers. They liked it, and even though they did not speak English very well, they tried anyway. This fact made them quite active in the lessons; we were good motivation for them. So it is certainly valid to say that in order to motivate students, one has to bring into the classroom something new and attractive. Furthermore, they are interested, but not only in the subject we taught them, but also in the country that we come from. They found Slovakia on the map and wanted to know something more about it. We think they will remember a lot about this experience.

On the other hand, it was also for us, as student teachers, the first time we had taught in English. All of us have been teaching maths or physics in our native language for a few years, but this was a new experience. We found it was not so easy, even though we speak English. We had to learn a lot of new technical English terms, and we also had to understand and know the mentality, behaviour and habits of the students in the country visited, which is very important. Then we observed the differences in school systems, methods of teaching and in individual subjects too. One needs to know so many factors that can influence teaching in a foreign country; therefore it was a good experience for us.

As I have mentioned above, we had a cultural course. We were familiar with the history, customs, language, cooking, music, press and ordinary life of people in Italy. We saw many historical buildings in Palermo and the surrounding areas. We consider the course an important factor that enables one to know the country and its citizens better.

Some suggestions for future mobility-programmes:

- longer mobility (four weeks are not enough);
- selection of student participants and local consultant teachers who really speak English (otherwise there are a lot of language problems);
- to consider the intensity of the language course (grammar is not necessary for survival);
- if possible, for all student participants to live together in one place, or near each other.

Experiences and observations from mobility of Slovak students in Norway

*Peter Vankúš**

In this presentation I would like to describe the experiences and observations from mobility of Slovak students via the Socrates Comenius “European Teacher“ programme. I am myself a mathematics trainee teacher at the Comenius University in Bratislava, and I took part in the mobility in Norway at the University in Bodø. I will describe the process of mobility from my point of view, so, all facts and information mentioned here derive from my personal experience. I will consider the influence of the activities during the mobility on my future professional life – as a teacher at schools in my country or as a researcher in the field of educational theory.

Mobility activities

I would like to describe some mobility activities and how they enriched me from the point of view of knowledge, professional skills and the European dimension.

First of all, I am going to mention some activities during which I obtained information about the Norwegian school system. My colleagues and I attended a presentation, where we received some theoretical knowledge about the structure of the Norwegian school system. Then, we were able to observe real school life during our visits to many different types of Norwegian schools. There was a nursery school and various types of primary and secondary schools. During these visits, we noticed some very interesting facts about the structure

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of the Norwegian school system, the organisation of schools, the schools' equipment and facilities. For me the most interesting thing was the organisation of students' study, their schedule, the subjects being studied and especially students' work during lessons.

We observed the work of the students in more detail during our two-week visit to one secondary school. Here we attended many lessons on mathematics taught by various teachers. We studied methods of teaching and also the ways in which they dealt with students and their attitudes towards the students. For example, how the teachers keep students' interested and discipline. We also studied mathematics textbooks and other study materials, as well as their content and style.

During our observation of lessons we recorded some interesting moments and activities with video camera; later, we analysed them. This was very useful in order to compare these lessons with the ways we teach in Slovakia and for us to identify the most important facts. We also had the possibility to teach one lesson ourselves. We planned and discussed the lesson with the teacher who gave us a lot of useful advice. The lesson was also recorded and analysed. This analysis is part of our final report from the mobility.

All these activities mentioned gave us very useful ideas for our future careers as mathematics teachers. Many of the methods and ways of working with students that we observed were an inspiration for us and we would like to apply them in teaching practice.

Other parts of the mobility consisted in courses. We had a Norwegian language course, and in other courses we learnt about Norwegian history, culture and society. All these courses helped us to obtain a wider view of Norway and Norwegian education. We also noticed how important it is for teachers to know the cultural and social background of different countries if they want to choose the appropriate way of teaching for students in that country. If teachers want to be "European teachers", they must possess a lot of information about European countries and their educational systems. I think that the aforementioned courses and activities built up in us a bit of this "European teacher".

Another positive result of mobility is that we came into contact with many professional teachers, researchers and students from different institutions and countries. These contacts will help us to keep in touch with the modern European world of education. For example we co-operated with the University of Palermo in the shape of Professor Spagnolo, who taught us how to work with tools for research in education. Also thanks to this mobility we will find it easier to take part in future European educational projects aimed at teachers.

Conclusion

Generally, it can be said that mobility was for us very useful.

We obtained a lot of information about the Norwegian school system and the organisation of schools.

We observed inspiring teaching methods and ways of working with students. We could use these new methods and approaches in our future teaching practice.

We learnt facts about Norwegian culture and society. Thus, we better understood the differences in education between the various European countries and the need to feel one is a “European teacher”.

We made contact with professional teachers, researchers and students. These contacts will help us to keep in touch with modern European education and we will find it easier to take part in future European educational projects for teachers.

So I am sure that the mobility-programme helped us really improve for our future career as teachers or researchers in the field of education. I want to say “Thank you” to everybody who made this mobility possible.

Experiences and thoughts after a mobility in the Slovak Republic

*Alice Ramberg Eriksen**

It was at the beginning of my last year at the teaching institute that I took part in the Comenius programme. During the conference in Italy in April 2005, I was working as a teacher in a primary school. When I started to work on this presentation, I decided to write about what I feel and what I have learned after this exchange, because I felt that was the most important thing for me.

I went to Bratislava on the first mobility, and I had my practice at a primary and lower secondary school. The teacher that my group followed teaches mostly mathematics, and it was clear that she had good skills in this subject. I noticed that the level of the mathematics lessons was higher in Slovakia than in Norway in the corresponding school year. The pupils had a lot of respect for their teacher, and I think it was because they realised that she knew her subject. In my opinion and experience the pupils are more interested and committed to a subject when they can sense the teacher's enthusiasm and ability.

After my mobility in Slovakia, I now realise that in Norway we underestimate the pupils and what they are able to learn. We should have higher expectations of them and make them more aware of what we expect from them.

I started to work as a teacher last autumn, and now I understand that a teacher in Norway has to be a generalist, a jack of all trades. I'm teaching eight different subjects in my class: Norwegian, mathematics, science, art, geography, special education, music and physical education. Teaching all these subjects to my class means I

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become more aware of my pupils' development i.e. socially, in relation to knowledge of the subject, and psychical and emotional development. I get to know each pupil very well, and I know the best way for each of them to learn, I know their strong points and what they have to work on more.

Since I teach almost all the lessons in my class, it also gives me a better opportunity to integrate the part of the curriculum that is included in every subject; this part aims to develop the pupils as integrated citizens of the community. For example co-operation is an important skill that we have to teach our pupils. In Slovakia we observed a didactical situation where the pupils had to co-operate; they solved the mathematics problems very well, but they did it on their own, without any discussion of the exercise. This is something that I have been thinking about since then; that school in Slovakia, from what I saw, does not attach much importance to social and cultural skills.

After this exchange programme, I have become more aware of the importance of knowledge of a subject and how important it is that we exchange our knowledge and personal experiences as teachers. In this way we can develop both our school systems and ourselves as teachers.

Status of the school in society: Differences and similarities

*Linda Hauglid**

Teacher-training in Norway is different from Italy and Slovakia. As Elisabeth Nilsen said, we are generalists, jack of all trades and focus very much on care and social skills. In Italy and Slovakia you specialise in just a few subjects, and in this way the teachers also get a better and deeper knowledge in the area they are teaching.

From my experience it seems that pupil skills and levels are higher in Slovakia compared to Norway. Why? Does the school in Norway focus too much on things other than subject knowledge (for example diagnoses of learning disabilities, social and culture problems)? My answer is no! We have to get to know each student to find the best way to teach them. Everyone learns in different ways and at different rates. This is something important to be aware of, because we are going to prepare the pupils for society, we have to know about their backgrounds so that we can prepare better all-round lessons. Learning is an active process, and we have to build on something the kids already know. Co-operation with the parents is therefore necessary and very important.

Another thing I experienced is that it seems that the school as an institution has a different status in Slovakia than in Norwegian society. It seems as if Slovakian education is taken more seriously and that people have more respect for the school and its staff. I think the reasons for this might be:

- that the subject knowledge of teachers is better in Slovakia because of specialisation;
- negative news about schools in the media;

* Linda Hauglid: Student at the Bodø University College, Norway – Future teacher.

- that in Norway some parents might reinforce the kids' negative views of the school because of their own bad experience;
- the impression that anyone can be a teacher.

To have better schooling in Norway I think these attitudes have to change, and in order to do this the subject knowledge of the teachers must be better, and we have to focus on positive things in the media.

To be good teachers we should have mutual respect for each other. The pupils need to know who you are, and about your limitations. As a teacher you have to show that you respect every student and that you expect respect from them. A way to get respect from parents might be to give them greater insight into the school, and let them know that they can take part and influence the school.

During the mobility I learned a lot about other cultures and school systems. It was a great experience, and I have, above all, developed greatly as a teacher.

Docente Europeo – a unique student mobility project

*Kirsten Limstrand**

The following article is based on some of the experiences of the seventy-two students participating in the two mobility periods in connection with the Comenius project "Docente Europeo - The European Teacher". The students spent four weeks in the host country. The participating countries are Slovakia, Italy and Norway. All the students were interviewed upon their return to their native country. Local seminars were organised, with mobility students participating. Six mobility students (two from each country) participated in a round table discussion at the final Docente Europeo conference in Palermo, in April 2005

What do you learn in four weeks?

The mobility periods have been relatively short in this project. Many things were supposed to happen in only four weeks, and many of the students felt that the mobility period was very hectic. The culture of the host country was also an important aspect of the project. Therefore, days and weeks felt too short for some of the students. In addition to studying the teacher role and the culture of the host country, mobility students spent time getting to know local students. They were also supposed to mingle with students from the other participating countries. Moreover, students felt the need to accomplish some of their own dreams and plans in the host country, far away from home. In Bodø (north of the Arctic Circle in Norway), some of the students seized the opportunity of going even further

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north: to Svalbard, the exotic “winter land” halfway between Tromsø and the North Pole. On Svalbard, the sun is absent for about four months in the winter, but in the summer you can enjoy the midnight sun for the same number of months. The students’ curiosity was great: they wanted to see more and learn more about the host country. However, the main foci of the project were school systems and teacher and student roles.

Iveta Kohanová was one of the Slovak students at the Final Conference in Palermo in April 2005. She is a student at the Faculty of Mathematics, Physics and Informatics of Comenius University in Bratislava. Iveta’s mobility took place in Palermo, Sicily. Although she says it was a learning-for-life experience, she gives some recommendations for any future mobility, e.g.:

- four weeks are not long enough;
- it’s necessary to select student participants and domestic consultant teachers who really speak English, to avoid a lot of language problems;

The mobility has strengthened our conviction that a certain basis in English as a common language (or another *lingua franca*) is necessary in order to benefit adequately from this kind of project. It has also convinced us that a four-week mobility period is too short. Most of the students thought that mobility should last for a minimum of six weeks, an exception here being students with responsibility for small children who thought that a short mobility period might make it possible for them to participate in the project.

Before going abroad, the Slovak students attended an English course, where they also got information about the project. During the mobility, they followed cultural courses and had the possibility to learn some new teaching methods, observe differences in school systems and improve their language knowledge and personal development.

The following schedule describes the activities that were carried out during the project:

- 1st week - getting to know local schools and people, choosing the subject for the project;
- 2nd week - observation in a secondary school, preparation of materials and tools;
- 3rd week - teaching in English, didactical situation;
- 4th week - evaluation and presentation of the project.

About teaching in English

Iveta felt that for students in the secondary school in Palermo they represented some kind of “attraction”. Most of the students had never before had lessons in English given by a foreign teacher, and she felt that they liked it, even though they did not speak English very well. Anyway, they tried. «This fact made them quite active during lessons; we were a good motivation for them».

In addition to teaching their subject, mobility students talked about the society and culture of their home country. The secondary school students found Slovakia on the map and wanted to know more about it. On the other hand, also for the mobility students, teaching in English was a new experience. All the Slovak students had been teaching mathematics or physics in their native language for some years, but this was a new experience. They realised that it is not so easy, even though they speak English. They had to learn a lot of new technical English terms, and they also had to understand and get to know the mentality, behaviour and habits of students in the host country, which they felt to be very important. The cultural course during the mobility was necessary, making the students more familiar with history, habits, language, kitchen, music, media and the ordinary life of people in the host country.

Is cultural knowledge necessary?

Peter Vankúš from Bratislava was in Norway during the mobility, at Bodø University College. Peter was practicing in an upper secondary school during the mobility period. He noticed some very interesting facts about the Norwegian school system, the organisation of schools, the schools’ equipment and facilities. For him the most interesting thing was the organisation of the students’ study, their schedule, subjects and especially the students’ work during lessons. «All these activities gave us very useful ideas for our future career as mathematics teachers. Many of the methods and ways of working with students that we observed are for us inspiring and we would like to apply them in our own teaching practice», he says.

Peter was enthusiastic about the cultural course (Norwegian language, history, culture and society). «The cultural course helped us obtain a wider perspective on Norway and Norwegian education», he says. He also noticed how important it is for teachers to know the cultural and social background of a different country if he/she wants to choose appropriate ways of teaching for students in that country.

Peter means that in order for a teacher to be a “European teacher”, he must have a lot of information about European countries and their educational systems.

He arrived at the following conclusions from his mobility experience:

- Generally, mobility was very useful for us.
- We obtained a lot of information about the Norwegian school system and organisation of schools.
- We observed inspiring teaching methods and ways of working with students. These new methods can be applied in our future teaching practice.
- We learnt facts about Norwegian culture and society. Thus, we better understood differences in education between various European countries and the necessity to know each other in order to be a “European teacher”.
- We made contacts with professional teachers, researchers and students. These contacts will help us to keep in touch with modern European education.
- The mobility experience will help us manage more easily future European projects orientated towards teachers and students.

New perspectives

«In my personal experience, mobility has been the key to understanding what Europe actually is, to exchanging my home experiences and my knowledge with other students from all over Europe and the world», says **Francesco Lannino**. He is a philosophy student at the University of Palermo and was in Norway during the mobility, at Bodø University College.

According to him, one of the greatest benefits of the mobility experience derives from the possibility it gives you of detaching your viewpoint from daily, full-immersion in the national reality you come from. He means it is quite normal for everyone to concentrate their whole attention on the issues concerning the local environment specifically, although they might also be aware that the European dimension has grown in significance and importance over the last few years, and that every member of this new and wider-ranging environment should understand the opportunities and the new problems emerging from this “borders boasting”.

He tells us that he learned a lot about the specificity of the teacher’s role in his own country by comparing his working conditions

with those of the other students. His case is really particular, because he's going to be a philosophy teacher, and Italy is probably one of the few countries where philosophy endures as a curricular subject in its own right. «I found out a lot of things about the culture of the host country – obviously within the limits imposed by the short time spent there – and I discovered a lot of things about *my own country's culture* too, by looking at it from a *detached point of view*, through the eyes of the foreigners who spoke to me».

Francesco stresses that it goes without saying that the perspectives he is describing would never have occurred to him without the mobility experience. This experience has also had a great effect on the motivational issue; before leaving for Norway he was rather disappointed with his teacher-training and his school experiences in his native country, but the mobility gave him the necessary drive to carry on his work more effectively when he came home. After the mobility, to his way of thinking, the teacher's role had lost its “traditionalistic” and “repetitive” character, and entered a more innovative and broad-minded dimension.

New methods and learning for life

The comparison between school systems showed Francesco Lannino the weak and strong points of the Italian school system: «of course, I realised that we definitely care *too much* about the “selective role” of school, about knowledge and about evaluation, while we pay less attention to the social-relational aspects of education; we still privilege individualism, whereas we cannot properly handle a co-operative method – both in learning and in teaching».

He means that there's no doubt – and the European Union is moving in this precise direction – that the mobility dimension is an important milestone for gaining awareness of the specificity of every culture – including ours – and he thinks that all students should be allowed to experience a training period abroad. «I have always maintained, since I came back from Norway, that I learnt more in a single month than in a whole year in my home country, and that I didn't just acquire new professional skills, but also a new perspective with regard to my occupation, myself and my environment, a feeling that is comparable to a breath of fresh air on a mountain peak».

Francesco would strongly suggest increasing opportunities for mobility at all school levels, because it is a highly formative experience, which provides a lot of opportunities to improve professional and social skills through the confrontation with other cultural and social realities.

The strongest feeling that stayed with him after this experience was a profound desire to know and a keen curiosity which leads him to open his eyes and continually reinvent his ideas. «The best present I could imagine was a new perspective on a well-known situation, and this experience has fulfilled this desire», he says.

Is subject knowledge important?

One of the Norwegian students participating in the Final Conference, **Alice Ramberg Eriksen**, is advocating the role of subject knowledge of the teachers in the host country, Slovakia, and also the sense of respect this created in the students.

She had her teaching-practice at lower secondary school. The teachers she observed taught mostly mathematics. She noticed that the level of the mathematics lessons were higher in Slovakia than in Norway in the corresponding school year. «In my opinion and experience the students are more interested and committed to a subject when they can sense the teachers' enthusiasm and skills».

After her mobility in Slovakia, she started to wonder if Norwegian teachers are underestimating their students and what they are able to learn. They should make the students more aware of what we're expecting from them, she thinks.

Alice started to work as a teacher last autumn, and she found that teachers in Norway have to be generalists, as opposed to Slovakia, where they were more subject-based specialists. She is teaching eight different subjects in her class: Norwegian, mathematics, science, art, geography, special education, music and physical education. When she has all these subjects in her group, she can be more aware of the students' development - socially, professionally (related to subject knowledge), psychologically and emotionally. «I get to know each student very well, and I know the best way for each of them to learn, I know their strengths and also what they have to work more on», she says.

Social workers or subject teachers; generalists or specialists?

The "European Teacher" – a social worker or a subject teacher? The question was raised both during the local Comenius conference in Bodø and at the Final Conference. Experiences from students in mobility tell us that both Sicily/Italy and Slovakia are giving more emphasis to subject knowledge and specialist teachers, while Norway emphasises the role of the teacher as a social worker and a generalist.

Both views have advantages and disadvantages, according to the students. Alice felt that giving too much emphasis to subject knowledge may hinder co-operation between students – a very important area in Norwegian schools. «In Slovakia we observed a didactical situation where the students had to co-operate. They solved the mathematical problems very well, but they did it on their own, without discussing the exercise», she says.

«This is something that I have been thinking about since then; that the school in Slovakia, from what I saw, doesn't attach importance to social and cultural skills».

On the other hand, Alice has become more aware of the importance of subject knowledge. She has been conscious of how important it is that we exchange our knowledge and personal experiences as teachers. «In this way we can develop our school systems and ourselves as teachers».

«The mobility has changed my life»

This is what one of the Italian students said at the Final Conference. It's interesting to notice that a relatively short mobility period can have such a great impact. But this is not so strange after all, when you think about the great contrasts and differences the mobility students encountered, between their own schools and the schools in the host country. Norwegian students were impressed by the subject knowledge of Slovak and Italian teachers. But they also found that there was excessive respect, and the distance between teacher students and their tutors/professors was unnecessarily great.

On the other hand, Slovak and Italian students were surprised and amazed by the status of equality and the warm social atmosphere between teachers and students in teacher-training in Bodø, Norway. They also occasionally found similarly equal status between teachers and students in secondary schools. The mobility students felt that secondary school teachers and teacher-training students were shown respect.

One of the Italian students mentioned during the Final Conference that she tried to behave in the same way when she met her tutors after the mobility period. She hoped for the behaviour to be reciprocated, but it did not work. After wondering about this for a while, she realised that it was only she and her fellow students who had participated in the mobility, not her tutors. Teacher educators/tutors had not observed and experienced the same thing as their students. For the tutors, the mobility periods were “business as usual”. This makes it hard to explain what has happened, after you get home.

Challenges and real changes

The project Docente Europeo is over, but the thoughts and ideas from the project live on and should be followed up, according to the students. «Next time teacher educators and tutors should go abroad together with the students. Then we can reflect together on what we have learnt, after returning home», says **Laura Cammarata**, one of the Italian students. She is one of the students with responsibility for small children. She is therefore pleased with the fact that the mobility lasted only four weeks. In view of this, maybe the length of the mobility periods should be flexible, so that a larger group of students and tutors could participate.

The mobility students observed and experienced both strengths and weaknesses in the school and educational systems in the host country. They had a desire to recount their experiences back home, especially when they wanted to change something, but this has not been an easy task, partly due to the fact that it was only the students out there experiencing another school reality. In order to succeed in getting real changes, both teachers, students and tutors should participate in the mobility. This is emerging clearly from the students' feedback. Another weakness is the lack of formal structures at the home universities to accommodate and process the students' experiences. Too much depends upon the students' own initiatives and courage in sharing their feelings and experiences. Lasting change is grounded in the formalisation of experiences and discoveries, followed by discussion in the appropriate organisation.

What are the most interesting differences in the teacher roles observed in the different countries? Students pointed out the Norwegian teachers' competencies in the social area, with less emphasis on subject matters. Slovak and Italian teachers are skilled experts, creating an atmosphere of respect and discipline with their students through knowing their subject. But the one does not rule out the other: we can learn from each other. It is, for instance, possible to have a dialogue with our students, at the same time keeping a clear perspective on learning and development. As the Norwegian student Alice put it: «we are pampering too much and challenging too little in Norwegian schools». At the local Comenius conference in Bodø, one main discussion theme was “the possibility of establishing the necessary sense of security and yet, at the same time, providing our students with challenges”.

A slogan for the new European teacher might be: Security and challenge! With which the participating students could not agree more.

SECOND PART

**QUALITATIVE RESEARCH REGARDING FUTURE
EUROPEAN TEACHERS**

Research on future European teachers

Introduction

*Giuseppe Zanniello**

This is a moment of far-reaching change in university teacher-training in Italy, and I have the pleasure of presenting the work prepared by IRRE SICILIA (Regional Institute for Educational Research in Sicily), which, on the request of ARCES university college, and in collaboration with SISIS (Sicilian Inter-university School for Secondary School Teaching), monitored research activity into the skills of the European teacher.

Extensive qualitative research was carried out into the initial training of European secondary-school teachers in Italy, Norway and Slovakia, with a view to comparing different approaches.

Now that the research is terminating, it is possible to compare the profile of the ideal teacher (as drawn up by specialists in pedagogy and teaching) with the actual profile (as documented in the field-survey) and also with the beliefs of the young Italians, Norwegians and Slovaks who are preparing to teach in secondary-schools.

From this international comparison there emerge the strong and weak points in university training of future teachers in various European countries. Above all, it is clear how much fundamental importance should be attached to the acquisition, on the part of those young people who are on their way to becoming teachers, of pedagogic and teaching skills (centred around the individual person).

The questions initially posed to researchers were precise and grounded in particular circumstances, as were the suggestions proposed once the study had been completed.

* President IRRE Sicilia.

On termination of research, IRRE Sicilia was able to draw its conclusions regarding the efficacy of the joint-venture, and, as far as its institutional functions will allow, fully intends to continue to offer its collaboration to University of Palermo SISIS and ARCES university college.

The Institute would like to pass on to Sicilian teacher-trainees, and future teachers, those methods and ideas that have proved most suitable for the acquisition of a European mentality in the carrying out of one's educational duties.

I Research Aims and Methods

Caterina Fasone

1.1 Italian law and the theoretical framework for the research

The shaping of the new professional identity of teachers has provided much food for thought and has been the object of much debate throughout Europe. The social, economic and civil growth of a country has as its strategic parameters both the quality expressed by the school and training systems, and a guarantee of access extended to all of its citizens. By 2010, the European economy, if it continues along the path of competitive and high-powered knowledge, should witness a number of new and improved job opportunities and greater social cohesion. The IRRE research and the structure of the project have a place in the overall theoretical reference plan, an outline of which is provided in this section, whereas data regarding teachers' transversal skills in the overall European framework is analysed in detail in the subsequent section.

Only in the late post-war period in Italy did "the art of teaching" begin to emerge and take shape in accordance with its "professional" elements.

The school is the pre-eminent learning environment for children, adolescents and youngsters - the principal source for the dissemination of culture; however, the significance of the teaching must be anything but casual, and should be linked to the inter-subjectively controlled intentionality. Knowledge, values and habits must be opportunely selected from this "world of culture" in order to confront the problems of the present, and point towards a future where individual and collective identity can co-exist.

The model of didactic mediation views the teacher as a professional, who can intercede and help young minds in the process of development to connect up with his expert knowledge; in this way

specialised knowledge plays a functional role in lending significance to activities aimed at emotional growth and the furtherance of learning. For years, the absence of an overall training programme (both initial and in-service) was not thought of as something negative with regard to the reform of the system of schooling, and led teachers to imitate role-models from their own school-days. Actual teaching was kept separate from the controlled conditions of assisted research and experimentation, although it was widely acknowledged that no person is entirely self-sufficient and we all need each other.

Fashioning the figure of the professional teacher in this dynamic, new frame of reference, should give us food for thought and conjecture. Observations regarding the relationship between pedagogical-didactical theory and practice can not be disregarded; the first is institutionally earmarked for research activity of an academic nature, the second with applying the theoretical results and implications in schools. These two divorced standpoints rarely enter into contact with each other, which means simply that debate and research in education (with regard to learning and its processes) are “disconnected” from educational and school activity. However, the fruits of constructivist, neo-cognitivist and modern, hermeneutic research have shown and proved how research, experimentation and training mutually influence each other, since they are all part of the same process. In this way a new professional profile is being forged - the teacher as researcher, actively and creatively analysing and re-structuring the features of his teaching, by continually confronting the progress of disciplinary knowledge and the results of psycho-pedagogical research, assimilating ideas and suggestions from various and innovative experiments, and refining his teaching operations accordingly.

In the session of 11.12.1997, the inter-ministerial MURST-MPI commission approved an interesting document relating to the definition of the framework of skills that teachers should develop. Particular importance was given to:

1. observing, understanding and listening to pupils;
2. carrying out one's duties in close collaboration with colleagues, families, school authorities and representative organisations in the field of training and production;
3. making teaching activities meaningful, systematic, complex and motivating, via flexible curricular planning that includes decisions regarding aims, areas of knowledge and teaching methods;
4. helping pupils to participate more actively in their own specific world of knowledge and experience;

5. handling communication with pupils and their interaction amongst themselves with basic techniques for developing attitudes, skills, experiences, knowledge and a heightening of the pleasure in self-expression and learning, and confidence in one's ability to acquire fresh knowledge;
6. encouraging innovation in schools;
7. adopting one's own social role in the framework of school autonomy.

In Italy, initial teacher-training at an institutional level was launched in 1999, the year that the SISIS institute of education (Scuola Interuniversitaria di Specializzazione per l'Insegnamento Secondario) came into being; the post-graduate course lasts for two years, with a final qualifying exam. The present government has introduced educational reform for aspiring teachers; after the three-year basic degree, there is a two-year specialisation, and a further period of work-training (as laid down in the norm L.53/03). On the 17th of October, 2005, the council of ministers approved a legislative decree which led to art.5 of law 53/05.¹

¹ 1. Decree regarding norms laid down for initial teacher-training in infant school (1st and 2nd cycles) in accordance with the following criteria and guiding principles:

a) initial training is of the same importance for all teachers and takes place in the university (specialised degree courses), admission to which is stipulated in art. 1, comma 1, of law 2, aug. 1999, no. 264 and subsequent modifications. Programming of access to courses is determined by art.3 of the same law, on the basis of a forecast of the number of places available in schools for each regional area;

b) with one or more decrees, art. 17, comma 95, law of May 15, 1997, no. 127, the classes of specialised degree courses are individuated, also inter-faculty and inter-university, aimed also at teacher-training. For secondary school teacher training, first level second cycle, the afore-mentioned classes are individuated with reference to the teaching of disciplines taught in these levels of education. The decrees discipline teaching activities involving integration of handicapped pupils into schools; the initial teacher-training might include training periods abroad;

c) access to specialised degree courses for teacher-training is subordinate to the possession of minimum curricular requirements, individuated for each class of qualification in the decree (letter b), and the adequacy of the personal preparation of candidates, verified by the university;

d) the final exam for award of the specialised degree (letter a) has a value as a qualification for teaching areas individuated by the Ministry for Education, University and Research;

e) whoever has obtained the specialised degree (letter a), in order to accede to teaching posts in schools, should carry out specific (contract-based) training activities. To this end, and for the running of the courses (letter a), the University in collaboration with the Regional school managers, should provide appropriate conditions and lay down guidelines for teacher-training, on the basis of conventions and relations with schools;

f) the university or inter-faculty teaching structures (letter e) promote and run centres of excellence for permanent teacher-training, via the appropriate Ministerial decree;

On the cornerstones of “classical” knowledge, which every teacher should possess in order to be able to pass it on to new citizens, there stands “specific professional knowledge”, which can be synthetically outlined as follows:

- knowledge of intellectual instruments of the specific sciences (methods, key concepts, language, structures...);
- knowledge of pupils;
- organisational knowledge (work-teams, timing, space, teaching aids);
- knowledge of relational dynamics;
- knowledge of basic criteria for recognising the circumstances that condition the relationship between learner and teacher.

This knowledge goes hand in hand with the skills each and every teacher should possess in order to impart knowledge properly and efficiently in a variety of situations; they can be grouped under the label “professional competence”, implying the exercise of “judgement” in tackling any “problems” that might be encountered in one’s professional life. “To treat every educational and teaching situation, and even more so, every person one encounters, as unique; to recognise the diversity of every ‘individual case’ and resist the temptation of standardising it: this is judgement”.²

1.2 The Project

The Comenius Project - “European Teacher – initial teacher training”, in which IRRE-Sicilia is the partner for Italy (of the ARCES association together with the University of Palermo SISIS), was launched in 2003, and involved the universities of both Norway and Slovakia as partners.

It was arranged into the following operations:

- research into the methods employed in initial teacher-training in the three countries involved;
- mobility initiatives for students in the three countries, in order to be able to compare the various training approaches;
- trans-national meetings to launch, contextualise and sustain research on a common ground, prepare and/or compare materials, establish parameters for assessing experiences;

g) the structures (letter e) look after in-service teacher training, with regard to support teaching, tutoring and co-ordination of educational and teaching activities of schools and training colleges.

² G. Bertagna, *Il nuovo quadro di riferimento*, in *Annali dell’istruzione*, numero monografico, *La formazione degli insegnanti nella scuola della Riforma*, Roma, 2003.

- preparation, application, convalidation of monitoring tools of a qualitative type;
- monitoring of all the phases of research;
- publication and dissemination of results of research.

IRRE-Sicilia took on the task of looking after the monitoring. Economic-administrative procedures were set in motion at the same time as procedures of a technical nature; in IRRE a work-group of six researchers was set up (Laura Anzalone, Maria Rosalia De Marco, Caterina Fasone, Marinella Filippi, Anna Maria Mangione, Francesca Piazza), with two administrative assistants (Giuseppina Giacomarra, Renata Laudicina). Research was initiated among the national partners in the project (ARCES, IRRE and SISIS) and with the partners in Slovakia and Norway.

First of all, the partners shared the idea that, apart from disciplinary skills, it is transversal skills that have a fundamental and crucial role in the ideal model of the European teacher. This was the conceptual guideline pervading the theoretical study and verification in the field.

The surveys regarding the most consequential elements in the world of the school, where teachers carry out their duties, were carried out from an investigational-hermeneutical perspective by examining their understanding, beliefs and motivation. Tools of an interactive-dialogical character were used for the collection of data, accompanied by an approach of a friendly-critical nature in order to encourage teachers-to-be to think about the image that they build up for themselves regarding the world in which they work, its potential and its weaknesses. The transversal interpretation of significant phrases from the trainee-teachers interviewed, grouped together according to criteria agreed by the research group, guided the thinking process with regard to realising an array of skills that ought to characterise the EUROPEAN TEACHER. The preparation of the “master tools” used during the interviews, the manner of administration and the interpretation of the results, constituted a twofold “driving force”:

- encouraging teachers to think about the influence of human factors (needs, motivations, attitudes, communication..) on the effectiveness of their relations with “other realities”;
- the re-thinking of adequate strategies (integration between personal life-styles and professional styles, styles of leadership....) to generate a climate, or a culture, where in the fulfilling of one’s own aspirations one has the citizen’s right “to be happy at one’s work”.

Studying theory and analysing teaching and learning experiences in secondary schools in their own countries, each partner institute singled out those indicators deemed fundamental to the teaching profession. In the first trans-national meeting (7-9 March 2003), representatives from the institutions met in Palermo (Italy) in order to compare the structures of their respective educational and training systems, to come to an agreement with regard to guidelines, phases, procedure and conceptual and operative research tools, and to assume responsibility and make arrangements regarding the continuation of the activities.

The period between the first and second meetings between the partners from the three countries was given over to the following:

- advertisement of posts for students of SISIS interested in the mobility initiative;
- definition of selection criteria for students, and activities to be organised during mobility (Italian partners);
- elaboration/preparation of “qualitative” tools for the survey: drawing up of list of indicators and describers of the “European” teacher’s transversal professional skills; interview questions for selected persons, policy-makers, students on the mobility and those not, blueprint for running the focus-groups, aquarium sessions and relative instructions, IRRE-Sicilia;
- preparation of a teaching tool (video) which might prove useful in reinforcing disciplinary skills (SISIS-Palermo).

The second trans-national meeting took place in Bratislava (Slovakia) from June 19 to 24, 2003, and had the following objectives:

- to ascertain the level of consensus between partners with regard to the objectives of the project;
- to socialise, share and adopt the tools for investigation and development of the research;
- to agree on the activities to be carried out during the mobility phase in the three countries participating in the project;
- to agree on the ways to run the activities, organise the cultural “survival” course and the language course in English and/or the language of the host country;
- to establish the dates for the subsequent phases.

In Bratislava there was initially an international-level discussion about the various materials and tools prepared in Italy; after examination of these tools proposals were made for adapting them to the real educational and training systems in the other countries. Further debate centred around the establishing of a calendar for the

various dates of the mobility phases, the drawing up of guide-lines for trying out the tools and elucidation regarding the skills required of the experts that each institution involved in the research would have to its lay hands on. This would help ensure the realisation of the subsequent phases of the project (i.e. the accumulation of data, which would take place before and during the two mobility stages, and the subsequent analysis and interpretation of the data amassed).

The third trans-national meeting took place in Bodø, Norway over the first ten days of December.

The students participating in the mobility (20 from each country) underwent training in five disciplinary-formative areas: scientific, mathematical, technological, linguistic, foreign languages.

Before each mobility phase was started interviews were carried out with those students who were leaving and focus-groups were set up. During mobility, practical exercises were carried out to provide food for thought with regard to transversal skills, and there were also teaching exercises (videos and class observation) aimed at developing disciplinary-teaching skills.

All together, the following students took part in the 4-week training period:

- 36 students from SISSIS, Palermo, of whom 20 went to Norway and 16 to Slovakia;
- 15 students from the University of Bratislava, of whom 9 went to Italy and 6 to Norway;
- 16 students from the University of Bodø, of whom 14 went to Italy and 2 to Slovakia.

The mobility operation was divided into two periods (October 2003 and March 2004) and actually involved all three countries contemporaneously, which meant they were sending and welcoming students at the same time. A preparatory language-learning phase had been planned as part of the mobility operation, and was accompanied by a cultural briefing and an introduction to life (history and traditions) and the working environment in the host country. Seminars providing information about education and training opportunities in the European Union were organised before the departure phase. The following certificates were awarded after the training periods: attendance certificate, language certificate and EUROPASS. Furthermore, participants received 10 credits, equal to 100 hours direct and indirect teacher-training, for their experience abroad. All students completed a multi-media assignment comparing teaching methods in the host country and their own country.

1.3 From Problem to Project to Problems

The questions/issues that have influenced the research team's activity and conditioned both the progress and process are the following:

- What justifies our research on both theoretical and practical planes?
- Which are the indispensable transversal skills for a European teacher?
- Which operations might help individuate these skills?
- How can these operations be described?
- Which are the tools for singling out these skills?
- To what extent do the three countries share these skills?
- Which are the procedures for analysing these skills? Which criteria were applied to interpret the data?
- What gap exists between the beliefs expressed by the young teachers interviewed and the ideal profile of the European teacher?
- Which strong and weak points has the research highlighted with regard to teacher-training in the three countries?
- elements can be exploited at the European level?

II Transversal skills and the European Teacher

Francesca Piazza

II.1 From international documents to transversal skills

We asked ourselves initially which might be the indispensable transversal skills for a European teacher, as far as can be ascertained from the most recent official documents regarding education.

During a stage of its development when the European Community has been thinking about precise ways and strategies for constructing a "European Space of Higher Education", the Lisbon Council of Europe (March 2000) and the Declaration of Bologna (June 1999) certainly represent milestones on a road that has witnessed the introduction and consolidation of procedures towards the establishment of a European-scale *knowledge society*; initially there was a pioneering, unstructured phase, from 1976³ up to the Treaty of Maastricht, then a "legal" phase, from 1992 to the Council of Lisbon 2000, and finally a "political" phase, from Lisbon up to the present day.

³ Resolution of Council of Ministers for education, approving the first programme of actions relative to the Systems of Education and Vocational Training.

With specific regard to the professional profile of the “European teacher”, and according to pointers coming from the Lisbon Council of Europe, any future teacher wishing to take on this “super-national” dimension in order to contribute actively and practically to resolving the problems facing 21st century society, i.e. the three “driving basic principles”, or, we might call them, irreversible factors of change (globalisation, information explosion, the swift and large-scale development of the scientific and technological world) should stand up as guarantor for three strategic goals:

- improving the quality and efficacy of educational and training systems;
- facilitating access for everybody to these systems;
- facilitating the opening up of these educational and training systems to the rest of the world.

Furthermore, both the Lisbon Council of Europe and the Declaration of Bologna provide useful pointers towards the definition of skills that ought to characterise this professional profile, to enable one to move in a functional manner in the direction of a knowledge society; in fact, in order to be able to tackle the new demands of this changing society, the teacher should be able to:

- retrace all problems and knowledge to the context of reference (contextualisation of knowledge);
- link up different contexts, in such a way as to analyse the same problem from various points of view;
- provide responses to the demands of a specific context;
- redirect or transfer an activity to an environment different from his own, so as to create a sort of bridge between the two contexts.

From these pointers one might already clearly infer that the professional person in question is required to possess certain unmistakable transversal skills, as well as specific “knowledge”, i.e. a conscious “know-how” that is motivated, contextualised, transferable to different situations and numerous contexts: therefore, not only knowing *what* to do, but also *how*, *when*, *where*, *why* and *to what end*.

However, with regard to trends, from analysis of other documents that are by now quite diffuse on a cultural and political level throughout Europe, even clearer and more detailed indications can be inferred.

The goal of teaching was first formulated by Montaigne: “better a head well-made than one well-filled”, a “well-made head” implying that instead of accumulating knowledge it is much more important to

possess all-round aptitude in posing and tackling issues, and organising principles that allow one to link up the strands of knowledge and assign them a meaning.⁴

It is with these words that E. Morin, in the afore-mentioned book, indicates the new frontiers of education in Europe, and provides food for thought for all systems of education and training of the member states with regard to the need to shift attention from “what” to “how” to know, in order to contribute efficaciously towards building the “knowledgeable society” so clearly described in the “white book” by Cresson “*Insegnare ed apprendere - Verso una società della Conoscenza*” (1995) (Teaching and Learning – Towards a knowledgeable society).

In order to face the fresh challenges offered by training systems in the third millennium, it is not enough for the trainer to have a thorough knowledge of his own and complementary subjects, or perhaps even good disciplinary competence. Today other skills are demanded that might help the teacher provide students with operational back-up, so that they might find useful criteria for the organisation of their knowledge, whilst taking into account every individual’s needs and resources:

1. the diagnosis, handling and exploitation of the various cognitive styles that characterise every learner;
2. wide-ranging methodological competence that allows one, with adequate strategies and tools, to adopt a problematic approach to reality;
3. a “concrete” organisational competence;
4. good planning competence.

Beginning from the solicitations of a general nature contained in the passage from Morin, we shall cross-examine “official” documents from the European Commission in order to obtain immediately helpful indications for understanding the relevant weight and the central position of these so-called “transversal skills”, (or “a-specific” skills) in all professional profiles in the modern world, in the quest for a conscious and responsible construction of a “Knowledgeable Society”.

In the “UNESCO report of the International Commission on Education for the 21st century” (In “Education: a treasure”, edited by J.Delors) “the four pillars of education” for the 21st century are laid down:

⁴ E. Morin, *La testa ben fatta- Riforma dell'insegnamento e riforma del pensiero*, Raffaello Cortina Editore, Milano, 2000.

- Learning to know: this means acquiring a wide general knowledge, but also possessing “tools” for understanding reality and, above all, “learning to learn”, in the sense of exercising the memory, concentration and contemplation, and building up a functional method adapted to one’s cognitive style; it is clear that to achieve mastery of these tools one needs an “expert” guide at one’s side, who has mastery not only of these very tools, but also possesses sound methodological and “meta-cognitive” skills.
- Learning to do: basically this means passing from the concept of ability to one of competence (“a mixture of abilities, social behaviour, aptitude for group-work, initiative and readiness to face risk”), and knowing how to face many situations, how to work in a group, gaining social experience in a specific context, reflecting on one’s experiences, acquiring information from one’s contemplation and transferring it to other contexts.
- Learning to live with others: this means moving gradually from the discovery of “the other person’s value” (interrelationship) to embracing the concept of inter-dependence and, therefore, to the management of common objectives (learning to handle conflict, carrying out communal projects, respecting the values of the majority, of the multiplicity of points of view, of reciprocal comprehension and of peace). “The task of education is to teach, at the same time, the diversity of the human race and an awareness of the similarities and interdependence of all human beings”.
- Learning to be: this means being capable of forming one’s own opinion, developing autonomous and critical thinking, acquiring planning ability, being able to decide and act on the basis of a personal judgement, handling mistakes as instruments of growth. “Education should permit every individual to resolve his own problems, to take his own decisions and assume responsibility: this implies giving individuals freedom of thought, judgement, feeling and imagination, which they need to develop their talents and to remain, as far as possible, in control of their own lives”.⁵

From this document one can see, on the one hand, with regard to training, the need to shift the focus from knowledge and abilities towards skills, allotting due recognition to operational situations, social experiences, contexts, work-groups, a “work culture”, whilst, on the other hand, one needs to stress the fundamental importance and centrality of methodological (learning to learn), relational (learning to

⁵ J. Delors, *Nell’Educazione un tesoro*, Armando, Roma, 1999.

live with others) and planning (learning to be) skills. Moreover, in transversal fashion, one can glean indications that might help one reflect constructively, in the same way as the teacher-trainer, the consummate professional, always searching and reflecting, always wanting to learn from his experiences and errors (the “reflective” competence, which, on the one hand, brings to mind the model of the “thinking professional” described by Schon, and, on the other, the learning model suggested by Bion in “Learning from Experience”), but also the progressive opening up towards other cultures, the trend towards the construction of ever greater space for co-operation, a “European” space of common experiences (European competence).

If we bracket this document with the two white books “Learning to learn for one’s whole life: a way of increasing competitiveness and professionalism” (J. Delors - 1993) and “Teaching and learning – towards the cognitive society” (E. Cresson - 1995), the framework of “complex” transversal skills required in the “knowledgeable society” becomes ever more complex and precise. In fact, starting from analysis of those transformations taking place in society that represent decisive factors for change, and, therefore, are seen to be “driving basic principles” of our time (globalisation, the great spread and swift obsolescence of information and the exponential development of the scientific and technological world), there emerge three possible paths that might be followed by all the systems of education and training in member states, in order to manage the ongoing changes with awareness and responsibility.

- To aim for multi-purpose education, based on knowledge that develops autonomy and encourages “learning to learn” throughout one’s life. This means thinking about education not in terms of something static, sterile, an end in itself, simplified, formalised, to be dished out, but as something dynamic, productive, complex, contextualised and integrated, but, above all, geared towards fostering “the discovery of the significance of things”. This knowledge empowers the learner to decide for himself, to make choices according to certain criteria and “motivated” personal judgement and, above all, to exercise a critical spirit in precise situations, where there is a need for evaluation, decision-making and the taking on of responsibility.
- To guide and reinforce the development of an aptitude for work and efficacy. This means encouraging the consolidation of social skills (relational capacity, work and group co-operation, behaviour at work, creativity, quality research...), to multiply professional

experiences, but, above all, to employ a “modern” method that implies being introduced into a network of co-operation, education, training and learning, as well as continual assistance for the individual in his or her initiatives.

- To embark on the “paths of the future”, which basically means recognising the importance of a multi-purpose professional attitude that is flexible and can adapt to the stronger and most varied social needs, and is, therefore, capable of providing instruments for finding concrete answers for those needs. Of course one also has to be able to distinguish those training needs that are merely passing fads from the authentic, deeper needs.

From this cross-study of the three documents there clearly emerges a definite underlining of the skills that encourage greater awareness and attention as regards organisational and planning choices (organisational and planning skills), as regards the diagnosis to be carried out in order to recognise the pupils’ styles of learning and as regards decisions to be taken on the pedagogic, methodological and didactic planes (psycho-pedagogic, methodological and didactic skills); there also emerges a novel utilisation of skills that allows a conscious handling of relational and communicative dynamics (communicative and relational skills), which are directly correlated to the development of work aptitude and effectiveness and to the concept of quality of performance.

From the repeated urging (in the three documents) towards autonomy in Education and Training Systems, and from the explicit affirmation of the actual “principle of Subsidisation”, one surmises the need to develop transversal skills relative to the management of internal and external resources in schools, so as to be able to “*differentiate as much as possible the training possibilities*”.

There is another simple and easily accessible document, which is very diffuse in the world of work, but nevertheless little known in the world of education; this document, which provides food for thought regarding basic training, is the new European format model for CVs,⁶ in which, in the section “Education and Training” we find the explicit request for information concerning:

- Relational competence and skills: living and working with other people, in a multi-cultural environment, occupying posts where communication is important, and in situations where it is essential to work in teams.

⁶ The model can be found in web-site: www.cedepop.eu.it

- Organisational competence and skills: for example, co-ordination and administration of people, projects, balances, in the work-place.

The indications and examples mentioned, as well as the central position that these skills occupy in the section “Education and Training”, alongside technical and artistic skills, lead us to infer that they are “central and basic skills” for any professional profile; they should be noted and assessed precisely and punctually, so as to round off more completely the CV of any professional or working person.

These transversal skills are essential in training and need to be exploited more fruitfully; to round off our observations we ought to go back to a superb booklet by the very author who launched the debate about the new training requirements of our day: E. Morin, in “The Seven Essential Items of Knowledge for Education of the Future”, offers a fascinating and realistic overview of the educational problems of 21st century society, suggesting a wholesale “thinking reform” so as to “stimulate the development of knowledge that is capable of accepting the challenges to our individual, cultural and social lives”.

“The Seven Items of Knowledge” in the title are actual points to stimulate reflection with regard to Training and Educational systems, but they will very soon have to become concrete educational operations if we want to activate a dramatic shift towards a knowledge society, and if we want to lay down educational policy guide-lines for the future; this can be synthesised as follows:

- Education should acquaint us with what Knowledge actually is, its processes, limitations, mechanisms, modalities, mistakes and illusions, because its is through a deeper understanding of Knowledge that we can tap into fruitful training processes.
- Education should encourage “knowledge capable of grasping issues” in their globality and complexity, stimulating at the same time the ability to grasp the connections between the parts and the whole, to contextualise the knowledge and information, in order to overcome the difficulties of formalised, simplified and allocated knowledge and shift towards a real integration of knowledge in a complex dimension.
- Education should take on the task of “Teaching the human condition”, in order to enlighten us about the oneness and complexity of the human race, restoring the fragmentary knowledge about the human dimension and showing “the indissoluble bond between unity and diversity in all things human”.

- Education should have the priority aim of “Teaching an Earth-based identity”, showing how all areas of the world have become inter-linked and how they are now forced to face the same problems of survival, despite the fact that individual levels of development and historical experience may differ.
- Education should provide the necessary tools and strategies for facing and tackling the risks and uncertainties that characterise the present day, and so every educational act should aim to make its subjects capable of handling the countless risky and uncertain situations in the surrounding world.
- Future education should be mainly an “education towards understanding”, at all levels and all ages, studying the roots of incomprehension, on which every form of contempt, racism and violence is based, and which also, of course, hampers the peace process.
- Education should have as its principal task the “teaching of the ethics of humankind”; in fact, starting from an awareness that Man is, at the same time, an individual, a member of society and member of the human race, any really significant development should have positive fall-out for the autonomy of the individual, for an increase in social participation and for an increased awareness of belonging to the human race. In short we are talking about establishing reciprocal and two-way controls between society and the individual via democratic participation, and planning Man’s growth into a “planetary community”.⁷

Apart from the ties, inter-relationships and clear analogies, with the other, previously analysed texts, one can infer how helpful indicators for future education are moving in two basic directions:

- One direction leads the trainer and his trainees along a “meta-cognitive” path, i.e. a path of contemplation actually within the spheres of thought and knowledge themselves, in order to understand how “thought that knows” actually functions, to discover its mechanisms and obstacles, with the aim of finding a way of learning from one’s mistakes, from the perspectives of both knowledge and action; this retreat of knowledge within itself is already a “revolution” in the field of training and requires on the part of the trainer notable contemplative competence, which dictates continual observational activity, checking, self-assessment, recovery from mistakes, decision-making, planning and re-planning.

⁷ E. Morin, *I sette saperi necessari all'educazione del futuro*, Raffaello Cortina Editore, Milano, 2001.

- The other direction veers towards the external; it opens itself up to discovery, confrontation with other cultures and different experiences, and constantly requires new space; it begins with understanding people who are different and finally arrives at correlation and inter-dependence; we are basically talking about pursuing to the very end the path that commences with accepting the other as a resource for the work-group, and leads to reappraisal of the “other” in terms of culture, roots and traditions, in a logical fashion that will help each of us rediscover and appreciate at the same time the diversity/uniqueness of one’s own culture, but also the common belonging to a European identity, a planetary identity and a human identity.

In the world of training it will not be easy to achieve this ambitious aim, since it requires on the part of the trainers a versatile and complex “social” competence that might be acquired by degrees. Nevertheless a first step towards the building up of this competence might be that of knowing how to handle correctly the opening up of areas of comparison with other cultures that possess a common history, territory, analogous experiences and a common, cultural matrix – in this way one might be able to start developing the European Competence.

Moreover, the instances in the document that reveal the orientation of European policy in the field of education, which often represent actual “recommendations” from the Council of Europe or the European Commission, clearly state the intention of setting common training targets that are more or less the same throughout Europe; of course, these would respect each member state’s differences, and have already been fully acknowledged in the theoretical elaboration of official documents and norms in Italy.

Three examples, opportunely argued, will be sufficient to demonstrate this affirmation:

- As regards theoretical elaboration one can refer to all the written works of Piero Romei (*Autonomia e progettualità, Guarire dal mal di scuola, L’Organizzazione come trama*) in order to understand how, starting from a clear analysis of the “complex” organisations applied to the “school system”, it is opportunely demonstrated how indispensable (for the enrichment of a very high level professional profile) organisational and planning skills might be, when they aim to introduce helpful “wild” elements into a traditionally “tame” organisation like the school.⁸

⁸ P. Romei, *L’organizzazione come trama*, CEDAM, Padova, 2000.

- As regards the “official” documentation of widespread thinking in Italy in the last few years, it is sufficient to refer to the document on “the essential items of knowledge”, produced by a commission of shrewd disciplinary experts and pedagogues, co-ordinated by Professor Maragliano; in this there are explicit references to the orientation of the European Commission and clear pointers regarding useful ways of tackling seven emergencies or “problematic issues” in Italy:
 - the problem of “identity”, that should be tackled by developing a “strong civil conscience, which is open and aware of its own roots, which pledges solidarity, but is, at the same time, open to the exploitation of diversity;
 - the problem of “democracy”, which should be resolved with the participation of everybody in the equality of training opportunities;
 - the problem of “development”, which should be understood as “sustainable” development both from a social and cultural point of view;
 - the problem of the “items of knowledge”, which should have a sound structural organisation and a reticular dimension;
 - the problem of making full use of experience, with the necessary lengthy reflection on personal modes of acquisition of knowledge, on optimal learning-paths and the cognitive styles of learners;
 - the problem of “work”, which should be resolved by introducing into the teaching/learning process organisational methods from the world of work and by developing a sense of autonomy and responsibility;
 - and lastly, the problem of “technology”, which envisages a process of learning/teaching that can make use of modern technology back-up.

Furthermore, in the same document there are concrete pointers and operational suggestions with regard to “the culture of doing”, the management of work-groups, laboratory lessons (classes with active participation and experimentation), all the situations that presuppose a “competent” handling of relations, of communication, of various teaching methods. These transversal skills represent “basic” elements in the professional profile of the trainer in the revolutionised school, fully in line with pointers from the European Commission.⁹

⁹ Decree D.M. no. 50, Jan 21, 1997, and no. 84, Feb 5, 1997 (May 1997 and May 1998 versions).

Finally, if we also analyse a single document dealing with laws that are in force regarding our teaching and training system, and especially the one that has introduced the greatest innovations relative to the autonomy and responsibility of the individual scholastic institutes, we will immediately realise that the tasks assigned to teachers in schools today are mainly linked to functions such as planning, organising, assessing, communicating, relating, management of links with the outside world, conscious and focussed facilitation of learning, responsible choices of instruments, procedure and strategies of intervention to help these processes, in accordance with a precise professional profile that is no longer merely that of a transmitter of knowledge, but rather a technician, an expert in training processes. The validation of this picture emerges from the space and importance allotted it by legislation dealing with autonomy of “research, experimentation and development”, with which, finally, every individual scholastic institute fully assumes the form of an officially designated place for “research” into the problems of training, to experiment autonomously innovative training approaches, to pursue the goal of “sustainable” cultural development, in proportion to its resources, potential and previous experience.

11.2 From transversal skills to indicators and descriptors

We asked ourselves two questions: which are the operations that spotlight these skills and how to describe these operations?

The first phase of research, of a purely theoretical nature, carried out mainly on the documents mentioned in the previous paragraph, permitted the IRRE Sicilia work-group to single out the transversal skills deemed fundamental in a European frame of reference. In this complex operation the greatest difficulties arose when we attempted to differentiate and divide up these skills, but very soon we realised that by moving within a holistic and reticular logic, the boundaries of one were often not clearly defined or definable in comparison to another (e.g. one has merely to try imagining the boundaries between communicative and relational skills, planning and organisational skills, or methodological skill and teaching).

In some cases, when it was not possible to define the boundaries, it was decided to bracket together several skills (psycho-pedagogical competence and methodological-didactic competence); in other cases we kept them separate, because we managed to clearly define the operations which each of these displays in everyday practice; in this way we looked for, and found, the operations that reveal the presence of these skills (indicators).

Identification of the indicators provided the research with “an extra gear”; on the one hand, it permitted us to distinguish more or less clear demarcation lines and “confused” areas between the various transversal skills, at the same time rendering the framework to be explored richer, more articulated and more complex; on the other hand it provided considerable food for thought regarding the “composite” nature of the actual skills, since they touch on different disciplinary areas, and with regard to their basic position/function within a high professional profile, inasmuch as they certainly bring about a reworking of the theoretical paradigms and the operational reference models in the training world.

More precisely, the definition of the operations that make up a “composite” transversal skill is useful on two levels:

- in the first place it has clarified the actual concept of competence, the operational and reproductive mechanisms that characterise it, its particular feature of being built up in a precise context and then being transferred almost automatically to other contexts (knowing what to do, why, how, when, where);
- secondly, it has created a functional stimulus to go beyond, and try to interpret, visible behaviour that shows not only the presence, but also the mastery of the skill in actual professional practice.

11.3 From sharing of the research model to construction of instruments

We asked ourselves which might be the instruments for identifying these transversal skills in the European teacher?

On the one hand the actual object of research (a very “high” professional profile, obtained, or rather, built up in an inferential way from documents that are widely prescriptive in Europe, but little known in schools, to the extent that they are still considered by many in the field as “discretionary” instruments), on the other hand the basic hypothesis of the whole project (to arrive at identification of strong and weak points to be highlighted at European level, and the aspects to be reinforced or eliminated at national level) have conditioned the choice of a research model of a qualitative type. In fact, we are dealing with the collecting of data that it is impossible to quantify or represent statistically, such as, for example, perceptions, sensations, emotions, opinions, latent feelings, or subjective points of view with regard to the object being investigated; this does not mean the data is any less significant for understanding the “real” position of the educational world in the three countries as regards initial training

of the future “European teacher”. Then, a possible interpretation of the data was given, using the criteria supplied from the documents analysed in the first paragraph; one has to bear it in mind that not all the partners in the project shared the same opinions regarding these reference documents.

For this reason, from the very first trans-national meeting (Palermo - March 2003) a process of socialisation/sharing was started up, of the theoretical points of reference implicit in the quantitative-qualitative research model, because it was considered fundamental for all researchers to have the same command and thorough appreciation of the “hermeneutic” features, the theoretical assumptions, the functions, the aims, but, above all, the operational modes, so that each could contribute significantly, firstly in the construction, and subsequently in the management of the instruments in the investigation.

The difficulties emerging from the problems of transferring very “specialised” thoughts and concepts from one language to another, the different normative, social-cultural and professional experiences in the three countries, but above all, the partners’ different stages in the phases of the project, hindered no end the full sharing of the model; so, through a common bearing of responsibility in this regard, via a very laborious negotiation of diverse points of view, the crucial points of the research operation were agreed upon, i.e. to recognise, despite differences of opinion, the importance of transversal skills and the necessity for them to be explicitly identified in indicators, and their subsequent transformation into recognisable behaviour in professional practice.

Furthermore, we managed to agree on the structure and quantity of instruments to construct and employ, and how to administer them, also singling out the possible destinations for these mainly “qualitative” instruments for collecting data. As regards the structure, the individual interviews and the matrixes on which the focus-group interviews were to be organised, specific reference was made to the describers constructed for each of the transversal skills and the particularity of oral communication would be respected; it was planned to record each interview, in such a way as not to miss out on tone, timbre, register, interlocution and all the other “super-segmental” elements that enrich the spoken language exclusively, and make it the “primary” code, different and certainly more immediate and weightier semantically speaking, than the written word.

In order to keep these features unaltered, and therefore to render the administration of the instruments homogeneous, it was decided to

prepare and send to all partners brief instructions for the correct use of the survey tools, in which their function was re-iterated.

On the other hand, with regard to quantity, as stipulated at the meeting in Palermo, it was agreed to carry out, in each of the countries involved in the project, twenty interviews with mobility students, both before their departure, and on their return, and ten interviews with non-mobility students, in order to better understand the reasons for their unreadiness for such an experience; ten further interviews would be administered to special persons and policy-makers; a focus-group would be set up with the mobility students and would be organised in the country of origin before departure.

As a preparatory phase to the handling of the group interview, (to be carried out by an expert in the field), an attitude-scale was to be administered; this is the only survey instrument of a quantitative type, which, because it is extremely synthetic and immediate when extracting vague, ambiguous or even contradictory data, endeavours to guide the leader of the focus-group in his/her choice of the matrix areas to be studied in depth and the questions to be favoured.

The only instruments to be prepared with double value (one for surveys, and a much weightier one for training) were singled out in an exercise of “aquarium” observation (for the first mobility), in a “training contract” and in a final assessment of the experience carried out in line with the model of E. De Bono’s “The Seven Thinking Caps” (for the second mobility).

During the meeting in Palermo it was decided that all the survey instruments produced from time to time by the IRRE-Sicilia research group should be sent to all partners, so that they could be tried out immediately and validated in the different countries involved in the project and so that each research-group might suggest, even at a distance, possible modifications as a result of difficulties encountered with the functioning of the instruments during the first administration, so that they might be duly contextualised in the Teaching and Training systems of that country.

11.4 From construction of survey instruments to their sharing and administration

The meeting in Palermo (March 2003) was devoted to the sharing of project goals, the adoption of the research hypothesis and model, as well as comparisons of typology, structure, size of sample of interviewees and common methods of administration; the period between this and the meeting in Bratislava (June, 2003) was dedicated entirely to the ulterior defining of transversal skills and relative

describers, to the preparation of instruments for research and teacher-training during mobility and to the first administration of the interview, which aimed to collect useful data for the validation of the instruments themselves.

In Italy this validation operation was carried out with two students who were leaving on the first mobility, with two other students who weren't, and with two special participants – "*privileged witnesses*" (supervisors from SISIS); this provided an opportunity to check the functioning of the interview in relation to the set aims; in fact, compared to the first draft it was only necessary to modify the specialised language regarding the professional frame of reference of each student-interviewee.

However, as regards the on-line comparison and exchange of information with the other partners, things came to a stand-still in the work on-line, as some of the instruments prepared (and sent out to all concerned in good time) did not receive any critical feedback or suggestions for possible modification; consequently, on the basis of this silence/assent (implying a positive response), the Italian research group was convinced that the instruments had been more or less accepted and endorsed by all.

In fact, this interpretation proved only partly correct, inasmuch as during the meeting in Bratislava grave doubts and perplexity emerged not only concerning the structure of the interviews, the type of questions (which could be determined mainly on the basis of differences in the systems of Teaching and Training in the three countries), but also, more generally, concerning the theoretical reference points and the actual research model designed to verify transversal skills.

In any case, the comparison initiated in Bratislava led to all the partners carrying out a thorough examination of the instruments, in order to better understand the structure, the aims, the functioning and functionality, the methods of construction, administration and management. Therefore, we focused on planning the activities to be carried out during the first mobility in September 2003; subsequently we analysed the instruments anew and the first proposals for change were advanced, which would mean instruments better suited to each individual national context.

During the concluding stages of the same meeting it was decided to leave partners free to adapt the interviews to the specific characteristics of their own system of Teaching and Training, whilst maintaining the key-points represented by transversal skills (indicators and describers) that were to be researched in depth in the three nations involved;

subsequently the comparison of instruments, initiated in Bratislava, continued into the month of July, since further suggestions were sent out that entailed ulterior refining of the instruments; the instruments were administered in the three countries in September and October, before, during and after the first mobility phase.

The contextualisation of the instruments and their adaptation to the characteristics of the systems of Teaching and Training in the three countries was certainly one of the strong-points of the whole project, but at the same time it also signalled its limitations. It considerably impaired the collecting of data regarding the object under investigation, and, in particular, hindered the development of initial training in the area of transversal skills. The theme of the “ideal” (i.e. still to be precisely defined and constructed) European teacher had already been thoroughly discussed by the partners, and, in fact, reducing or modifying the questions in the survey with regard to this model would have meant subtracting indispensable data from the research; this data was required to evaluate the gap still existing between the ideal model and the educational reality in the three countries.

However the operation of mediation and that of contextualisation helped to speed up the collection of data from the first mobility to the extent that it was possible to prepare an initial, though partial, synthesis of this data (in fact, data regarding the students from the University of Bodø, Norway, was missing); tentative conclusions could easily be drawn, which helped single out “priority areas” where initial training was immediately required. This synthesis was shared, analysed and discussed by the three partners during the third trans-national meeting in Bodøe (December 2003).

On this occasion, the functionality of the instruments tried out during the first mobility was acknowledged and the actions to be implemented during the second mobility (to take place in March 2004) were planned, co-ordinated and shared.

III Results of the Survey

Anna Maria Mangione

III.1 Procedure for analysing the data collected

Here we describe procedures for analysing this information and what criteria were applied for interpreting the data.

Once the mobility plan had been put into action by all three partners, the moment to analyse the results of the research arrived;

the material received was examined (pre/post-mobility interviews, focus-group interviews, aquarium activity etc.).

	ITALY	NORWAY	SLOVAKIA
Individual pre-mobility interviews	36	15	16
Individual post-mobility interviews	36	15	16
Participants in focus group	6	1	2
Participants in aquarium activity	10	7	8
Individual interviews with students who did not take part in the mobility	10	12	9

It was decided to focus research on five points deemed to be essential:

- convergence of ideas in the various processes of teacher training;
- divergence;
- training weak points;
- strong points;
- differences between the theoretical model of the European teacher and the real situation at the end of the teacher-training.

It had been decided to initiate qualitative research in order to establish these five points, because, once a consistent amount of data had already been collected, it was important for those running the project to grasp the real significance of the material analysed (and from any potential source of useful information), rather than simply supply objective statistical elements. According to M. Weber¹⁰ and G. Simmel,¹¹ qualitative research is based on the understanding and interpretation of the meanings that subjects attribute to their affirmations. In actual fact, all the data, even the simplest, is dependent on the interpretative framework. This means that there is no objective data, but only interpretation. The results of the interpretation of data have to be placed in a wider context (experience on other projects, results of various studies etc.). The interpretations are based on a single project and on the one group of people examined; therefore they cannot be generalised, except as possible suggestions. The experience and the skills acquired by the analysts in these contexts prove to be very useful; in the case in question, analysis of

¹⁰ M. Weber, *L'Etica Protestante e lo Spirito del Capitalismo*, Sansoni, Firenze, 1945.

¹¹ G. Simmel, *Le Metropoli e la Vita dello Spirito*, Armando, Roma, 1996.

the data was carried out by professional trainers, who had the opportunity to put to use experience acquired in various contexts in connection with the training of young teachers.

The procedural aims of the analysis were the following:

- to provide a solid base for future decisions;
- to ensure absolute transparency;
- to give well-argued interpretations;
- to provide data that is also comprehensible to the outsider.

In order to obtain these results, the operations that had to be carried out on the accumulated research materials were the following:

- assembling the data, which in this case meant translating the accumulated material into the language of the analysts (i.e. Italian), so that it could be passed around;
- analysing the data via the following operations: comparison, cross-checking, interpretation, classification;
- synthesising the results of the accumulated data.

This sequence of operations was dictated by an initial problem; all the interviews arriving from the Norwegian and Slovakian groups were in English, used as the *lingua franca* throughout the research, and so the first thing to be done was to translate all the material into Italian, so that it would be readily available to all the experts assigned to the task of analysing the data.

The first obstacle the analysers had to overcome was that in many cases the language used by the interviewees was rather inarticulate, so the answers often sounded a little inconclusive and, occasionally quite ambiguous; consequently, whoever was analysing the material was often worried about arriving at wrong conclusions. They got round this predicament by carrying out comparative analysis of the results given in the interviews administered before the experience, and those given afterwards. In this case it was the analyser's task to enter hermeneutically into the heart of the analysed material so as to provide coherent answers.

Another complication that had to be tackled was the fact that occasionally the same question in the interview had been slightly altered by the interviewers in the various countries. This automatically led to the answers being even further from the point and the consequent need to find criteria of assimilation between what was expected and what was provided.

In this case, given the examiners' original request, the researchers had to decide whether the interviewee had given a pertinent and

meaningful answer, which could then be accepted as data to be analysed.

All this entailed a series of precise choices, thrown up from the context in which the research was being carried out; these choices occasionally extended to what we might call the area of human contact between the analysers and the student-teachers interviewed, i.e. regarding what we might define as the paralinguistic features of the answers. (super-segmental/paralinguistic features).

At the beginning of this chapter we alluded to an initial research-group decision regarding the points on which this research should concentrate; there was also mention of choosing four classes of observation considered essential for clarification of the research results:

- similarity of training of teachers in the three countries involved;
- substantial differences between one country and another;
- strong points in training in some countries to be reinforced or extended to the other countries;
- weak points to be eliminated or improved.

As a corollary to all this,

- a. the extent of the gap had to be determined, between what had been adopted as the theoretical model of the European teacher and the actual students, who in a few years' time would be full-time working teachers.
- b. suggestions were needed aimed at eliminating this rift and improving the training of future teachers.

The above-mentioned operations were carried out on the following documents:

- transcriptions in Italian;
- notes from recordings;
- written contributions from tutors;
- audio/video recordings.

At the end of the previously mentioned operations, and following the previously described plan of action, the team of analysers arrived at a series of conclusions. Before reporting these conclusions in detail it would be useful to observe that the weak points in teacher training and a few preconceived ideas expressed by teachers are due to a poorly developed spirit of observation, which led the future teacher to hasty, and often mistaken, conclusions. It is clear that the remedy to all this would be to provide the teacher, before his initiation in the world of work, with solid instruments of judgement, backed up by specialised knowledge.

III.2 Similarities in teacher-training

We highlight the points of convergence in teacher-training in Italy, Norway and Slovakia, as they emerge from the interviews carried out with the student-teachers.

- With regard to the similarities that exist at present in the training of student-teachers in the countries involved, the first point to emerge from the results of the analysis stressed the fact that the future teachers, though participating in the project, had little overall knowledge about it, which they claimed was due to the difficulty in obtaining exhaustive information.
- The second point common to all types of training was that, in Europe, future teachers are generally trained in the theoretical aspects of his work, whereas actual teaching practice, and consequently the contact with human material and the problems linked to this, are neglected or meant to develop through unguided *a priori*¹² experience. For many teachers, or teachers-to-be, one's mode of behaviour is inspired by what several future teachers have described as "common sense and innate qualities", by this intending to underline the fact that certain behaviour on the part of the teacher derives from his own character and is not learnt and developed in a training course.
- This inability to consider a good teacher the product of appropriate training is at the basis of another consideration expressed by future teachers, i.e. that the poor results obtained by pupils is not seen as the result of inadequate teaching, but a consequence of external circumstances that have prevented the teacher from carrying out his work to the best of his abilities. The following were mentioned as helping bring about the pupils' unsatisfactory results: overcrowded classes, the shortage of technical equipment and poor school organisation.
- The teacher-to-be is not usually able to clearly define the operations that he carries out in class and to classify them under the following headings: relational, communicative or didactic; this is why he finds it difficult to see where his weaknesses lie and where he needs help. This difficulty probably arises from the inability on the part of the teacher to define the aims of his various types of behaviour (linked to the relational, communicative and didactic aspects of his work), and, consequently, to adopt successful strategies.

¹² Pietro Boscolo, *Psicologia dell'Apprendimento Scolastico*, Torino, 1966, p. 107-116.

- Over the years the citizens of the EU have become more aware of a European way of thinking, but it is not easy for trainee-teachers to identify the qualities that could turn them into the kind of teacher the Council of Europe is looking for, i.e. one who can make himself at home anywhere, in his own country or in any other country in the EU, either according to the requirements of the EU, or because that young person wants to get to know other cultures. The qualities, skills and training of the European teacher are discussed in a very theoretical manner, as though they were like the qualities of wisdom and common sense, which are considered innate to the perfect citizen. In this sense the EU has a tough task ahead of it providing its citizens with a sense of mobility that is common, for example, in the USA and which permits Americans to feel equally at home in any part of their country. The common language is only one of the factors; it will take many years before a real European conscience can be formed.
- European Community school policy is based on a depth of knowledge, which at the present moment is rather lacking; this would probably help young teachers to free themselves from a restrictive, nationalistic conscience, and to become more aware of the trend towards an inter-cultural outlook (the direction in which the EU is moving), on the basis of key documents such as the Treaty of Maastricht (1992) and the white book by Edith Cresson.¹³

III.3 Differences in teacher-training

There are small, but surmountable, differences in the direction the training of future Italian, Norwegian and Slovakian teachers is taking. One might say that they derive from different trends, pointing teachers from the Mediterranean area towards academic and theoretical training, whilst guiding northern European teachers towards a more practical approach. As regards this, from an examination of the documents it is clear that:

- Whilst there might exist a marked tendency in one country towards an academic and disciplinary approach to teacher training, in another country there might be a more pragmatic and transversal approach, so as to confront teachers with the various difficulties they might encounter in class. It should be noted that there has been a recent blossoming of teacher awareness regarding

¹³ Edith Cresson, *Il Libro Bianco: Insegnare ed Apprendere - Verso la Società Conoscitiva*, Commissione Europea, 1996.

weak points in training and this leads one to hope that there might also be changes of approach on the part of the training institutes.

- Occasionally trainee-teachers complain about the limited autonomy accorded to teachers by the school or state authorities. This should be principally put down to the teachers' scanty knowledge of their own rights, inasmuch as the dominant trend in many countries is pointed in the direction of teacher autonomy with regard to actual teaching and methodology. For example, it is surprising that trainee-teachers know nothing about a what has become a sort of *bible* for language teachers; these were the first teachers to move towards a Europeanisation in their teaching, in the shape of the European Framework of Reference, which determines the levels to be achieved in foreign-language learning, whilst leaving the teachers free with regard to methodology.
- One objection put forward, of a psychological nature, is the fear that too friendly an attitude on the part of the teacher towards his pupils¹⁴ might end in a reduction of the teacher's authoritativeness. It is clear that convincing student-teachers that their fears are unfounded could be achieved through theory and teaching-practice in class during their training.
- A consequence of what was stated previously (scanty knowledge about EU policy for schools) is the fact that the acquisition of an European outlook is a problem that is not felt equally by all the partner states in the project. In some states there is an urgent problem regarding European integration, in others the issue is seen as secondary; it is not easy to discover the causes for these differences. The state authorities need to be involved if a solution is to be found.
- All the points mentioned so far suggest what is lacking in teacher training in all the three countries. In reality, the teacher's academic qualifications should consist of a solid base of knowledge, representing a point of departure for the teacher, to be broadened and extended throughout his career; there should also be a base of psycho-pedagogical learning that might assist the development of his relational, reflective and communicative skills. This second area of knowledge should be transferred to the teacher not only via theory but also via practical exercise during his training. In this area, as stated previously, the differences between the three groups are noticeable; on the one hand, for groups whose training is more

¹⁴ T. Gordon, *Insegnanti Efficaci*, Giunti Lisciani, Teramo, 1974.

practically oriented, 30% of training time is thought to be given over to the acquisition of transversal skills through teaching practice in class (Norwegian group); on the other hand, for other groups, transversal skills are dealt with in brief theoretical courses.

III.4 Strong points of teacher-training

What strong points has research brought to light in teacher training in the three countries?

- It is comforting to conclude that the younger generations of teachers share a great many ideas about what they will need in order to face up to Europe in the future with competence and confidence. From the interviews there emerged the figure of a young teacher who, above all, aspires to achieve a thorough mastery of his own subject. There is a discrepancy in how he will achieve it; a few are aware that acquisition of this competence has to be a process of life-long learning, accompanying the teacher throughout his career. It might be more to the point to ask what help the teacher will receive from the school authorities in order to carry forward this learning. This will be the object of analysis in the next paragraph, dedicated to the weak points of teacher training.
- From the very beginning of their training student-teachers attach great importance to the pedagogical, social and political roles that teachers are called to sustain in class and in school. Although they may manifest the above-mentioned deficiencies (weak points), they are firmly convinced of the fact that, in order to tackle the tasks inherent in this role, it is necessary to acquire sound knowledge and mastery of transversal skills.
- The trainee-teachers seem to be convinced that the use of creative elements by the teacher and pupils, allied to sound planning, will lead to a lively and reactive atmosphere in class and, consequently, to an improvement in the pupils' results. This is an invaluable observation since it makes it patently clear that there is a link between a teacher's positive behaviour and the pupils' results. In the groups analysed this observation implicitly contradicted the pessimistic sensation, expressed initially, that there exists a connection between several objective obstacles (large classes, poor structures and non-collaboration on the part of the authorities), and the poor results of the students. Some student-teachers even expressed the belief that the presence of these vitalising factors in classroom life act as an antidote to the problems of class management.

- Since planning entails creative autonomy on the part of the teacher, this means that young teachers see their future work as free expression of their creative capacity and enthusiasm. It is interesting to note that all the trainee-teachers considered this free and joyous fulfilment of a teacher's duties to be a cornerstone for a motivated student-body, which is what teachers with long and positive experience might confirm on any day of the working week. It is also interesting to note that, even without any experience, the trainee-teachers were shifting towards the concept of teacher-pupil dual-growth, something that we find in the teaching theories of J. Bruner¹⁵ and K. Vygotsky.¹⁶
- As a logical corollary to what is expressed above, during the project activities, the teachers-to-be were extremely keen to find out about all teaching methods/strategies that might help facilitate the pupils' learning of theory, whilst at the same time increasing their motivation. These trainee-teachers hope to pick up these innovative techniques, not only for motivational reasons, but also because they make the learning of knowledge easier. It is obvious, and not only among the younger generations, that class-work enjoys a certain dignity and a particular importance. All the young trainee-teachers emphasise the role that the teacher has to play, which includes not only that of informer, but, as M. Parrot says, ranges from diagnostician to planner, manager and negotiator. On this subject all students underlined the importance of the various roles of the teacher and the transversal roles required to cover them.
- One quality that was considered very important in the teacher was planning-ability, and therefore, the use of creativity in the classroom. This consideration is also comforting for the future of European teachers; since planning implies creative autonomy on the part of the teacher, this means that these young people envisage their future work in terms of an unfettered display of enthusiasm and creative capacity.
- In the course of the interviews a point of great importance emerged – all the young teachers-to-be are convinced that the process of learning is centred around the student and that the teacher has the task of facilitating, advising and negotiating the learning. It is not worth quoting all the material and all the authors who, over the

¹⁵ J. Bruner, *The Culture of Education*, Harvard University Press, Cambridge Ma, 1996.

¹⁶ L. Vygotsky, *Thought and Language*, M.I.T., Cambridge Ma, 1987.

second half of the twentieth century, reiterated this concept; let us merely cite Malamah Thomas¹⁷ and M. Underwood.¹⁸ The fact that the young teachers arrived at their conclusions by themselves augurs well for the future of European schools.

- Another point that emerged from the interviews is that learning should be carried forward in an inter-disciplinary manner, by inter-linking different subjects. Moreover, having the same class-teacher throughout one's school years is considered a positive element by the interviewees.
- A final point stressed by all the teachers is that the school should be open to the outside world and that the pupil's education should take place not only in the classroom, but also involve his or her family.

III.5 Weak points of European Teacher-Training

What weak points has research brought to light in teacher training in the three countries?

In the varied panorama of European teacher-training the first stumbling-block encountered is that the concept of European teacher is not officially in the curriculum. This continues to perpetuate the feeling on the part of the teacher that he is merely a functionary with no guarantee of autonomy, and the belief that bureaucracy plays a major role in the life of the teacher. This feeling could prove fatal for the motivation of a young teacher at the beginning of his career.

- The teacher-to-be often views transversal skills as manifestations of common sense that help make his professional life easier and help him make fewer mistakes. It seems clear that mastery of transversal skills (such as reflective, communicative and planning skills) should be the object of study and have official mention in the CVs of teachers-to-be, but this is an idea that has not yet been universally accepted.
- In the interviews several shortcomings of a methodological nature emerged. The teacher is still seen as a dispenser of knowledge and not as an educator helping his pupils to build up their knowledge. Very rarely do young teachers make a choice regarding methods and strategies connected to the nature, temperament and styles of learning of the pupils they are interacting with. Furthermore, the student-teachers tend to assess their pupils' progress in terms of

¹⁷ M. Thomas, *Classroom Interaction*, Oxford University Press, 1987.

¹⁸ M. Underwood, *Effective Classroom Management*, Longman, London, 1987.

mere results, neglecting to assess the validity of the process itself, which involves the pupil as learner and the teacher as guide. This is a serious problem of a theoretical and methodological nature, which should be taken into consideration by all new teachers. It is linked to the problem of mixing up several functions and the terms that define them. This type of problem could be avoided if curriculum-designers decided simply to introduce into the curriculum of the teacher-to-be concepts and methods that should by now be part of every teacher's armoury; we are referring to concepts from the Humanistic Approach,¹⁹ which has now been widely accepted as the basis for a healthy teacher-pupil relationship, and to the techniques of Action Research,²⁰ which enable the teacher to become the "reflective practitioner" mentioned by Schon,²¹ inasmuch as this allows him to focus on class-room problems, define their terms and try to resolve them, with the help of colleagues if necessary. In order to help achieve this, the activity of "classroom observation" should be carried out from the very beginning of training.²²

- Another problem to be carefully analysed by curriculum-designers in institutions handling the training of young teachers is the issue of terms to describe important functions of teaching. We are referring to the difficulties encountered by student-teachers in drawing a clear distinction between the activities of planning, making plans and programming, which means other connected activities being confused too. There was also uncertainty when the functions of "measuring progress" and "assessment" had to be defined. When the trainee-teachers need to define the concepts and limitations of "flexibility" they opt for the concept of "innate common sense", which is too vague to be taken as a yardstick in the evaluation of teacher behaviour.
- In teacher-training not only is there a noticeable lack of practical activities centring on the concept of Europeanism, but there is also a shortage of information on this topic; it is included almost as an afterthought in the teacher-training curriculum, and in-service courses for working teachers.

¹⁹ J. McNiff, *Action Research: Principles and Practice*, MacMillan Education, London, 1988.

²⁰ D. Hopkins, *A Teacher's Guide to Classroom Research*, Open University Press, Philadelphia, 1989.

²¹ D. Schon, *The Reflective Practitioner*, Temple Smith, Cambridge Ma, 1983.

²² E. Erikson, *Childhood and Society*, N.Y. Norton; R. Wajnryb, *Classroom Observation Tasks*, Cambridge University Press, Cambridge, 1992.

- One of the problems that young teachers have encountered is the difficulty in obtaining exhaustive and up-to-date information about European schools and all connected initiatives. This problem is due to the fact that schools are poorly informed, but also because of the inadequate computer skills of the young teachers, who should really be able to seek out information on the web.

III.6 Suggestions and proposals

Which elements might be utilised at a European level?

Offering up suggestions for improving the European aspect of teachers-to-be is an arduous undertaking and it has not been easy to come up with definite proposals. It might be opportune to heed the definition given by Schon, about the European teacher seen as a “reflective practitioner” who considers his classroom as a place of fervid activity, where the pupils’ education goes hand in hand with his own development as a teacher and human being. We will limit ourselves to proposals emerging from analysis of the materials at our disposal and from our experience as teacher-trainers.

- The European dimension of teaching should be the object of careful study, and should have adequate space in the curriculum. This competence would lead to a sound knowledge of laws and European initiatives in the subject being taught.
- Valid computer skills should be taught during training, to enable teachers to establish more fruitful relationships with other European countries, and to carry forward research at both national and international level.
- As European teachers, and according to the rules of the Council of Europe, future teachers should speak one other European language apart from their own fluently. This would make it easier to get to know and contact other European countries and their cultures.
- The curricula of trainee-teachers, structured in such a way as to include theoretical lessons, practical activities and classroom experience, should be designed in such a way that they might include a hermeneutic and constructionist approach to the learning process (methods, techniques and instruments).
- Future teachers should be encouraged to compare organisational models and systems, in order to be able to choose the most appropriate methods for their students.
- Student-teachers should have the opportunity to learn about meta-cognitive didactics, so that their future pupils might become autonomous persons and be prepared for a future of life-long learning.

- In the curriculum, teachers-to-be should be urged to reflect on the differences between terms, methodology and methods.
- The communicative models that he will use in his relationship with his pupils should be the object of study and reflection on the part of the teacher-to-be.
- Future teachers should be encouraged to develop the two aspects of class communication: interpersonal relationships/tutoring.
- Future teachers should learn to plan by themselves or in an interdisciplinary environment.

The tools were prepared by the IRRE Sicilia researchers Laura Anzalone, Maria Rosalia De Marco, Anna Maria Mangione, Caterina Fasone, Marinella Filippi, Francesca Piazza (the translation has been done by Marinella Filippi and Anna Maria Mangione) and were subsequently shared with the other members of the international group. Attached at the end of this publication is a list of indicators and descriptors regarding the European Teacher's transversal competences, along with a model of the students' interview before their departure, and the focus group matrix. The other tools are available on request at the offices of IRRE Sicilia.

Appendix

Appendix 1

Competences descriptors

Transversal competences and descriptors that characterise European teachers (on the basis of which the questions for interviews and for focuses, and the tasks for exercises were drawn up).

Organising competences (school): A European teacher can take part in work group. He can organise activities with other classes. He can foster relationships within the school. He can organise time, space, resources, school equipment. He can co-operate with other teachers on a common project

Organising competences (classroom): He can prepare materials, tools, time and space in the classroom. He can manage materials, tools, time and space. He can organise different kinds of activities, each with specific goals. He can carry out different kinds of activities related to students' needs.

Relational competences: He can shoulder responsibility. He can get others to shoulder responsibility. He can balance task organisation and the group's internal relationships. He can work on students' motivation, interests and results. He can handle interpersonal situations and relationships. He can create and maintain a good "working atmosphere" in the classroom. He can interact with his/her colleagues. He is aware of and can resolve difficult situations. He can keep his/her task under control.

Communicative competences: He can ask questions. He can rephrase concepts. He can discuss. He can make things clear (explain). He can

obtain information. He can knit together apparently contrasting positions. He can give and get feedback. He can express and decode non-verbal messages. He can signal approval, disapproval, refusal, directing them non-verbally towards precise communicative goals. He can check if the message has been understood.

Planning competences: He can understand the students' needs. He can set aims in accordance with the indicated needs. He can check the planning choices made at both group and disciplinary level. He can choose methods, tools, modes of operation, aiming at set goals. He can check work in progress, processes and outcomes. He can collect data in progress. He can assess both the soundness of the planning assumptions for completed tasks and the level of acceptability of the results achieved. He can connect different levels of planning. He can transfer the results of individual assessment to group level.

Psycho-pedagogical competences: He can build up checklists. He can use checklists in order to identify different ways of learning and students' learning styles. He can choose methods, strategies and tools suitable to different learning styles. He can handle different learning "patterns". He can use the "educational agreement" as a tool for student responsibility. He can organise activities that are rich in input, and different educational situations in such a way that everyone can achieve results suited to his or her individual abilities.

Methodological-didactic competences: He can identify and compare different teaching methods. He can choose the most suitable one/ones for each student's learning style. He can handle many different methods and strategies to fulfil different needs. He can manipulate time in relation to the students' different paces of learning. He can improvise and apply appropriate changes when teaching. He can organise and use different tools and strategies for students with special needs. He can exploit students' existing abilities to build up new ones.

Competences in handling external resources: He can identify "key" persons working in the field. He can co-ordinate co-operation outside the school. He can shift educational problems up to a political level. He can interact with guest-speakers from outside the school. He can plan educational activities with people belonging to other relevant organisations.

Reflective competences: He can reflect on the activities carried out. He can learn from his mistakes to modify his teaching. He can learn by doing. He can check a course in progress, or processes that have been started, and alter his work programme on the basis of data collected.

“European” competences - “AWARENESS” LEVEL: He perceives a “European” dimension to the learning/teaching processes. He knows which countries can participate in mobility programmes. He knows the European institutions involved in the learning/teaching processes. He knows the European programmes regarding learning/teaching processes. He knows about the organisation of school systems in other European countries. He knows how the teaching of his school subject is structured in other European countries. He knows about teaching methods used in other European countries both as regards his own subject and other disciplinary areas

“European” competences - “COMPETENCE” LEVEL: He can compare organisational patterns of educational systems from various European countries. He can find and use regulatory and efficacious tools provided by the EU. He can find and use informative and effective tools in order to participate in European programmes. He can co-ordinate mobility experiences. He can understand how important the European dimension is for his own work. He can overcome difficulties and obstacles (at political, institutional, economic and cultural level) in order to fulfil the teaching/learning “European dimension”. He can act as a link between the “European context” and “local context” in the teaching/learning processes.

Appendix 2

Research tools

Interview for students - Before mobility

- 1a Which aspects of school organisation should you know about and have control of in order to make your teaching more effective?
- 1b Which elements do you think you should consider in order to organise your classroom activity in a productive, economical, functional and effective way?
- 2a Do you think the friendly climate you create in a classroom might affect the students’ learning processes?
- 2b In your opinion, what professional behaviour should a teacher adopt in order to improve the teaching atmosphere in a classroom?
- 2c Which strategies should he or she use?

- 3a Do you think that mastery of the student teacher communicative relationship is important for facilitating students' learning processes?
- 3b In your opinion, which communicative techniques should a teacher know and use to foster these processes?
- 4a Which do you consider to be the main stages in a school's planning activity?
- 4b In your opinion why does a school plan its educational activities?
- 4c Which are the most important elements a teacher has to consider in order to plan his/her teaching?
- 4d Which do you think is the first step in planning any lesson?
- 5a In your opinion do all students learn in the same way?
- 5b Do you feel that a really professional teacher should be asking himself the following questions?
 How do I set up a meaningful learning situation?
 How do I exploit my pupils' natural abilities and tendencies?
 How can I induce my pupils to assume responsibility for their learning?
 Which strategies do I employ to increase and fix my pupils' motivation?
- 6a In your opinion, apart from knowledge related to his own teaching subject, what knowledge and teaching aids does a teacher need to make his teaching effective?
- 6b In your opinion is it important for a teacher to keep a daily check on classroom activity?
- 6c Why?
- 6d What should he do?
- 6e How can a teacher choose the most effective method/s according to his/her students' needs?
- 7a In order to operate efficiently, do you think modern schools should work in close co-operation with other organisations and bodies operating in the area?
- 7b Why?
- 7c In order to handle these links with the external world successfully, which strategies should a teacher employ to render the activity of the whole school more efficient?

- 8a Do you think it is useful for a teacher to keep a check on the learning processes that have been initiated, and to constantly assess the effectiveness of his own teaching choices?
- 8b Why?
- 8c What actions and techniques should a good, experienced teacher adopt in order to learn from his actual teaching and even from his own mistakes?
- 8d How useful might this “reflective” practice be, in your opinion, in making one a better teacher?
- 9a What does “managing the European dimension of the teaching/learning process” mean in your opinion?
- 9b Do you think it is important to be able to cope with the whole European dimension in order to become a complete professional teacher?
- 9c What do you think you might need to know in order to handle this aspect of your future students’ education successfully?
- 9d Which regulatory and operational tools should you possess in order to deal with the European programmes regarding the learning/teaching processes?
- 9e Which difficulties and obstacles do you think you might have to face in order to be able to handle this aspect in your future work?
- 9f Why?
- 10a Do you think this mobility experience might give you some help in developing this “European” dimension in your work?
- 10b What are your expectations regarding this experience?
- 11a Which aspects of the educational and vocational training system in the country that you are going to visit would you like to know more about?

Annex

Focus group matrix

SCHOOL ORGANISATION

School structures and resources

Timing

Space

...

CLASSROOM ORGANISATION

Groups

Materials

Timing

Space

...

WORKING ATMOSPHERE

Co-responsibility

Sharing of tasks

Exploiting differences

Handling conflict

...

COMMUNICATION

Communicative techniques

Verbal language

Non-verbal language

...

PLANNING

Why (reasons and aims)

When (stages)

Essential elements

...

LEARNING

Learning styles

Different ways of learning

Pace of learning

Responsibility/motivation

“Meaningful” learning situations

...

TEACHING METHODOLOGY AREA

Activities

Tools

Methods

Testing

Processes

Outcomes

Laboratories

...

OUTSIDE WORLD

Organisations and agencies

Networking

Strategies for co-operation with outside world

Internal and external resources: synergy

Links with other schools

Communal planning

...

“REFLECTIVE” DIMENSION

checking courses and processes initiated

testing, assessment, self-assessment

testing effectiveness of choices as regards goals

handling/learning from mistakes

...

“EUROPEAN” DIMENSION

Information

Regulatory instruments

Working tools

Advantages/obstacles

Mobility

...

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