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IBAR PROJECT

QUALITY AND SECONDARY EDUCATION – THE PORTUGUESE CASE

Work Package 12

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1. INTRODUCTION

Assuring the quality of teaching and learning activities is paramount for both higher education institutions (HEIs) and secondary schools in an increasingly competitive national and international environment. Secondary schools provide the students that higher education will educate further, contributing both to nurturing knowledge societies and economies through the ‘production’ of young people with the knowledge, competences and skills that will allow societies’ development.

But do these two educational sectors communicate and align their strategies in order to improve the quality of their teaching and learning activities and consequently the quality of future higher education graduates? Or are they simply two worlds apart?

The present work-package intends to discuss the relationship between these two educational sectors, namely in terms of the development of quality assurance mechanisms for teaching and learning. The ESG Part I does not make any explicit reference to the secondary educational level, which is a somewhat odd. On the one hand, providing education of the highest level and properly assuring the quality of such education surely implies that HEIs reflect on the outputs of the secondary education sector, namely when formulating their access strategies or recruiting and training teaching staff for the first cycle of study. On the other hand, secondary education must also be concerned with the assurance of its own quality, namely through the development of mechanisms and procedures that to assures adequate preparation to their pupils to access higher education, meaning that it prepares them to take maximum advantage of the higher education opportunity offered to them.

For these reasons, in relation to the ESG Part 1 implementation, it is important to obtain the up-to-date, empirically-substantiated, picture of the extent to which secondary education factors into institutional policies on quality assurance. The goal is to identify the problematic issues concerning the link between higher and secondary education, and the extent to which these could be overcome through the implementation of a set of quality assurance practices in each one of these educational sectors’ organisations, which explicitly refer to their relationship with each other, either in a ‘client’ or ‘provider’ perspective.

In the case of Portugal, both educational systems are nowadays subject to national quality assurance systems, under which HEIs and schools have to develop their own internal mechanisms for quality assurance, namely an internal quality assurance system in the case of HEIs and a process of self-evaluation in the case of secondary schools, validated by external review exercises.

As referred in the WP5 report, following a review of the Portuguese quality system by ENQA (2006), the existing quality assessment system (that had been in place since 1994) was dismantled, under accusations of not being truly independent and not producing results, and a new one was initiated in 2009 under the influence of European developments (namely, the Bologna Declaration and the compliance with the ESG for Quality Assurance). This new system is characterised by the assessment and accreditation of study cycles and institutions under the responsibility of a new and independent body for its coordination – the Higher Education Assessment and Accreditation Agency (A3ES). Within this new system, accreditation assumes a preponderant role as a way to assure that study cycles and institutions accomplish minimum standards leading to their official recognition. The new legal framework for quality assessment and accreditation also determines that institutions should develop a quality assurance policy for their programmes, a culture of quality and quality assurance of their activities and a strategy for their quality continuous improvement. Furthermore, institutional audits of internal quality assurance systems are foreseen in the law, having started to be implemented in an experimental phase in the current year. Most Portuguese higher education institutions have then already, or are now developing, their own internal quality assurance systems, as is the case with the institutions selected to integrate the IBAR project.

In the case of secondary education (and this is also the case for the Portuguese basic education), and in the aftermath of several quality assessment programmes that have been developed and implemented in a rather erratic manner since the beginning of the nineties, a law was issued in 2002 establishing that schools have to perform their own self-assessment, which should be followed by an external assessment. For several years this law has not been much more than a rhetoric device and only in 2006 a Working Group has been created by the Ministry of Education with the main goal of setting up a framework for schools' assessment. In 2007/08 a new programme for schools' external assessment has been launched, under the responsibility of the General Inspectorate for Education (IGE). By the end of 2010/2011 all continental Portuguese schools had been assessed (from pre-school to secondary school) and a new slightly modified cycle, which is an ameliorated version of the first one, was initiated in 2011/12. But despite the fact that schools are obliged by law to perform their own self-assessment since 2002 and that they have to provide a self-assessment report for the external assessment system now implemented, both data from the IGE and from a recent study on this topic (Sarrico et al., 2012) show that self-regulation and improvement capacity are still lacking in most Portuguese schools. And this is particularly serious when we look at the results obtained by Portuguese students either in the national exams (including the ones to access higher education), or in exams done in the framework of international comparison programmes such as the PISA, which have always been considered below a desirable level.

Since secondary precedes higher education, and since both need to develop internal mechanisms to assure the quality of teaching and learning, it seems relevant to understand if these two sectors are working together to produce the best possible graduates; or if they are simply two worlds apart.

2. METHODOLOGY

Following the methodology used in the preceding work packages, the analysis for this one also focuses on a sample of higher education institutions (HEIs). Four public HEIs have been selected as the Portuguese case studies, belonging to the university (HEI α and HEI β) and the polytechnic subsystems (HEI γ and HEI δ). They are also different in terms of number of students and location in order to provide a diversified sample, able to empirically base the research.

Furthermore, and due to the specificity of the theme under analysis, in this particular work package, nine public secondary schools have been selected to constitute a sample for this educational sector. These schools were selected from the existing secondary schools located in the same city as the HEIs included in the sample, the main reason being the possibility of uncovering the existence of relationships between higher and secondary education due to proximity. The sample also tried to include schools mainly catering to pupils who wish to pursue higher education studies (regular/scientific education) and schools who mostly cater to pupils wishing to enter the labour market directly (vocational/professional education), in order to see whether some differences could be detected in their relationship with higher education due to their educational profile.

The analysis was developed in three steps. Firstly, we started by analysing national legal texts and policy documents issued at institutional level referring to different aspects associated with the relationship between the secondary and higher education sectors, namely about quality issues. Secondly, a total of 20 interviews with different groups of actors in each of the HEIs and 9 interviews with the secondary schools' heads took place. They were all transcribed for content analysis.

The interviews in the HEIs targeted, in each of the four selected institutions, members of the central management and administration and members of the faculties/schools. The first group comprised the Rector/President (or, in its place, a vice-rector/vice-president, or a pro-rector) and the representative of the Quality Assurance structure (or, in its place, of the Senate, of the structure responsible for study programmes, or for the student support services). The second group was constituted by the Dean (or equivalent) the representative of the Quality Assurance structure (at unit level) and a study programme director.

Again, and due to methodological reasons, a selection was made of, firstly, the scientific areas and, secondly, the study programmes to which the members of this second group belonged. The purpose

was to choose different scientific areas and study programmes offered in all institutions, regardless of their sub-system (university or polytechnic). As a result, two major distinct scientific areas were chosen – Engineering and Arts – and two study programmes (first cycle level study programmes only), from each area, were selected in each institution: Civil Engineering and Design, in HEI α ; Civil Engineering and Communication Design, in HEI β ; Civil Engineering and Arts and Design, in HEI γ ; and Civil Engineering and Fine Arts, in HEI δ . For ease of reference and consistency, the broad terminology *Engineering* and *Arts* is used throughout the report to name the two investigated areas.

The exact same questions have been posed to interviewees from both educational sectors, as the intention was to collect the opinions of secondary schools' heads on the same topics discussed with HEIs actors. Findings based on all the collected data (both from legal documents and interviews) are presented in the following section, associated with their respective research question. While document analysis has been the main source of information connected to the existence of a formal relationship between secondary and higher education, the interviews allowed for a better understanding of their reality and effectiveness.

3. FINDINGS

The following sections offer a synthesis of the findings across the four surveyed HEIs and the nine surveyed secondary schools, highlighting also, whenever possible, the differences that emerged between them. Annexes 1 and 2 present, respectively, the detailed findings for each higher education institution and secondary school that comprised the sample.

National policies on aligning secondary and higher education

The most relevant legal documents (laws and decree-laws) for education in Portugal were analysed to uncover the formal relationships between secondary and higher education. The conclusion is that little appears in these documents about a relationship; meaning that so far it is not possible to discern an effective national policy promoting an alignment between secondary and higher education. Paramount of this non-existence is the fact that neither the *Comprehensive Law on the Education System* (Law 46/86) nor the *Legal Framework of Higher Education Institutions* (Law 62/2007) explicitly refer to the need for establishing a relationship between the two sectors. In fact, the only reference made to a link between secondary and higher education appears in the *Comprehensive Law on the Education System* and is related to access to higher education. It makes mandatory the use of students' secondary education final grades for selecting applicants who wish to access higher education.

Furthermore the laws that establish the evaluation systems for both educational sectors hardly make any references to the link between them. The only exception may be considered the *Legal Framework for the Evaluation of Higher Education* (Law 38/2007) where the interdisciplinary, interdepartmental

and inter-institutional cooperation are referred to as a parameter to evaluate HEIs. It is possible to assume that the inter-institutional cooperation may also include a liaison with secondary education.

References in national legislation to the links between secondary and higher education are then mostly confined to two decree-laws. One decree-law establishes the principles orienting curricular organisation and management, as well as learning assessment in secondary education, one of which includes the need for articulation with higher education. The other decree-law establishes the CETs (Technological Specialisation Programmes), which are short (two-year) post-secondary programmes with a strong professional and vocational orientation that do not confer a higher education degree. This decree-law establishes that if these programmes are not offered by HEIs then a protocol must be established between the offering institution (typically a secondary school) and a HEI. It may be considered, then, that these programmes also intend to promote a smooth transition from secondary to higher education, through a period of further education that is closer to higher rather than secondary education.

Institutional policy on quality and progression from secondary to higher education

The statutes of the HEIs included in the sample do not explicitly mention any formal link or relationship between secondary and higher education, nor was it possible to identify in the institutions' policy on quality any clear and formal concerns with the progression from secondary to higher education.

However the institutions' actors, when interviewed, provided different examples of institutional arrangements to assist students in their first year in higher education that are referred to in a later section of this report.

Arrangements for access to higher education

As referred to in the WP6 report there are three different ways to access higher education in Portugal:

- a national competition including a *general track* (for students who hold a secondary education diploma or equivalent and sit national exams) and a *special track* (for students from Madeira and Azores, Portuguese emigrants, students with disabilities and military personnel);
- a special competition for mature students, which includes students older than 23, and students with other appropriate post-secondary school qualifications, such as CET;
- special regimes for students who are high-performance athletes or students coming from the Portuguese former colonies.

The majority of students access public higher education by means of a national competition (*general track*) and a centralised placement system that takes into account students' preferences and their grades in secondary education and in national exams. After an education route lasting 12 years (9

years of basic education and three years of upper secondary education), the condition for becoming eligible to enter a higher education programme combines the student's performance in upper secondary education, their performance in national exams (with a 95 minimum score out of 200) in the disciplines that are considered core disciplines for the chosen study programme, as well as the satisfaction of performance prerequisites, if they exist (such as in music, sports, etc.).

Due to these national dispositions, HEIs do not have much leeway to implement their own institutional policies on access. In fact, from the analysis of WP6 it seemed that in the four HEIs studied no clear policies and procedures for quality assurance regarding access existed. Nevertheless, the data collected and analysed for WP6 has shown that the HEIs are developing some strategies and initiatives to attract other than the national competition students. This is the case, in all four institutions selected, for the recruitment of mature students older, foreign students and students holding CET diplomas. However, such initiatives seem to be more evident in those institutions with less capacity to attract traditional students in the national competition.

Regarding the national competition, interviewees from three HEIs have somehow criticised the existent access system on the grounds that it does not allow institutions to really choose their students. In a way, institutions get the students the system "gives" them, who may not be exactly the most suited for the subjects they will have to study in higher education. In fact, final secondary education exams are not made by the HEIs and these can only have a say about the specific national exams students will have to pass to access each of their first cycle study programmes. HEIs do not make specific exams or interviews for students' selection. Furthermore some interviewees (including one school head and one member of a HEI rector) mentioned that secondary schools' grades and even the national exams classifications are inflated and are not good predictors of the students' success in higher education.

Anyhow in one of the institutions, where there are more difficulties in attracting students from the national competition stream of access to higher education, it was stated that it should not be a HEI's function to select students. Instead, HEIs should get the students from the national competition, even if not that well prepared, and then work to improve their knowledge and competences.

The perceived increase in the number of students needing support raises concerns about academic quality. This was acknowledged by the interviewees that referred to the institutional arrangements HEIs are putting in place to address such need for student support.

Special institutional arrangements to assist students in the first year of higher education

The research work conducted under WP6 has concluded that the four HEIs were developing systems designed to support specific groups of students: students older than 23, foreign and CET students, and

students experiencing financial or learning problems. The first three groups currently constitute the major 'new' publics of institutions.

The data collected under this work package also comes to the same conclusions, since different interviewees alluded to the existence in their institutions of special arrangements to assist students in the first year of higher education.

In all HEIs there are special programmes addressed at first year students with difficulties in maths and sometimes also in physics, chemistry and/or the Portuguese language. Maths is a special concern for engineering degree programmes, because a lot of students coming from secondary education do not possess the necessary level of competence in the subject to successfully complete the maths courses in their degree programmes. These special arrangements can take the form of classes prior to the beginning of the semester, meant to harmonize students' skills and knowledge before the formal classes begin, or of classes and tutorials during the semester, meant to aid students that have more difficulties. In one HEI a tutorial system by students and teachers has been implemented to assist first-year students not only from a scientific point of view but also at a social level, trying to promote a healthy integration in the institution's life.

In one Arts school, from one polytechnic institute, where academic difficulties tend to be more acute, an effort is made to give supplementary classes of maths and Portuguese language to those students arriving later in the year (the results of the 3rd phase of the national access competition can come out by the middle of the first semester) or that access higher education through a non-traditional route (mature students, for instance). For the other curricular units, such as music, design, theatre or plastic arts, student support is given individually in classes, within the projects that are developed by them. Teachers in these cases tend to give students an individualised support according to their competences' level.

One university also promotes what they call "bridging courses" in mathematics and plan to offer them in the future also in chemistry, biology, physics and the Portuguese language (the disciplines where the majority of secondary students have final exams for access to higher education). These courses are addressed at secondary school leavers but taught by higher education lecturers; the basic idea being to prepare students for higher education.

Furthermore, in three of the HEIs under study efforts are being made to identify first year students' level of knowledge and competence in different subjects, so the contents of at least some of the first and second year curricular units may be adapted to the students' academic background. This is happening especially in curricular units linked to physics, maths and chemistry.

Reference has also been made in the two polytechnic institutions to CETs as a way to smooth the transition between secondary and higher education. When entering a CET students get in touch and are familiarised with higher education although they are not exactly higher education students. So

when they conclude the CET and decide to enter higher education, they have a better preparation to take advantage of the higher education opportunity that is offered to them. Furthermore CETs and first-cycle degree programmes' teaching staff of the same area often establish a dialog between them (sometimes they are even the same teachers), discussing how to articulate both programmes and how to use a common language and approach to the curricular contents. One school head referred to the CETs as having the students with the profile most aligned with the polytechnic of their region.

Finally it is worth noticing that HEIs' arrangements to assist students in their first year have almost not been referred to by secondary schools' heads. In fact, when asked about it, most of them admitted to not having any knowledge about this matter. The same ignorance was present in HEIs' actors when asked about the existence in secondary schools of special mechanisms to prepare their students to take the maximum advantage of higher education.

Preparation of secondary school pupils to take maximum advantage of the higher education opportunity offered to them

As already pointed out, in general, HEIs' actors did not know about arrangements in secondary schools to adequately prepare students for higher education. They essentially referred to the generally low academic quality of first-year students, as well as the fact that they tend to be "less adults" than some years ago; not being sufficiently autonomous to take their own decisions (as supposedly promoted by the Bologna process). This somehow deficient background is emphasized as a possible reason for significant failure rates in higher education. At least one school head also tends to agree that students' academic level is lower than what would be desirable. He mentions that most probably this happens because the contents of the secondary curriculum are not as demanding as they should be, and/or are not the most appropriate for higher education, which leads to students entering higher education without an adequate academic preparation, capable of assuring their academic success.

In one university engineering school it was mentioned that quantity brings quality problems, and that probably some students that are in university degree programmes should instead be in polytechnic ones, given their more vocational character. Interestingly though, in one polytechnic institution, it was mentioned that secondary education trains students to memorize, which is not very useful for a polytechnic degree, since it is based on the application of existing knowledge.

Nevertheless, there were also HEIs' actors that had a more positive view on the students' background when accessing higher education. In the engineering school of one polytechnic institute it was mentioned that in recent years students seem to be more focused, they seem to know better how to benefit from higher education. And this institution's President even mentioned that students do not enter higher education with such little knowledge as sometimes is said. What happens is that sometimes they bring knowledge that they will not directly need in higher education and lack knowledge in areas they in fact need to succeed in their study programmes.

This same idea is conveyed by one school head when alerting for the mismatch between the curricular contents of both educational sectors. He mentions that sometimes students go to higher education and repeat what they have learned in secondary school (especially when they enter polytechnic institutes), while at other times they lack contents in higher education that should have been learned in secondary school (especially in maths). Another head has mentioned that there are very good students and that secondary education is not as basic as sometimes higher education likes to think it is.

The *Chemistry Olympics*, the *PmatE* competition (maths education project) and the *Ciência Viva* programme (dissemination of science programme) are initiatives mentioned by one HEI as being promoted by higher education and having a significant impact in secondary schools' pupils' preparation (if the opportunity for their participation is taken by secondary schools).

When asked about what preparation schools give their students to take maximum advantage of higher education, schools' directors immediately referred to the emphasis secondary schools are putting in students' scientific and academic preparation. They tend to agree this is the most important preparation students should have to succeed in higher education. As one school director mentioned "the better the students finish secondary education, in academic terms, the better they will be prepared to succeed in higher education" (School D).

To improve students' academic preparation, schools tend to organise themselves to offer students extra support classes during the year (from the 10th grade on and most of the times with their own teachers), as well as special intensive classes to help prepare them for the final exams (for all subjects with final national exams; these classes occur in the two to three weeks before the exams). Some of these classes are open to all students but it is up to them to decide to go there or not, while in other cases teachers identify the students that need to attend the classes. Furthermore, in one school it was mentioned the head makes an explicit effort to constitute a teachers' team for secondary education with the best possible profile in terms of offering a solid academic preparation to students. And in another school the stability of teaching staff and an emphasis in pedagogical continuity during the three years of secondary education were mentioned as strong points to promote students' academic preparation. An investment in practical laboratory classes, both in sciences and physics, were other mechanisms mentioned by a school head to improve students' academic preparation. Finally, in one rather problematic school, where students' expectations regarding going to higher education are quite low, classes with the best students were created and the better teachers were allocated to them, in order to try to improve students' success and probability of entering higher education.

Almost all school heads mentioned the existence of vocational orientation services in their schools and highlighted their role in students' transition from secondary to higher education. These services, which in the majority of cases have a psychologist, offer students an overview of the study cycles available in different HEIs and of their access conditions; they also advise students in their process of

selecting the best option. In one school, students are alerted to the fact that secondary and higher education are two different worlds and that most of the times the specificities of the degree programme they will be enrolled in will only be visible in the second or third year of studies, since many HEIs' first year is the same for a whole set of different study programmes.

Finally, some schoolheads mentioned the existence of extra-curricular activities, some of them offered outside of the school, as a way to prepare students for their life in society, as citizens. One head specifically mentioned his school's concern with the preparation of students to work autonomously and to invest in their own education.

Alignment of quality assurance requirements for secondary education with those for higher education

As referred to in the introduction to this report both educational sectors are subject to external review processes, which are not that different, at least in the way they are organised. Both systems are based on a self-evaluation report by the reviewed institution, a visit to the institution by a panel of external reviewers, and an external review report which is made public. Paramount to both systems is that they establish that institutions need to develop internal mechanisms to assure the quality of teaching and learning.

From the interviews conducted, HEIs as well as secondary schools indeed seem to be worlds apart regarding their knowledge of each other's quality assurance systems. The only exception in HEIs are academics that participate in the external assessment panels for the non-higher education schools external evaluation programme (these commissions are composed of two Inspectors from the General Inspectorate for Education and Science and a lay member that is usually an academic).

Anyhow, when interviewees do not declare their ignorance of the other educational sector's quality assurance system, they tend to state that both systems are quite independent and/or that there is no alignment between the two. The president of one polytechnic institute mentioned that schools and HEIs are quite different realities, which obviously have to lead to different quality assurance mechanisms (even if there are common concerns in terms of pedagogic quality). For example, schools do not have pedagogic autonomy to decide their curricula or the contents of the different courses; as such, they do not have to be concerned with the fit between curricular contents and competences, neither have they to periodically update curricular contents. Schools are much more concerned with the grades their students achieve because that determines their positions in the rankings. One school head mentioned that schools' external evaluation looks at students' academic results but does not consider the integration of secondary and higher education. And a third one mentioned that while in higher education students have a voice (they answer satisfaction surveys), in schools this is not possible because they are too immature and they would probably assess better the friendless teachers.

However, there was one schoolhead that although saying he did not know much about the higher education quality assurance system, he believed it should not be that different from the one at secondary schools: “It will also be about processes, results, leadership, service provision” (School D). And another one pointed out that HEIs and schools’ organisational structures are not that different and that both evaluation systems are not that different either.

References were also made by some interviewees to the teaching staff appraisal systems recently implemented in both sectors (these systems are not alike; there is a national system for non-higher education, while in the case of higher education each institution has developed its own system, although based on national guidelines – see the WP10 report for more information on this). In all cases it is mentioned that the system was more easily implemented in higher than in secondary education. In this respect, one polytechnic institute representative mentioned that assuring teaching skills and competences through appraisal systems does not guarantee students acquire the knowledge they need to succeed in higher education. Also, in his opinion it is not possible to identify a linear relationship between the existence of a quality assessment system and the dedication of academics to their students, and to their development into good professionals.

In one school of arts (from one polytechnic institution) it was mentioned that regarding students’ assessment the situation was rather different between the two education sectors: while in secondary education the main goal lies in assessing students’ acquired knowledge, in higher education emphasis is put on the competences graduates need to have.

Furthermore some school heads complained about the existing external evaluation programme. One of them mentioned the system was neither efficient nor effective: “Schools have always *Good* or *Very Good* and they are not that good. In some aspects they are even below fairness” (School B). Another school director alerted for the fact that external evaluation reports are not very useful, since they tend to be too generic and very much alike for different schools. A third one said he could not see a relationship between the school’s external evaluation process and the “production” of the best possible students for higher education: “the external evaluation tends to be much more about what the school says it does than about what the school really does. (...) it is not reflected in the pedagogical work that is done” (School F). And there was another one saying that although self-evaluation was a critical phase in the programme, schools were never formally trained to do it. He also claimed that external evaluation should not have a punitive effect; on the contrary schools with poor results should be helped to improve their performance.

On the opposite side there were two heads referring to the benefits of the programme, namely the opportunity it gives for everyone to think about what the school is, what it has done, its processes and results, to reflect on its options for the future and on what has to be changed. External evaluation

allows for a different look at the way the school works and sometimes it even helps uncovering good practice that was not valued as such within the school.

Formal processes in which the secondary and higher education sectors communicate with each other

From the documents analysed and the interviews undertaken it became clear the absence of formal processes, either at national or institutional level, in which the secondary and the higher education sectors communicate with each other. This results in a situation where they do not know what happens in each other's institutions, which is a rather uncooperative situation, given the fact that a significant number of students move from one sector directly to the other each year.

Anyway, when this communication does happen, and the majority of interviewees said it does not happen as frequently as it should, the processes are always informal and very much dependent on the good will of both sides' teachers and managers.

National Level

At national level, and despite the fact that, unlike in the past, nowadays both sectors are under the same Ministry (Ministry of Education and Science), interviewees do not see any formal communication processes between the two sectors. Reforms are made in each one of them independently of the other and not taking into considerations the repercussions they may have for the other (an example is the Bologna process).

Two national forums were referred to as possible spaces for this communication to happen: the Education National Council (where there are representatives – counsellors – from the two sectors) and the Schools Council (a forum which represents school heads). At regional level mention was made of the Education Municipal Council, where representatives of different educational levels are also present and work together. Nevertheless these three forums have their own agendas and so far they have no mandate to work on a better articulation between secondary and higher education. That is probably why until now nothing very specific regarding this articulation has come out from these three bodies, at least as understood by the interviewees.

Institutional level

At institutional level the only formal process of communication between the two educational sectors that was referred to by the interviewees is the presence of HEIs' representatives in the schools' general councils that have decided to co-opt them.

The remaining existing processes are considered to be informal ones and overall can be classified in six groups:

- Visits of secondary schoolpupils to HEIs, either with a specific purpose, or under ‘Open Days’ or ‘Open Weeks’ promoted by the HEI. In this last case, the idea of the institutions is to showcase themselves in order to attract students. In one of the universities there is a summer programme aimed at basic and secondary education pupils, where they can have a direct contact with the university during an entire week.
- Visits HEIs, as a whole, or individual study programmes, make to secondary schools. Again the idea of the institutions it to market themselves and their study programmes in order to attract more and better students.In this respect some HEIs’ interviewees mentioned that they feel schools are somewhat tired of the many visits they receive each year, and do not want to spend students’ time in these activities in a year where they have to prepare themselves for national final exams (usually these activities are aimed at year 12 students). Some schoolheadsmentioned that HEIs usually send information about themselves and their study programmes(including training programmes specifically aimed at teachers’ lifelong learning), being up to the school to distribute it internally (which they do through their vocational orientation services).
- The internships that trainee teachers do in secondary schools. These internships are mandatory and students must have two supervisors, one from the HEI and another from the school. During the internship supervisors tend to discuss between themselves the articulation between secondary and higher education, regularly assessing the existing cooperation and delineating strategies to improve at least this specific part of the teachers’ training.
- The polytechnic institutes mentioned the design of CETs, as well as the possibility of having both schools and HEIs’ teachers involved in their lecturing, as an opportunity for schools and HEIs to communicate.
- HEIs also open up their facilities and laboratories to secondary school students, so they can use them to do practical work that sometimes they cannotdo in their own schools. And schools take this opportunity and use it every time it is possible. Interestingly, one arts school from one university also mentioned that its students use the workshop resources of a secondary school in the city (which constitutes also an opportunity, albeit informal, for a discussion between the teachers of both educational levelsabout a better articulation in terms of curricular contents, to avoid repetition or gaps in their education).
- Whenever asked by their secondary counterparts, HEIs promote in secondary schoolsseminars and short training programmes aimed at school teachers.They also participate in schools activities when asked to do so.

Besides these processes, that are common to almost all HEIs and schools, some interviewees mentioned specific actions particular to their own schools or institutions, such as: the integration of one university's library in the schools' libraries network; an international project on chemistry teaching involving school teachers; school heads' participation in the meetings related to the drafting of a polytechnic institute statutes; the participation in a *Ciência Viva* programme promoted by the city polytechnic institute; internships of the secondary school pupils in professional education in the city polytechnic institute (in this case students have a supervisor from the HEI, besides the one from the school, and both are responsible for the student's final aptitude exam); a three-year programme in chemistry and physics (from the 10th to the 12th grades) where students have to build a set of mechanisms that correspond to these disciplines' scientific content and do it simultaneously in the school and in the university; secondary school pupils in professional education go to the university to have formal classes. Two schools also mentioned that several master's and doctoral students use the school and its teachers to do the empirical work of their thesis (ex.: studies on students' hygienic habits; on students' consumption of illicit substances; on students' behaviour). And two schools mentioned their participation in research projects developed by HEIs.

It is interesting to note that at least in one school it was mentioned that the same city polytechnic institute had a rather passive attitude towards the school. This is rather odd since it is a fact that Portuguese polytechnics, even public ones, are in a very bad situation regarding the attraction of new students, and at risk of having to close down degree programmes.

Nevertheless, and as pointed out by one interviewee, in the past, HEIs did not care much about secondary schools; they would simply receive their pupils for further education. Nowadays, as there is a shortage of candidates to higher education, HEIs' attitude has been changing and they are "starting to look more attentively at secondary schools, trying to open themselves and establishing partnerships with these schools. HEIs are coming more and more to schools, showcasing themselves, promoting competitions, especially addressed at secondary school pupils, trying to create links between potential applicants and the institution in order to attract them" (School E).

Achieving more efficient alignment between secondary and higher education

Almost all interviewees mentioned that an alignment between both sectors should be promoted, helping to improve their teaching and learning quality, as well as the preparation of students and future graduates. An HEI's representative stated that a permanent contact should exist, because there are huge potential in the relationships that can be established between both sectors.

One school head mentioned that there is a gap between both sectors, where there should be a continuum, and that HEIs should be the ones more interested in this continuum, because secondary schools in a way finish their job where HEIs are just about to start theirs. They should take the initiative and discuss with secondary schools ways to improve students' preparedness for higher education. Nevertheless, another school head stated that HEIs are doing their best to promote this articulation and that there is not much more they can do in this respect. It is

not that easy to foster an articulation between the two sectors because each HEI is a different reality and preparing students for one is not necessarily the same as preparing them for another one.

How to achieve a better alignment was not an easy question to answer, but most interviewees ended up saying that the Ministry of Education and Science should be the entity to formally promote it, putting a true effort on the two educational sectors' communication. And since now there is only one Ministry responsible for both sectors (beforehand non-higher education and higher education were under different Ministries), it may be easier to work on this issue, namely in terms of curricular contents' articulation (in this respect some interviewees alerted for a misalignment between secondary and higher education in the basic disciplines – maths, chemistry, physics, which leads to gaps and repetitions). Two school heads suggested that a ministerial working group could be set up to promote the articulation between the two sectors, especially at curricular level, and to plan, at least for the medium term, the contents that should be taught in secondary education to adequately prepare students for higher education.

Other forms of alignment mentioned included seminars in schools given by HEIs' teachers (from the region); a change in HEIs "Open Day" timings, from the 3rd term of the academic year to 2nd one, because the more close to the end of the year the more the students are absorbed with their final exams preparation and the less willing they are to participate in other activities; the participation of Portuguese language secondary school teachers in the CETs offered by the region polytechnic institution; the promotion of a debate on this topic both in the Education National Council and on the Schools Council; HEIs' promotion of activities especially addressed at secondary education students; recognition of schools teachers being awarded master's and doctoral degrees (because when they are enrolled in these programmes they are in permanent contact with HEIs); appreciation of school teachers that supervise HEIs' teacher trainees; creation of a forum where secondary and higher education teachers could dialog and discuss issues relating to students' transition between the two educational sectors; and the increased participation of HEIs' representatives in school general councils.

Some interviewees mentioned that the current situation, namely the economic crisis the country faces, may, paradoxically, lead to an improvement in the communication between secondary and higher education. HEIs need more and more to attract students from secondary education, while in secondary schools there is a growing concern with presenting students with several possibilities to continue their studies. So a closer link between HEIs and schools in the same region may be an option to pursue in the future, as going to a local HEI is certainly a cheaper option.

4. CONCLUSION

4.1 Summary of Findings

Students finishing their secondary education and that want to continue their studies do indeed go to HEIs, being them polytechnic institutes or universities. In a sense a client-provider relationship does exist between the two sectors and promoting an alignment between them would certainly imply improving each other's quality.

However, the data collected and analysed under this work package shows that a gap currently exists between these educational sectors. At a national level there is no policy or legal disposition promoting an alignment or articulation between the two; furthermore there are no forums or other structures that promote the communication and discussion between them, not even regarding curricular contents' articulation. It seems then that the current situation is indeed one of two worlds apart, which is rather evident from the interviewees' answers (or the absence of them), when asked about the institutional arrangements HEIs had to assist students on their first year of higher education and the extent to which secondary school pupils were prepared to take maximum advantage of the higher education opportunity offered to them. In fact school heads do not know much about what HEIs are doing for their first year students, while HEIs' representatives are unaware of what measures secondary schools take to improve their students' possibility of success in higher education. And this happens even if both sectors do actually have in place arrangements to try to ameliorate the transition process between both educational sectors. The same unawareness of one sector relative to the other emerges again when interviewees are asked about the other's quality assurance system.

As one school head put it, the current feeling is that schools and HEIs are "in different countries, in different realities, in different universes and I do not feel there has been an evolution in this respect" (School G). And this should not be the case. Or as an Arts school director mentioned "they [at secondary schools] need to know what their students come to do here and we [at HEIs] need to know what they are doing there, so we can build bridges".

Furthermore, and as referred in the introduction to this report access to higher education is indeed the contact point between the two sectors. But again in this respect the articulation is minimal. Since the vast majority of students do enter higher education through a national competition and a centralised placement system, HEIs do not really have a formal policy on access and their institutional policies do not explicitly include preoccupations with the transition from secondary to higher education.

To conclude it is possible to affirm that currently the communication and alignment between secondary and higher education is rather weak and unsystematic, being quite evident that each sector is unaware of what is happening in the other. Furthermore both secondary schools and higher education institutions are developing their own internal quality assurance systems, apparently without paying too much attention to their 'clients' and 'providers', respectively. So although there are some evidences of communication between secondary and higher education, as well as some similarities between the two national quality assessment systems, it seems that both sectors still function as worlds apart. And this is certainly a barrier to quality improvement and to the fabric of a more developed society, since pupils from secondary schools will be the students in higher education, this very important relationship "provider-client" should be carefully cared for and cherished.

4.2 Identification of Barriers and Institutional Good Practice

From all the data collected and analysed for the Portuguese case, we have come to the following set of barriers to the effective alignment between secondary and higher education:

1. Non-existence of a formal structure or decision-making body responsible for implementing formal mechanisms of communication between the two sectors;
2. Absence of legal national legislation or dispositions mandating, or at least, promoting the cooperation;
3. HEIs institutional policies do not include preoccupations with the quality and progression of students from secondary to higher education;
4. The secondary education curriculum is nationally established and cannot be changed at school level;
5. Misalignment in the basic disciplines' curricular contents between secondary and higher education;
6. Until quite recently the two sectors were under different ministries, which may have contributed to a deeper gap between them.

In terms of institutional good practice, the following emerged from the analysis of all the collected data:

1. Arrangements at HEIs' level to overcome the knowledge and competences' deficiencies some first year students exhibit;
2. The efforts made by secondary schools to improve students' academic level;
3. The existence of vocational orientation services at secondary schools helping students to choose the higher education study programme more suited to their skills and competences;
4. Visits HEIs make to schools as well as visits schools and their students make to HEIs;
5. Internships within HEIs' teacher training programmes;
6. Presence of HEIs' representatives in schools' general councils;

7. Articulation in CET's design.

4.3 Recommendations for institutional managers, school heads and policy makers

Taking into consideration all the data collected and the analysis done for the Portuguese case, we reached the following set of recommendations, targeted at institutional managers, school heads and policy makers.

Recommendations for institutional managers

1. Create a group inside the institution to effectively articulate with secondary education, namely in terms of the curricular contents of disciplines such as mathematics, physics, chemistry and Portuguese language.
2. Give feedback to secondary education and the Ministry of the deficiencies students bring with them when entering higher education.
3. Be more proactive in terms of choosing to define the structure and content of entry exams into higher education.

Recommendations for schoolheads

1. Create a group inside the school to effectively articulate with HEIs, namely to those more close in geographical terms or to the ones absorbing the majority of the school's pupils.
2. Take opportunity of all the programmes and initiatives developed in higher education, especially those addressed at secondary education students.

Recommendations for policy-makers

1. Create a forum where communication and articulation between the two sectors is encouraged.
2. Promote the design of the secondary education basic disciplines' curricular contents in line with the needs of the higher education sector.

5. REFERENCES

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ANNEX 1 - INSTITUTIONAL DATA BY HEI

ANNEX 2 - INSTITUTIONAL DATA BY SCHOOL