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Teachers' Training in the Fédération Wallonie Bruxelles

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Abstract

Two approaches to teachers' initial training are organised in the Fédération Wallonie-Bruxelles. "Academic knowledge" and "professional practice" are mixed in variable proportions.

- *The initial training of primary school teachers (for pupils between 6 and 12 years old) and Agrégations de l'Enseignement Secondaire Inférieur AESI (12 to 15) are organised in Hautes Écoles (HE) in a three-year cycle and lead to a bachelor's degree with a professional orientation.*
- *The initial training (AESS) of agrégés in upper secondary school (15 to 18) is organised in universities in a five-year cycle and leads to an academic master with a didactic orientation, or in a 6 year specialised academic master with extra training.*

A project of structural reform of teachers' initial training is currently under consideration to change the composition of the upper education landscape. The project intends to extend the training cycle in hautes écoles and to build new frames of reference of skills. This approach has to redefine the profession of teacher in its multiple missions: pedagogic, didactic and as a social and cultural partner.

1. Initial training

1.1 Teachers' initial training in Hautes Écoles: Agrégation de l'Enseignement Secondaire Inférieur (AESI)

Two hautes écoles are involved in the project "Chemistry":
École Normale Catholique du Brabant wallon (VINCI ENCBW) in Louvain-la-Neuve and its assistant professor in chemistry Nathalie Matthys.
HELMo Sainte-Croix in Liège and its assistant professor in chemistry: Divna Brajkovic

A. Current organisation

The AESI is organised in the pedagogic categories of Hautes Écoles and concerns teachers in compulsory lower secondary education (12 to 15). This section includes several sub-sections including sciences (biology-chemistry-physics).

This initial training is the result of the decree "initial training of primary school teachers and régents" of 12/12/2000, adapted after the decree "standardisation of upper education in the Fédération Wallonie Bruxelles", called the "Bologna decree" of the 31st of March 2004.

Access to initial training is not governed by a competitive exam or by the introduction of a personal dossier. With an upper secondary education degree (CESS) one can start bachelor's studies of Agrégé of lower secondary education.

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The training is organised in a three-year bachelor's degree with professional orientation. The training focuses on theory and practice as soon as the first year: there is a progressive and continuous interaction between academic knowledge, teaching and educational skills and supervised professional practice with the "target audience", that is 12 to 15 year old pupils and field teachers. The training is based on the achievement of 13 skills:

- Mobilising knowledge in social sciences to correctly interpret situations lived in and around the classroom and better adapt to the school audience.
- Maintaining efficient partner relationships with the institution, colleagues and parents.
- Being informed on one's role in the school and practicing the profession of teacher as it is defined in the reference legal texts.
- Mastering (inter)disciplinary knowledge that justify the educational action.
- Mastering the disciplinary didactic that guides the educational action.
- Demonstrating great general knowledge to make pupils aware of the cultural world.
- Developing relation skills related to the profession requirements.
- Measuring the ethical aspects related to one's daily practice.
- Working in team at school.
- Designing testing, assessing and regulating teaching devices.
- Maintaining a critical and autonomous relation to past and future scientific knowledge.
- Planning, managing and assessing various learning situations.
- Having a reflexive view on one's practice and organising one's continuing training.

These 13 skills are divided in six distinct and complementary axes:

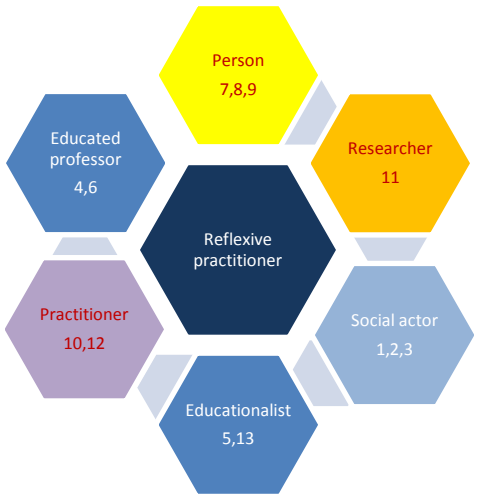

Figure 1: Axes and diagram created after the work of Léopold Paquay

The 7 training axes are:

- to acquire sociocultural knowledge
- to acquire social-affective and relational knowledge
- to master disciplinary and interdisciplinary knowledge
- to master educational knowledge
- to acquire a scientific approach and research attitudes
- know-how
- interdisciplinary activities to build a professional identity

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Certification is based on assessments by trainers each year during examinations and during the year (for internships for instance). At the end of the cycle, an end-of-studies project is done and defended by the student.

B. Strengths and weaknesses of AESI

The analysis of the organisation of AESI comes from two studies.

Strengths

- Permanent and progressive interaction between academic knowledge and professional reality (professional training workshops, internships, practical training professor [MFP]);
- closeness between trainers and students and multidisciplinary team work;
- accessibility to training for a great number of applicants with a CESS (or equivalent);
- recognition of a teacher identity through common lessons between courses of study and identical titles in program schedules.

Weaknesses

- organisational and institutional difficulties: recruitment of MFPs and MFP's observation in the classroom, recruitment of trainers with experience in compulsory education; recruitment of internship supervisors;
- strains between trainers, students and internship supervisors because of different demands;
- students that are too quickly considered to be in a professional situation during internships while they are still in training;
- very dense training programmes that leave little room for students' hindsight (around 1/3 more load than other teachings in HE);
- certain new lessons given in a lecture hall do not make the theory-practice articulation easy;
- applicants who join the training with a low level in basic subjects and motivations that are unsuited to the requirements of the profession of teacher;
- the establishment of residual credits (credits failed in the previous year) seems to make students' participation to the classes more difficult and merely delay failure or leaving.

1.2 Teachers' initial training in universities: Agrégation de L'Enseignement Secondaire Supérieur (AESS)

By Myriam De Kesel and Bernard Tinant, professors of agrégation in biology and chemistry at the Catholic University of Louvain-la-Neuve (UCL).

A. Current organisation

The universities organise the initial training of AESS according to modes defined by the decree of the 8th of February 2001. AESS includes at least 300 hours of lessons and teaching internship and is spread on a complete academic year. In reference to the missions decree, it is intended that students have to achieve 13 skills through teaching contents organised on 4 axes: 1) achieving sociocultural knowledge; 2) achieving social-affective knowledge; 3) achieving pedagogic knowledge with a scientific approach in 2 parts: integrated didactic transposition and pedagogic training; 4) theory and practice (or know-how) articulation achieved during internships.
The AESS presupposes a mastering of the subject and the achievement of a scientific approach during the disciplinary Master, the great difference with training in AESI. The 300 hours aim to

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compensate the absence of pedagogic and didactic training from the curriculum of the disciplinary Master.
Since the "Bologna decree of the 31st of March 2004, pedagogic training has been integrated in the curriculum of the Master (didactic orientation). Thus, there are currently two ways to achieve the AESS: either the Master with didactic orientation (5 years) or a master with another orientation / equivalent certification followed by 30 AESS credits (6 years in total). It must be pointed out that the proportion of students in either way varies a lot according to the subjects but most programme managers agree that masters with a didactic orientation are not as successful as expected regarding the number and quality of students.

B. Strengths and weaknesses of the training (cfr[4])

Weaknesses

- The university does not aim to offer masters with professional orientation, which the didactic orientation should be.
- The time dedicated to training compared to the number of credits (30) is greatly insufficient.
- The articulation of activities and the lack of coordination within the programmes of masters with a didactic orientation is very difficult, particularly regarding the internships and the dissertation that take place in parallel.
- Students hesitate to choose the didactic orientation because it is considered as more demanding, and of fear of gaps in subjects in case they turned towards the PhD.
- The didactic dissertation is not always recognised as a "real dissertation".
- Connecting theory and practice is difficult for certain lessons given in large lecture halls.
- Students in the post-master AESS are particular and heterogeneous. They include many people who resume studies and often do not master subjects among other because their Master, or even Licence (the Master before the Bologna reform), dates from a long time.

Strengths

- Students in the Master as well as people who resume studies can obtain the agrégation in one year. For these, there is a certain flexibility regarding their second cycle degree allowing their dossier to be accepted by the faculty (civil engineers may start the agrégation in physics or graduate veterinaries start the AESS in biology for instance).
- Certain universities used the freedom left in the programmes to propose major/minor forms (major in the same subject as the master, minor in a related subject or of particular interest for the student). This opening has been introduced to take the field reality into account, namely that many science teachers have to teach the three subjects: biology, chemistry and physics, including sometimes in the third grade (16 to 18).
- Several collaborations between the actors concerned (experienced field teachers, inspectors, educational advisors…) have been established thanks to the Bologna reform.
- The audience of AESS has become varied: students in Master mix with more mature people who are resuming studies sometimes after fifteen years in a profession of the private sector; their second cycle training are varied: chemists, biologists interact with bio-engineers, graduates in biomedical sciences or in pharmacy for instance. There is a great variety, but it is also the source of difficulties precisely related to the heterogeneity of the group.

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At UCL, the initial training of secondary school teachers specifically aims for the pedagogic and didactic training of the future upper secondary school teacher

The content of this training, strictly defined by a decree, includes **theoretical lessons**, conferences, seminars and practical internships.

With those activities, the agrégation programme at UCL aims to achieve the following skills:

- Understanding and analysing school, its framework and actors
- Designing, structuring, planning, managing and assessing teaching-learning situations
- Reflecting on teaching practices and their context

How to develop a real reflexive attitude on one's practice in a given context and with a given audience? How to base this reflection on didactic and ethical criteria and on references to educational researches?

At UCL, students who are accepted to the agrégation in biology or chemistry are directly trained to teach these subjects (natural sciences didactic) and choose to be trained at a third one (many choose physics to be better prepared to teach those three subjects). The assessment of the internships they carry out is based on four dimensions: mastering the subject content to teach and the French language; teaching skills in relation with the subjects taught; educational skills and metacognitive skills.

They are prepared to them through lessons of science didactic and epistemology and through seminars to integrate the internships.

1.3 Considered ideas for improvement a common initial training with a professional orientation based on scientific, educational and teaching components.

It would seem useful that all the teachers who teach sciences in any six years of secondary school had a same training. It would involve a common training during the first three years (subject bachelor's degree) based on the learning of one major science and other minor ones. The two years of master (or only one?) would be based on the teaching and learning aspects of the training (with variations according to the audience the student would rather teach to). Therefore, current AESI students would better master subjects to teach and current master students be better trained in teaching and learning.

2. Teachers' continuing training in the Fédération Wallonie-Bruxelles

By Jean-Luc Pieczynski, educational advisor at SeGEC

Every secondary school in the FWB is attached to one of the four networks: the one organised by the FWB, those of provinces and municipalities, the denominational free one (mainly Catholic education: SeGEC) and the non-denominational free one. Each network works in its own way but is subsidised by the FWB, provided that it respects a series of injunctions.

To train during his/her career, the teacher can:

- Do a training (http://enseignement.be/index.php?page=25544&navi=3016). Any staff member needs three days of training each year, divided between one day organised by a public benefit organisation, IFC (Institut de Formation en cours de Carrière – Continuing training Institute), two days organised by the network and/or the school. Teachers can

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choose in a catalogue the subject of the training. The choice must be approved by the headmaster who makes sure the training matches the training programme of the school.

- Ask support. Educational advisors can intervene at school. While training aim to acquire a tool, teaching model, or subject knowledge, support is rather a “co-construction” in which teachers and the educational advisor work together to start a change. The request can be issued by a team of teachers, the headmaster, or be required after an inspection. Particular attention is paid to new teachers. Several organisations guide them while they are settling in the work.
- Participate to working groups. On the initiative of universities, Hautes Écoles or private individuals, teachers discuss a given topic to share professional practices.
- Participate to coaching sessions. Universities organise sessions to update knowledge.
- Work together with Centres de Technologie Avancée (Advanced Technology Centres). These offer schools to train teachers and students to use material (e.g.: industrial) which is too expensive for schools to purchase.
- Consult the Internet. Agrégations and teachers associations work to create innovative lesson sequences, computer animations, spectacular experiments, and gather their information together on websites known to the teachers.

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