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Strategic Issues in Educational Development: The Concept of *Experience*, as a Basic Assumption for Higher Education Change at the UAB

Abstract

This text is a reconstruction of both the actions and guidelines developed within a new institution of the UAB called IDES, a catalan acronym for Educational Development in HE.

Keywords

Educational development, change strategy

Strategische Aspekte der Lehrentwicklung: Das Konzept der Erfahrung als Grundannahme für die hochschuldidaktische Entwicklung an der UAB

Zusammenfassung

Der vorliegende Beitrag rekonstruiert sowohl Aktivitäten als auch Richtlinien, die von der IDES (katalanisch für Lehrentwicklung in der Hochschuldidaktik), einer neuen Einrichtung der Universität Autònoma de Barcelona entwickelt, wurden.

Schlüsselwörter

Lehrentwicklung, Veränderungsstrategie

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1 Introduction

The text below is a reconstruction of both the actions and guidelines developed within my university, along the time I was in charge of developing a brand new project in Educational Development. Such a project was located into a new institution: IDES, (a catalan acronym for Educational Development in HE).

Some of the guidelines exposed here were latent in the definition of that institutional project profile, as a consequence of a prior professional experience in curricular change processes in which I had been involved. Other reflections are *ex-post* elaborations, extracted from the diversity of experiences that we developed. They reflect my own experience and the frames emerging from the main developed action along this time: a process of transforming different careers to the ECTS model in which I was involved as both, consultant and coordinating leader. A third group of issues which I am dealing with here are reflections raised from the accumulated experience in all the processes I experienced in such responsibility.

The text is divided in two parts. The first one, is an elaboration of what I have mentioned above and it exerts as both a foundation and analysis of the displayed actions which I try to expose trough some maps in the second part.

Its basic aim is not to show only institutional solutions for enhancing educational development, but promoting a discussion on the complex frame within some strategic guidelines were adopted, trough making such frame visible.

2 Understanding EHI² changes generated from the *Bologna's* framework

One of the best examples of how change is understood by HEI raises from a recent and relevant document, (*REICHERT & TAUCH, 2005*)³. For the interviewed institutions, *change*, according to the Bologna process, is seen as an excellent opportunity for Universities to reflect upon their curricula and to become renewed: in their “*programmes and teaching (...) this has acted as a catalyst to internal reforms. This has often led to more rational planning of programmes – eliminating redundant or duplicated courses – and even to a complete redesign of curricula linked to the introduction of student-centred or competence based teaching and learning*” (p.28)

This paragraph summarizes some key issues embedded in such a process. But one trend is emphasised among others: *Bologna process* is seen as a *conductor* of internal reforms. Later on, these reforms are shaped in terms of: redesigning

² Educational Higher Institutions

³ Sybille REICHERT, Christian TAUCH, 2005, *Trends IV, European Universities Implementing Bologna*, European University Association Publications.

curricula, focusing on students learning and developing a competence based teaching and learning.

Nevertheless, far from announcing *only* a change, those three issues are questioning us about our own perception of the nature of the HE reform. Are they willing to propose *only* a variation in curricula? Or, instead, that triad of features is pointing at something deepest, at a sort of more radical transformation in HE Institutions? The question about what is really understood in a specific institution, when “reforms” are set up is not irrelevant at all. It encloses a deep discussion that will arise again and again as all the process start moving forwards; a sort of discussion that raise a political dilemma, as the way of sorting it out will generate both affection and disaffection among diverse institutional actors.

So, the nature of the proposed change must be addressed right from the beginning. It is critical to take into account that *understanding change* should be the preliminary aspect, no only for implementing a sustainable change, but, basically, for making it real from its first step. Thus, we would point out at four basic issues – as well as at their related implications - to understand the *Bologna process* from the inside of an institution:

- Such a change, even it is shaped in global features – as those enclosed within all the Bologna’s literature – has to be both developed from and rooted into the *local*, at the level of each HEI, according its strengths and weakness as well. *“The visits to several institutions in one country showed that the same national conditions could result in very different institutional actions”* (p.41). Trends IV reports that, within a same country, some institutions assumed Bologna process in a very proactive manner while others refrained from reviewing inner processes until it could not be avoided any longer.
- The different *costs* of its implementation. No *cultural* change has a zero cost, neither can it be achieved at short term: *“The Bologna reforms are absorbing a considerable amount of time and resources – not just in the implementation phase but also for the additional teaching and assessment time for professors needing to run the new structures and approaches – to the detriment of research”* (p.34).
- The way how institutions and their actors perceive the political support to their change process. *If reforms are to be successful, there needs to be much grater awareness throughout society (...) this current period represents a major cultural shift which is transforming long-accepted notions of higher education and that implementing the reforms needs time and support.* (p.29)
- Its own cultural complexity and its further implications. From the preliminary executive summary of *Trends IV* authors already stress that *“a comprehensible three-cycle system throughout Europe is a highly complex cultural and social transformation that has a set off a chain of developments ...”* and recognise as well that its impact requires more sophisticated analysis in the field of *“the implications of a shift to student-centred learning”* (p.6). Such condition leads us to reflect about the local cultural trends in each single institution. Cultural changes in nature depend upon general conditions, but they only become reality within specific contexts.

3 How is this huge shift supposed to occur?

What has been said is that we shall not be able to develop a relevant strategy within the single HE institutions unless we develop both a clear and shared understanding of what that process is about. In order to allow that possible, we have to reflect on the degree to which we are able to change and which guidelines should be build up to that purpose.

Focusing on the first issue, the arguments exposed on Trends IV deserve to be considered, as they have further consequences on the HEI projects of change. *The main reason why so many institutions transformed to the Bologna reforms into their own institutional agenda seems to lie in the perceived **need to review and reform curricula***⁴ (p.42). Nevertheless, far from being a simple question this general reason can be argued in different ways:

- Assuming the pressure for adopting all the objective features of Bologna process, as a formal requirement, is a way to be considered among those being accredited as renewed institutions. Thus, that reason would support a sort of gregarious institutional behaviour which not necessarily has a deep impact on the institution.
- A second kind of argument is related to updating curricula. As within any complex organization – it is well know that HEI are among the most complex ones – , it is possible to find different superfluous and outdated courses among their curricular offer. Thus, we can not ignore the argument that such a proposal is a good occasion for proposing their re-adaptation into more efficient curricula. Updating them both, in their contents and its contribution to the expected student's formation. According to this, discussions here can be *easily* solved out with regard to the general frame of the Bologna's proposal, as in this case it exerts a sort of an overall normative function.
- The third argument is about *transparency*, in a close perspective to that of the "*customer's rights*". Thus, among the different good reasons to push HEI through their institutional shift, transparency plays an important role regarding the offered programmes *in terms of contents, methodology, and so on* (p.42), according the student's interest in having access to the best information.
- A fourth distinctive feature in advocating for change is the competence-framed curricular proposals. It is obvious that a professional orientation should be really attractive to many actors in this period of increasing *mass production*. This frame offers *practical* references for evaluating the current formative proposals, especially in those careers with clear professional orientation.

A second general argument for advocating for the HEI shift deals with curricular change and *student's needs*. Deliberation and discussions here adopt a different nature, with regard to the above arguments. Considering the students themselves in their involvement with the process of change, among others arguments, discussions

⁴ In bold in the original.

here must be transparent enough in order to avoid any confusion between *students' and market needs*.

My position is that while the first group of the above arguments can exert a function of *aggiornamento* on HEI, even a necessary one, when focusing in *students' needs*, and adopting their point of view, we are pointing at a deeper level of expectancy in the predicated will of change, converting it into something more complex. Here, change is seen as being more radical and as bearing more deep implications. When *change* depends on issues as, for instance, increasing student's opportunities of learning, in making their workload both relevant and bearable; in extending the *competencies approach* to all careers or introducing interdisciplinary approaches trough projects or case studies, and so on, then, the process of change adopts a very different set of consequences and requirements than those coming from the first group of arguments.

To illustrate that point, from Trends IV itself, I made a selection of a group of statements embedded in such a deeper vision of change. Among those arguments we can perceive some crucial pedagogical gaps which are still deeply linked to the academics' concept of professionalism:

- *“Academics in many countries expressed concern about the negative effects brought but by the focus on teaching (as opposed to student learning) in the Bologna Process, especially at the Bachelor level, with language as “Verschulung” “Didatticizzazione” being used”. (p.13)*
- *“Concepts and tools such as student-centred learning, learning outcomes ... are implemented haphazardly to comply with existing regulation without a deep understanding of their pedagogical function” (p.22)*
- *“Learning outcomes are still considered by many deans, professors and students as an accessory,” (p.20) (...) In a number of HEIs only vague notions of learning outcomes exist, and sometimes with only one group (for example, deans or central administration) showing some degree of familiarity (with it). (p. 18)*
- *“In “re-designing more student-centred curricula, institutions must foresee that students will need more guidance and counselling to find their individual academic pathways in a more flexible learning environment. (p.20)*
- *“The use of ECTS is widespread, although problems remain, in particular concerning how to assign credits to courses by assessing properly student workload”. (p.26)*
- *Investing time in reform is seen as a reduction of research activities “which in turn is having negative repercussions on the quality of their teaching”. (pp. 13-14)*

4 Investing in a Overall Change Strategy

A provisional conclusion raises from the above. Unless the HE Institutions accept to move forwards to a shift on the basis of a low-profile definition of change, – which has not necessarily be a “wrong” institutional strategy as a starting point – investing in change strategy is unavoidable. In defining such a strategy, some basic issues should be considered.

4.1 Project Definition

Starting from the definition of a Project, which shall sustain the change process. Such a project will bring an institutional awareness about what to do, why, and its main reasons to be communicated and discussed.

4.2 Project Foundations

Spending some time deliberating about the project’s foundations. This kind of deliberation should afford the whole array of relevant reasons to sustain the process among all involved stakeholders. I like to talk about an array of reasons because in such a process many different issues converge. From those of political nature – both general and institutional – to the reasons considering the current availability of resources; from the academics’ to the students point of views; from theoretical to the professional learning; from institutional to social and productive rooted arguments. Summarizing, I’m talking about *why* and *for whom*, and about how to draw from the institutional strengths a set of well rooted and – if possible – shared reasons among participants as starting point. The main aim here is making more clear for all in what kind of process are they being involved in, just from the beginning.

We must not underestimate the fact that academics are used to develop all their criticism, especially when a proposal is stuffed with some ambiguous and controversial concepts in different branches of the social sciences, as “market”, “professionalism” or “competences”, and so on. According to that argument, the clearer the reform project, the more credible and change-oriented it will be, which is a useful observation when considering the next issues.

In Trends IV an evidence for success within an institution is described as: *converting top-down directives into an opportunity for bottom-up review and reform* (p.42). My argument here is as follows: for that to happen it is firmly recommended to get a shared complicity upon the project. Otherwise, it probably only will work on the basis of a “*laissez faire*” leadership style.

4.3 Promoting Self-awareness among Stakeholders

Promoting self-awareness among the different stakeholders as “*reform ownership’s*”. One crucial issue here is trying to develop in practical terms a *local* meaning of the general statements in Bologna’s literature. A second one, is both, to extend the and to define the arguments underlying in the process or learning with

regard the complexity of the “*knowledge society*”, which it shows the strongest links with the so called “students’ needs”.

This kind of processes needs a dense network of both group and individual complications, besides all the official requirements. In every HEI there are different positions for any developed policy. So, to develop individual and targeted group ownership on the project requires, besides transparency and good reasons, a lot of contacts and horizontal reasoning. Among the basic sceptical arguments, we have not to be surprised to find out a short term costs/benefits imbalance.

4.4 Perception of the Process

Developing a clear perception of being in a track of a complex *win-win* process. Both academics and students are very clear on one point: they are confident about their work, and they do their best in courses and research, so they do not have time to waste.

When trying to go beyond the official norms, beyond the controls exerted by external accreditation agencies, when HEI try to develop its own projects, it seems crucial to work under the basis of a win-win sum. The aim of attracting either best or more students is a typical example of it. Getting a higher institutional status is another one, as well as waiting for a better founded teaching projects. Problems arise when these motivations are considered strategic by themselves, instead of being a consequence of developing a more strategic rooted project.

Nevertheless from the experience we gathered, it seems important to take into account the institutional process’ extra costs: “*The extra costs of the Bologna reforms at institutional level are far from being covered. Indeed as most of the costs of Bologna reforms have to be borne by the institutions themselves, in times of restricted institutional budgets this means that resources are being taken away from other essential functions of higher education, such as research. (p.48)*

4.5 Approaches, Strategies and Tools

When handling with cultural processes in its nature, the approaches, the strategies and its tools can not be the same than those developed within technical processes, and R&D ones. To sum up, changes rooted in deep cultural backgrounds, to start with, are open instead of being “closed”, so reaching the goals means standing on the purposes rather than checking out a well defined group of “objectives”. If we select, as an illuminating example, the idea of *curricular planning*, we can gather a good number of evidences demonstrating that it is everything except a *technical process*. Let’s see different evidences arguing such idea:

- *Academics often content themselves with assuming they know best what kind of knowledge and skills will help their graduates to find a job. (Trends IV, p.15)*
- *The use of ECTS is widespread, although problems remain, in particular concerning how to assign credits to courses by assessing properly student workload, (p.26)*

- *The implementation of two-cycle structures and curricula review is well underway in most institutions, but the reorientation and rationalisation of curricula in the sense of alleviating and focusing contents still has to be completed. Thus, the relatively frequent and misunderstanding that Bologna is about teaching the same subjects in less time needs urgent clarification. (p.22)*
- **Modularisation** continues to be a difficult topic, often rather poorly understood. Each HEI would benefit from tacking a coordinated approach to modularisation, defining the size and format of modules across the institution, (p 20).

One can say that evidences here show a deficit either of information or *change know how*. Others would point at a lack of leadership, while others would stress on professionalism (the lack of). We want to draw attention to the qualities embedded in those change processes. While *quantities* (allocated class hours, overall time, student's ratio, etc.) depend on legal constraints and administrative policies its management and development, in terms of effective formation, depends on the academics' beliefs; on their communication styles or on their previous experiences and expectations, not only as individual but as a member of a specific academic community as well.

4.6 Basic Supporting Function

As a consequence of the above, a last issue must be considered. A leadership's basic supporting function is to make visible that such processes have to be dealt with professionalism. That is, with pedagogic approaches, whether they are understood as curricular, instructional, teaching-learning relationship or in terms of instructional tools. As a consequence, a strategic guideline seems clear: disseminating, trough diverse experiences and by diversified means and strategies, different kind of pedagogical knowledge throughout the institution.

5 Action's guidelines

According to the stated above, many different lines of action must converge in the process of change for making it possible. From those political ones, at the level of national state, to each HEI policies, including additional resources and counting on the effective involvement of the different institutional actors. But such a description of needs, by themselves, is not a guarantee of success. *Success* means additional conditions that must converge within a process, as I already tried to demonstrate above.

As a cultural process, this kind of change management has no specific action lines pre-existing the action itself. In fact, what it is crucial here is developing processes based both on action and reflection or upon already developed experiences. Group deliberation and the activity of systematic gathering documentation, which both, evaluates and illuminates the developed actions, appear to be essential functions too. In such circumstances, information and previous experience (*good practices*) can not be directly transferred from other cases. On the contrary, external developed information can be very useful as a reference only when action is generated from self-experience. We can talk about HEI as learning organizations

only because of the potential of those tools when used to illuminate a current process of developing a specific project. And such conditions stress, in fact, three important points.

5.1 Long term versus short term change

Changes shaped on that way usually drift to becoming a long-term ones. So, it seems useless trying to define their boundaries within a short span of time. That condition does not mean that short term goals are not necessary to achieve. But when changes are built on professionalism, on related professional behaviour and qualities, it is hard to foresee when they are *fully* reached. That's why stressing the participant's accountability, in its support, and gathering evidences through portfolios, as a way to evaluate the whole process done, is much more effective.

5.2 Enhancing professionalism

As we have already seen, a crucial point in such a change is about teaching professionalism. Students mean teachers, as learning mean teaching. And there are more effective ways than others when we communicate or build up learning processes. So, that defines the raw material for developing professionalism. The relevant question here is whether all that is possible without a deep reflection on the current cultural concept of teaching professionalism. A sort of reflection developed within the local project itself along with the colleagues' participation. If we do agree that the new defined focus on EHES deals mainly with curriculum and teaching we do need something more than technical external expertise.

Here we have to evidence that although Trends IV has six parts, no one is dedicated to the HE teacher professional development in teaching. In my opinion planning such kind of change is useless if enhancing professionalism is not among the priorities of the agenda. Cultural changes can not exist segregated from their agents.

As a consequence of the above, overarching directions or guidelines oriented to enhance professionalism should stress the following: the quality of the proposed or generated experiences, reinforcing the underlying reason in terms of teaching quality and providing different support initiatives to reinforce professional performances: from those informative to that ones exploring new practise, etc.

5.3 Process leadership

Knowledge organizations as the HE ones are, in some way, paradigmatic of the new model of leadership within organizations. Performing in a very different way than industrial organizations, they are strongly shaped by horizontal networks of contacts, exchanges and actions. Development here can not be explained by R&D model which requires a sort of vertical authority relationships. Cultural development, as we have seen, is more like following the string: Innovation or Action, Reflection and Development model (A&R&D), which lay fundamentally on peer initiatives, in different kinds of expert leadership, in disseminated information, in

trial and error activities, or either in evidence based performance with regard at external contrast, or regarding different kinds of expert leadership.

Development processes would best be defined by a sort of three kinds of leadership, each one performing its own role:

- *Emergent leadership*: based on the process expertise, which will arise from the action itself. It usually can be exerted by those who are *there* at the *right moment*.
- *External expert leadership*: the action's external expert support, focused upon the basic trends or the perspectives of the developed action (when it is asked for). Its contribution can be based upon guidelines, tools, frames for the action, readings, etc.
- *Political leadership*, as the process is depending on the administrative vertical model of organization and its founding resources. It defines the overall set for the action.
- *External agencies leadership*: exerted by external agencies within the legal framework. They define a second compulsory set for action. Accreditation norms, timing, deadlines, formal suggestions, etc.

6 Building up through action: the field and the consensus on *change*

In institutions without any great prior experience in educational enhancement, processes *change* is seen as *to be adapted at*, rather than *transforming/enhancing ourselves*, a point of view rooted in a deepest sense of change. Anyway, once the process starts in adopting *new* formulas in teaching, in the carrier profiles, etc., this two meanings embedded in the concept of change appear to be in a permanent conflict. In order this conflict to become present two circumstances and their related agents become necessary.

The first are those who display their leadership at the "*ground level*". That is, listening to pupils and their teachers, reviewing subject competences profiles, coordinating them at the course or career level, or taking notice about the material conditions of class sizes, and so on. They display a self-concept of work as being based on professional enhancement, in transforming teaching-learning materials or their administrative infrastructures in a deeper sense, which marks everything as a priority *on change*. At this level there is possible to meet a sub-group of teachers for whom participating is more a compulsory involvement than being part of some stream of institutional change. They and others, as well, are expecting for short-term material rewards, transforming their scepticism as an assessment parameter of the whole process.

Nevertheless, while this happens, the overall institutional "*codes*", regulating the HEI are still the same than "*before*", and infrastructural change and rewards can be delayed.

The second group is composed by those who exert their leadership from a high commitment with the institutional level, from let's say at a medium or a large distance, interpreting what's going on through different kinds of information and filters. For them, *keeping on change* is an important opportunity for having the institution on the track of the competitiveness in the new "HE market". All that, has to be done at the same time than preserving the adequate balance within all the institution existing forces – in its (micro)political sense as well.

That last group of leaders has both a different and more visible power – and goals - than the first one. They exert a control on budget, on power-relationship within the institution, besides of their control of timings and having the last word in selecting expert counselling. Moreover, they are strongly committed to adapt to the external accreditation agencies' formal requirements. For them, understanding what is about at "ground level" is much complex and harder than just having notice of that.

It is useless expecting things to be "*more rationale*" than this. It is not a chess game, where players start after every piece being at its right place. So that's why we considered such processes as open. The way how those kinds of leadership exert their respective influence in re-shaping a given career depends on each specific context, and on the way how both emergent and political leaderships will be able to handle within all that coordinates with regard to the both change concept possibilities.

There is no case for describing the basic trends of that sort of leadership and all the possibilities that can be displayed within this complex institutional field. Nevertheless, in my opinion what should be worthwhile here is to mention some aspects that institutional leaders should have under control:

- The different pressures for reducing changes into a way of adopting technical reforms (to be adapted at),
- The process timing, according to the external pressures instead of well defined internal needs and aims.
- The sense of efficiency within the developed processes. As time investment is needed, it can't compete so far with the agenda of academics, deans and students.
- A visible rewards system as a support to the change process, whatever it would be its sense, as adaptation or change.

The above reasons explain by themselves that a clear institutional consensus on change, with regard to a real shared understanding, can only be built up according to the specific process and the generated experiences themselves.

7 The Concept of Experience, as a Basic Assumption for HE Institutional Change

In our opinion, the educational enhancement's potential would be greater the more able we were in shaping every promoted experience as being learning featured. We could say that it was, in fact, a basic hypothesis underlying the whole UAB IDES's Project. There is no way for change within an Institution if academics try to enhance their teaching performance on isolation from practical experiences. Thus, combining both, the accumulated knowledge resulting from direct involvement in activities and in horizontal network contacts – either formal or informal –; with educational reflection through meetings and workshops, were considered as being crucial for our purposes.

But experiences, by themselves, can be erratic. So, we tried to develop an experience framework based on the will of “*promoting a rich environment in opportunities for a better student's learning*”. Obviously, every component part of the above statement should be defined according to its own context, as a starting point.

The above statement was the first principle of a group of some seminal ideas that oriented the practice. Other basic cornerstones that enlightened the process we developed were the following:

- Understanding teaching as a complex activity (in the sense that philosopher Hanna Arendt defined “action”) instead being only a thread of well skilled professional behaviours.
- According to the above, teaching professionalism is about a diversity of needs and practices.
- Each developed activity should empower its participants, which translated into practice meant stressing in questions as *Why* (intentions, strategies), *When* (context), or *How* (practical skills related to the former).
- Far from being *only* professional skills, teacher behaviours express a well rooted set of cultural issues which had to be either validated, enlightened or challenged in any activity we developed.
- Sustainability was another basic principle in our strategic lines, which was translated into encouraging participants in a crossing boundary set of formative activities to develop both projects and activities which could serve to other teachers as a good illustration of what could be done in similar circumstances. That meant also a need for growing up according to our own strengths.
- The former mean that we stressed on cooperation, crossing boundaries and networking activities among HE teachers.

Besides that, when building up the Project we stressed on keeping on what we could denominate the different faces in the HE professionalism.

- Being able to deliberate about curriculum; this understood as the course of studies, and the relative position of a subject in it. That means peer coordination and basic agreement on the relative learning functionality of such a subject.

- Being able to plan both relevant contents and experience selection to the pupils' learning.
- Being able to use different resources about group communication and teaching processes. Communication, whatever its form and tools would be adopted, appears to be crucial in teaching-learning relationship.
- Being able to promote efficient learning experiences management, with regard to both some relevant purposes, and from the student's frame of needs. Those learning experiences can be either direct or autonomous ones.
- Being able to make efficient pupil's assessment and promoting their self assessment too.

Stressing on that guidelines we did not forget the other side of the question, that is, the context conditions that frame educational development:

- Lack of legal regulations regarding teaching enhancement; official regulations, official support to TD. Lack in HE Teaching Development, within the process of the changing EHES.
- Strong presence of some deep cultural obstacles, as the following:
 1. University's will of adopting the ECTS model, without a clear agreement on the kind of understanding about EHES/ECTS: as a technical approach or as a curricular change process.
 2. Academic's widespread idea of *becoming HE teacher for being researcher*
 3. High pressure for academics developing research projects and writing (*producing* is a very common used verb) papers
 4. Very low/ isolated previous experience in deep teaching changes.
 5. Awareness of performing *as it should be*.
 6. Teaching training as a strong time competing issue.

Based upon the previous reflection, the next pages display both the adopted theoretical change frame and some examples of the most relevant guidelines adopted for enhancing teaching professionalism among the academics, within my University.

9 What did we do? Strategic guidelines developed

9.1 IDES-UAB – map of strategic lines in educational development (2003-2005)

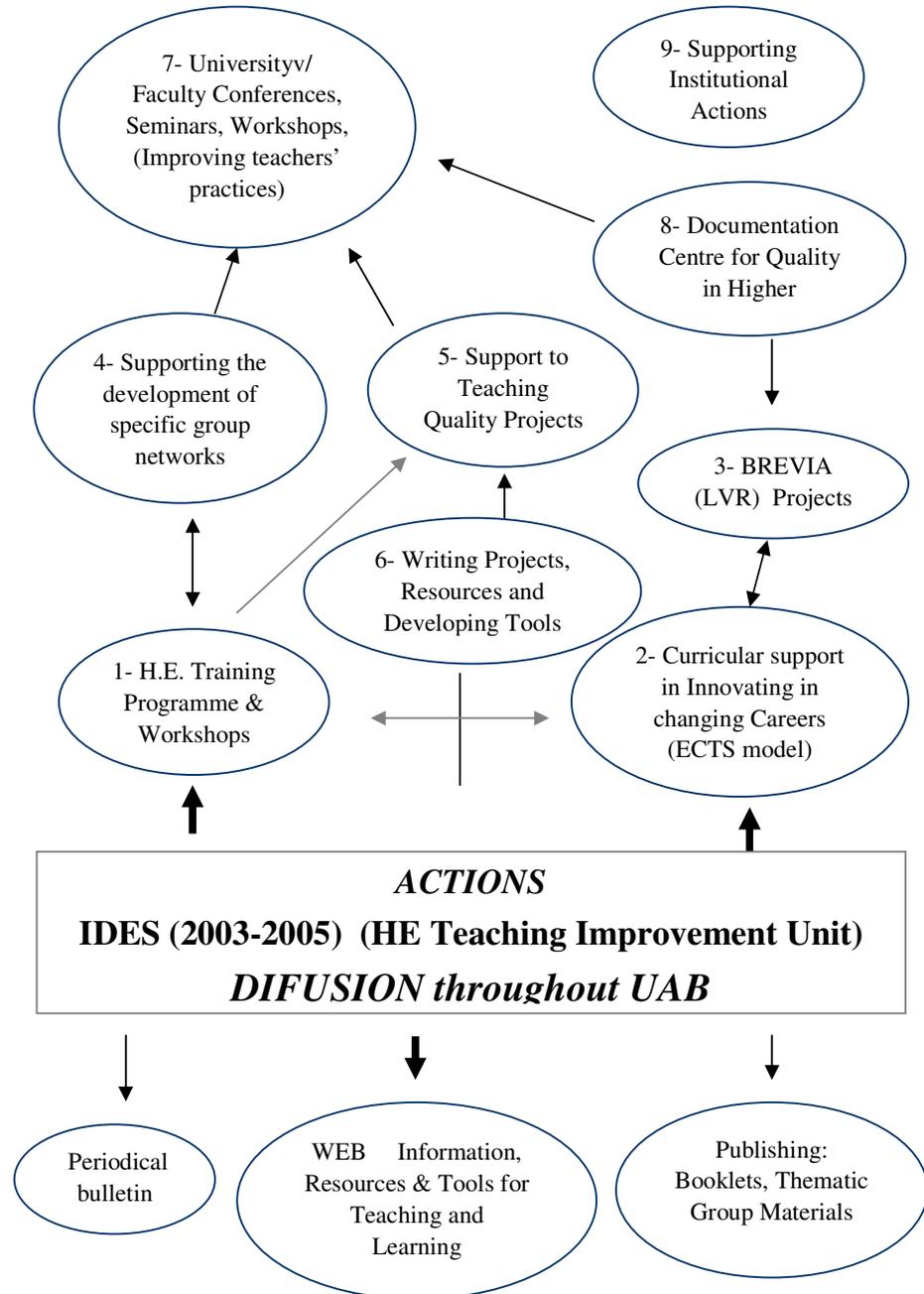


Fig. 2: IDES-UAB – map of strategic lines in educational development (2003-2005)

9.2 Example 1: UAB's Overall In-Service T-Training

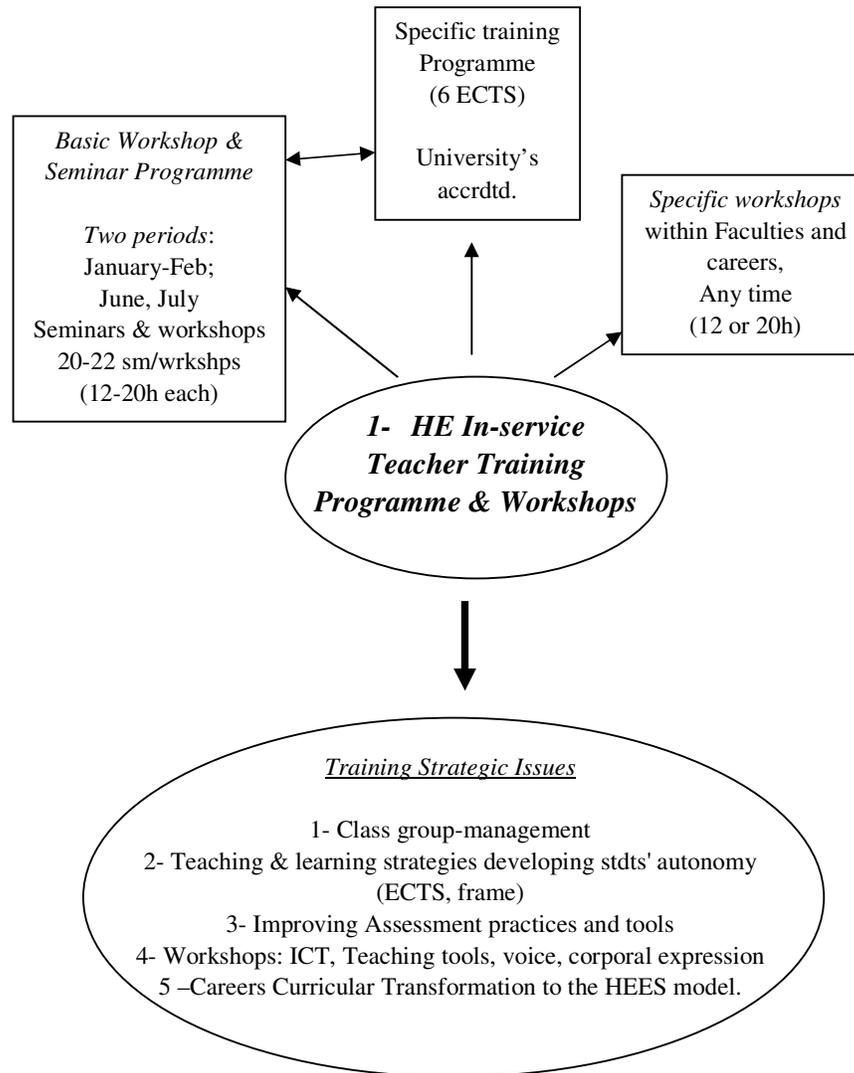


Fig. 3: Example 1: UAB's Overall In-Service T-Training

9.3 Example 2: Curricular support in changing Careers (to the ECTS model)

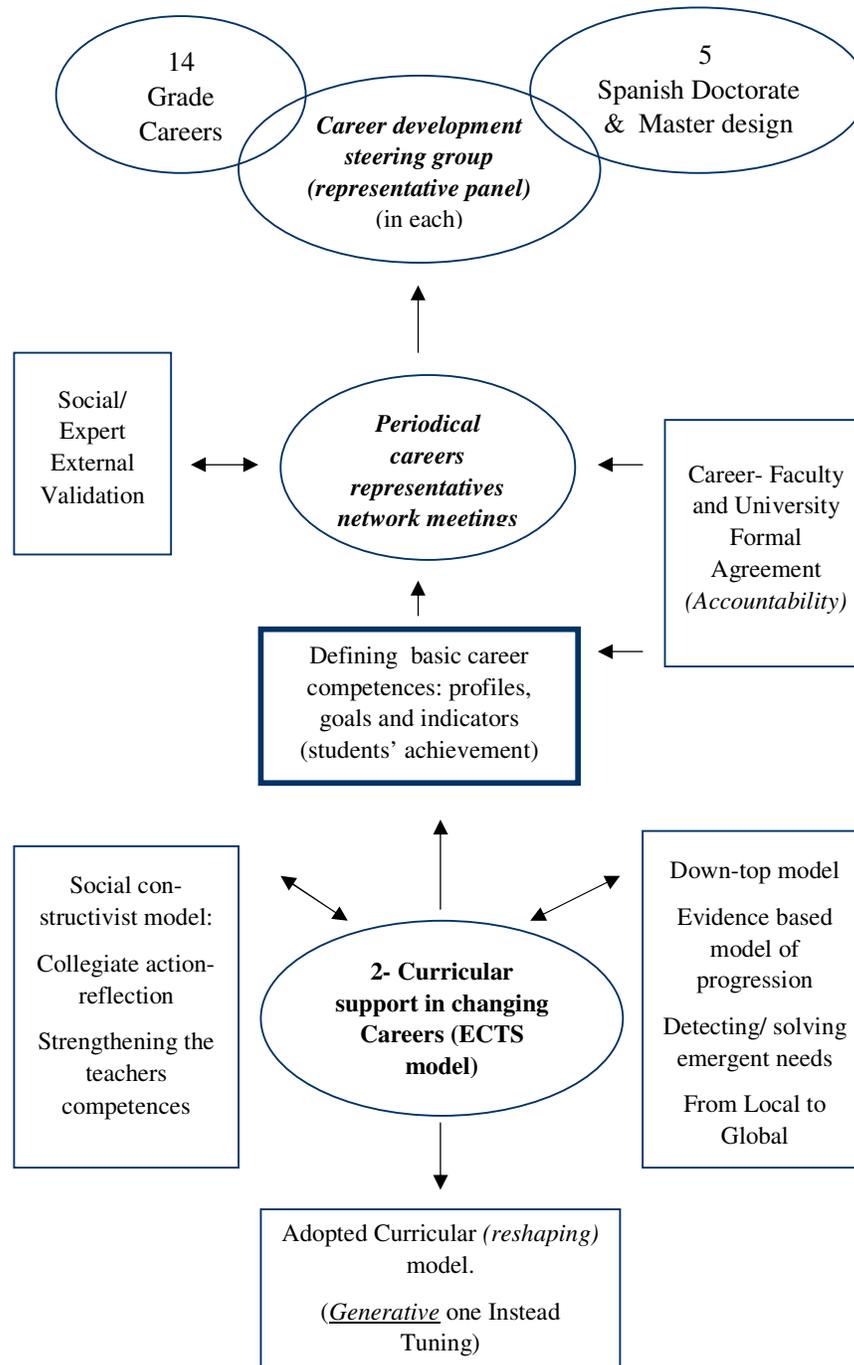


Fig. 4: Example 2: Curricular support in changing Careers (to the ECTS model)

9.4 Example 3: Supporting the Thematic Networks development

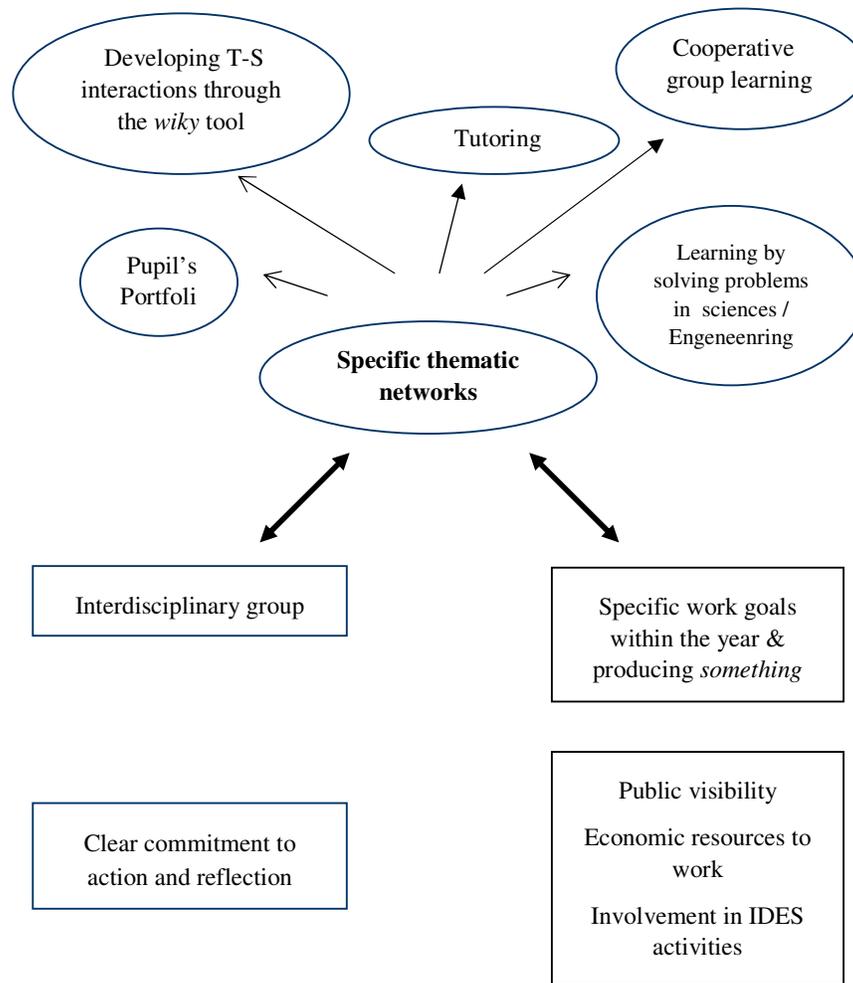


Fig. 5: Example 3: Supporting the Thematic Networks development