

From Teacher Education to Professional Development for e-Learning in an e-Society

Towards an education in media(s), image and ICT (MITIC)¹

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Abstract: This paper concerns the development of a scenario aiming at the improvement of teacher education in Geneva in the [domain] field of [the] media, image and ICT (MITIC) in a media- and pedagogy-oriented process instead of technology-driven action as it is usually the case.

Among a lot of observations, experiments and constraints, the key factors we address are namely, the lack of well-educated teachers of teachers (level F3), the willingness to enhance coherence in teacher education together with pedagogical research (innovative projects), the need to take in account the evolution of the demography of teachers in professional development and the necessity to promote an attitude and an awareness of practices in collaborative and cooperative work.

In this process we have built a prototype of a new concept of teacher (F3-MITIC), and we have cooperated to a national incentive policy and proposed an agenda for the remaining problems to be solved.

¹ Pour une éducation aux médias, à l'image et aux TIC (MITIC), see Annex 1

We conclude the presentation of our contribution by the assessment of the fundamental necessity to put in action a real e-piloting including a set of strategies, as well as projects and tools which will have to be elaborated with the actors in the field in the four following directions : sharing [the] data, re-defining teachers' competences, taking care of innovative projects and designing pedagogical models of e-learning.

Key words: Collaborative learning, Adult education, Evaluation/formative, Training teachers of teachers, Flexible learning, Change of paradigm (Teaching to Learning), Innovation, Teacher professional development, Learner-centered learning, Learning scenario, Integration, E-learning, National policies, Open learning, Pedagogy, Self-assessment, Transfer, e-piloting.

1. INTRODUCTION

1.1 Brief International survey

For about 20 years very large national projects have been frequently published which announce implementation programs in the area of utilisation of ICT in Education. Until the end of the nineties they were, with a few exceptions, very discreet regarding specific measures to **educate teaching staff**, not to specific informatics products, but to **necessary pedagogical considerations to a real didactic integration** in the existing curriculum and/or in phase with the modernisation efforts of the education systems and their institutional priorities.

In this regard, **the CERI-OECD study with the « 6 scenarios for the school of the future »** [1] is highly instructive: for each of the considered hypotheses the ICT component is included but with a different output corresponding to each starting choice. This work cannot be separated from the **Curriculum UNESCO-IFIP** [2] which stresses the strongly interdependent multicomponent approach (teacher education is a basic

component) with implementation levels (emerging, applying, integrating, transforming) not forgetting the needs to preserve local implementation conditions (languages, cultures, institutions, etc..)

During the last five years the following studies should be mentioned:

- Σ project named FETICHE [3];
- Σ the EUN-Schoolnet activities [4];
- Σ The NOW report [5];
- Σ The THINK study [6];
- Σ The KCTR project [7];
- Σ The TRENDS project [8];
- Σ Some international IFIP conferences [9], [10], [11], [12], [13] and [14];

We have in addition also considered some projects developed regionally (for example COMETE committee [15]) and locally (for example experiments in CPTIC [16]).

1.2 A pedagogy- and media-oriented (and not technology-oriented) process

The convergence of industrial technologies which have coexisted with some autonomy is recent : Writing industry (editing, printing), Image industry (cinema, television), Telecommunication industry (telegraph, telephone, radio, television) and Informatics. This **bringing together** results in a convergence of media and changes in the appropriation modes of users. As a result, teacher education should [allow to] **promote professional development of teachers of the teachers with capabilities** to apprehend mediatic communication phenomena.

Media as information and communication technologies are an integral part of our children's lives. No educator today can be credible in front of his students without mastering a minimum of technical competences in MITIC (Media, image and ICT - see below) and, above all without having reflected on pedagogical concepts regarding their utilisation.

Ignoring the language of image language as well as ignoring means of communication such as Internet means also some form of illiteracy and the schooling system must educate tomorrow's citizens to every scriptural form and give them the tools necessary to the understanding of messages delivered by the media.

The clearly expressed political will to connect schools to the Network of networks in the very near future goes into this direction. But this objective will remain void if, in addition and to ease at mid-term a really pertinent and critical use

of the MITIC in the obligatory and post-obligatory education, **teachers of teachers** do not tackle these aspects in their own teaching.

2. MORE TARGETTED OBSERVATIONS

Several aspects converge to the necessity of some improvements in regard to teacher education.

The brief description of the project called **F3-MITIC** for the professional development (PD) in Teacher Education at Geneva. (cf. Annex 1) take into account the following observations :

2.1 Change of paradigm : from Teaching to Learning

During the last decade, the changes of roles of the Teacher have been widely and frequently discussed.

Nevertheless to go further and explicit **concrete proposals to promote and to put them in action**, we took in consideration Jacques Tardiff's ideas (this change of paradigm) [20] and the main results of a three-year EU project named FETICHE (Formation des Enseignants aux Technologies de l'Information et de la Communication : Changements et Evolution). On the national level we elaborated a prototype of incubator of pedagogical projects to stimulate scenarios of integrating ICT.[19]

2.2 Keep somme coherence in teacher education

It is very important to identify and build a **grid to maintain some coherence** between **students'** skills, **teachers'** competences and **/or teachers of teachers'** professionnall development with respect to transversal objectives and more general competences (levels F1, F2, F3 see above).

Grid of transversal competencies for the different actors of an educational system

Transversal Competencies	F1 Students	F2 Pre-service Teacher Education	F2 In-service Teacher Education	F3 Teachers of Teachers in any subjects	F3 MITIC Teachers of Teachers for integration of MITIC in Education
C1 ...					
C2 ...					
...					
C9 ...					

2.3 The bottlenecks : from big announcements to reality in the field

National policies, e-Europe, e-Learning, declarations of targets and deadlines during the last 5 years forgot the reality in the field : **instead of merging or converging initial teacher education, in-service teacher education and pedagogical research**, the actions are often splitted and far away from the "theory" (recommandations). The result[s] in some countries is an important bottleneck characterised by a **lack of well-educated teachers of teachers according to the institutional priorities and the change of paradigm.**

2.4 One disturbing paradox: The move of teaching staffs towards technological evolution

The demographic evolution of teaching staffs in the next five years shows in many countries the needs to educate an average of 40% of **new teachers**. Considering that, according to the most optimistic evaluations, the number of today's teachers presently mastering ICT amounts only to 20%, the huge gap stresses the urgency of bridging the **chronic deficiency** in educating the teacher specialists (too rare and insufficiently educated in pedagogy and adult education - see above)

3. THE TEACHER OF THE FUTURE (IDEAS BEHIND F3-MITIC)

According to the picture of what to do for the teacher of tomorrow, the professional development (PD) was oriented towards a **model called F3-MITIC**

In view of the development of pedagogical approaches the former distinction between MAV (Audiovisual tools) and ICT centered on objects is obsolete.

We consider therefore as strategic to expect from all teachers of teachers - irrespective of the didactics used or of teaching level, **education competences in and through media**, i.e. **capability of integrating MITIC in assisting the construction of knowledge.**

A **brief description** of the F3-MITIC project with modules is developed in annex 1.

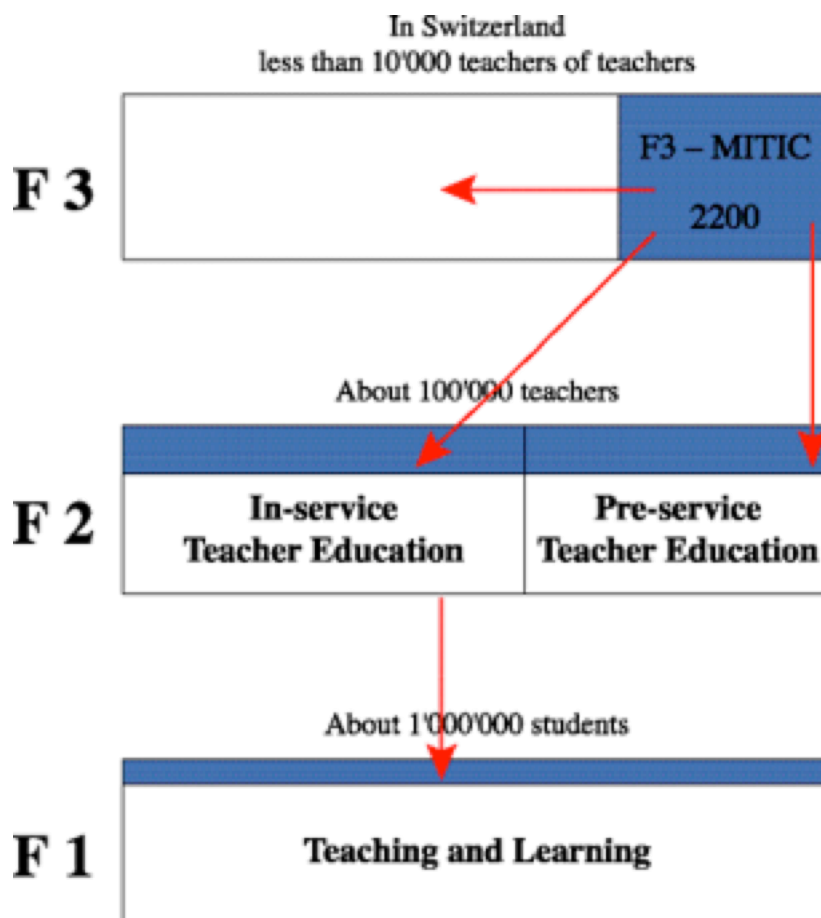
3.1 F1, F2, F3 – Transversal and in network

To define ideas and to ease understanding let's define:

F1 = education received by students (independently of the levels of education)

F2 = initial and/or continuous teacher education received by teachers (independently of the levels of education)

F3 = education received by teachers of teachers.



The objectives of the learning path **F3-MITIC** (see below) are therefore as well as on the MITIC relating to pedagogy as to develop **transversal competences** at all levels of the educational system (from primary to university)

The needs and will to reconcile **initial and continuous education** and **pedagogical research** is always part of all the attempts **most** often found in the form of networks.

3.2 Some features of F3-MITIC

Strong emphasis will focus on pedagogy, adult education, integration of ICT, collaborative learning, evaluations, basic and sustainable skills like producing document, exchanging of experiments, communicating, elaboration of scenarios, capitalising /mutualization of the production of the learners, piloting the PD through the learners i.e. the **teachers of teachers**, etc. The whole conception of this project is **designed, as mentioned earlier, as pedagogy-** rather than technology-**driven**. The spirit is close to Bent Andresen with his "Design of Teacher E-Learning ñ the Scenario Model" (cf. IFIP WCC'2002 at Montreal August 2002). [12]

4. THE PROTOTYPE F3-MITIC IN 2001-2002

A group of 25 existing teachers of teachers (practitioners of initial and/or in service teacher education) experimented this model for one year (2001-2002). [16] **The prototype F3-MITIC 2001-2002 offered very interesting observations** in different directions, namely :

- Σ Implementation of the content
- Σ environment for collaborative work
- Σ new methods to introduce, to experiment or to apply the prototype
- Σ modalities for piloting, mesures for accompagnying the plan of action
- Σ organisational matter,
- Σ different modalities for evaluation
- Σ follow-up tools
- Σ diffusion of the information

70 scenarios were produced throughout the 10 modules. A draft analysis about a **typology** on all production was achieved [16] by a fellow researcher of the Faculty of Science Education (University of Geneva)
http://wwwedu.ge.ch/cptic/f3mitic/0102/scenarios/analyse_f3mitic.pdf

A **web site** [16] summarized the whole activity.

(<http://wwwedu.ge.ch/cptic/f3mitic/welcome.html>)

5. TOWARDS A NATIONAL PROJECT (2002-2007)

During the present school year (2002-2003), the **model F3-MITIC** is subject to **generalisation** at the national level through a 100 MCHF Project called "PPP- ICT and Teacher Education" (5 years 2002-2006 - 2600 persons concerned ca. 2% of the teaching staff). [17], [18]

The way to **promote collaborative work** through cantons (with different educational systems) is a **key issue and special dispositions** have been elaborated.

6. AN AGENDA FOR SOLVING THE REMINDING PROBLEMS

Such a plan involves obviously a series of problems to be considered and questions to be answered as soon as possible.

Some current ideas:

- Σ How to further reinforce the Professional Development of Teacher Education in the direction of LifeLong Learning of the "teaching" staff ?
- Σ For the teachers of teachers, how to implement continuous education plans to allow them to continue this evolution? How to certify them? How to best use them after the F3-MITIC education (" rights and duties", "mixed" statutes - coexistence of statutes, working conditions, etc..)
- Σ In the on-going generalisation the existence of a resource centre appears as a key factor to successfully complete the process. How to stimulate the establishment of such structures where they do not yet exist?

- Σ How to stimulate the generation of innovative projects in the area of MITIC from the existing conditions in the field where partners are as numerous as spread-out, either at individual or institutional levels? [19]
- Σ Regarding competences developed by actors of F1, F2 and F3, how to ensure coherence which would favour learning with utilisations in phase with institutional objectives and priorities?

7. CONCLUSIONS

At federal as well as at cantonal levels a growing attention has now been given to the needs to **implement an e-piloting** going beyond simple ratios not reflecting the real situation. Therefore a plan of action "e-pilotage-CH" is being finalised by the Task Force " ICT et Teacher Education " [19]. The objective is to **develop a series** of strategies, products and tools in co-operation of actors active in the field, to allow them to **better manage the integration of MITIC** in teaching and learning in Switzerland thanks to the following activities:

- Data sharing
- Competence profile
- Management of innovative pedagogical projects
- Pedagogical models and e-Learning platforms

Such a study program is certainly to be shared in the spirit of the meetings organised by IFIP (there is surely an opportunity to seize with the Focus Groups of the Working Conference)

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Annex 1

Brief description of the project called *F3-MITIC Learning Path* for the professional development (PD) in Teacher Education at Geneva

F3-MITIC is a learning curve for teacher of teachers (F3) in media, image and ICT (MITIC) started by the Education Department of the Canton of Geneva.

The aim of the F3-MITIC process is to develop the motivation and competence of teaching professionals to provide courses to further teachers or to operate as resource-persons in teaching institutions.

The project is included in the general program of integrating pedagogical utilisation of MITIC in the teaching and learning processes at all education levels and wants to answer the growing needs in education of teaching personnel in this field.

Learning Objectives

The objectives of F3-MITIC is to ensure the education of teachers able to perform the specific education of teachers of teachers and of resource-persons for pedagogical integration of media, image and ICT (information and communication technologies) (MITIC) as well at initial education level (IFMES) as in continuous education. The F3-MITIC program is designed for teachers at the three education levels: primary, secondary (obligatory and post-obligatory) and professional.

Contents and organisation of this Learning Path

The F3MITIC learning curve is distributed throughout the school year and brings together 25 teachers per cycle. In 2002-2003, 8 trainers from upper secondary education of Valais participate in the learning program. The program is composed of 10 modules of one to two days representing 100 [course] hours in class completed by about 150 hours of distance collaborative work. Each module based on a theme is the opportunity for the groups (two to three persons) to develop a pedagogical scenario of innovative project using MITIC in teaching/learning and aims at developing strategies specific to adult education. In this perspective reflexive analysis

and the critique of the individual experience in each module is an integral part of this education.

The F3-MITIC program which welcomes experienced teachers from media, image and/or ICT is not a place where new knowledge specific to each of these domains is presented but is rather a place for experimenting, exchanging practices and building up new competences.

Programme

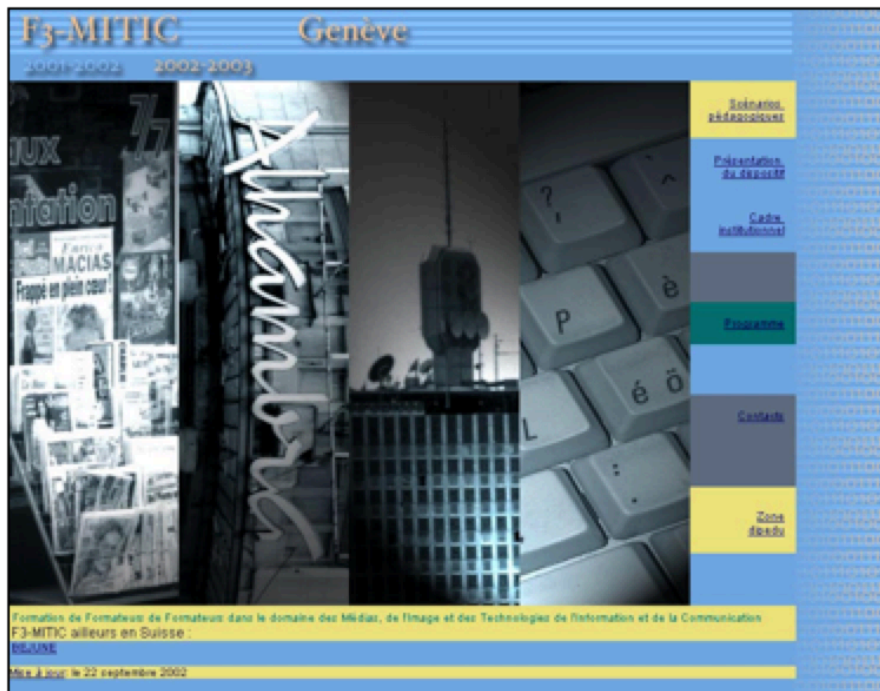
As in 2001-2002 (pilot-project), the 2002-2003 process is composed of 10 modules organised in three groups. It is completed by three half-days which enable the analysis of the pedagogical scenarios produced by the participants, three times a year (E-I, E-II, E-III).

Module list:

1. Which new pedagogical competences are required by the evolution of communication tools and practices?
2. Pedagogical and conceptual approaches of using MITIC in scholar education
3. Consolidation of the participants' technical and practical competences in MI, ICT (3A) and mediatic communication (3B)
4. Consolidation of the participants' pedagogical competences in the areas: didactic use of fixed image or didactic use of information and communication systems.
5. Consolidation of the participants' pedagogical competences in the areas: didactic use of moving images or didactic use of modelisation and simulation.
6. Didactic use of a multimedia document
7. Realisation of a multimedia document
8. Realisation of pedagogical Internet services.
9. Group communication using devices based on text, image and sound
10. Ethics and social impacts of MITIC utilisation

• Information

Adresse du site : <http://www.edu.ge.ch/cptic/f3mitic>



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