

KNOWLEDGE SHARING AND LEARNING PROCESSES: CASE STUDY OF PORTUGUESE TECHNOLOGICAL SCHOOLS AND HIGHER EDUCATION INSTITUTIONS¹

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ABSTRACT

The interest in adult learners has increased over the last few years. When we study their biographies, we realize that they reveal uncertainty and sometimes a lack of confidence concerning their potential. However, we also realize that some of them have developed approaches to deal with these difficulties and have become autonomous and independent learners. This situation may be related to the pathways chosen during their lifetime. As a consequence, we may have different identities emerging from different institutions. In Portugal, adults may choose Universities or Technological Schools to pursue their education. Is this choice dependent on how they lived before? And has this choice affected the way they learn and develop their autonomy and independence? The Portuguese case shows that there are similarities between students from Technological Schools and Universities but also differences, mostly related with the approach used to learn and the way teachers take into consideration the way students learn. It seems that Technological Schools have “best practices” that should be shared with the other institutions.

INTRODUCTION

Learning should take place at all stages of the life cycle and it should be life-wide, that is embedded in all like contexts from the school to the work place, the home and the community” (Green, 2002: 613). The ‘learning society’, is the vision of a society where there are recognized opportunities for learning for

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every person, wherever they are and however old they happen to be. In the “lifelong-learning-society rhetoric, informal learning is as important as formal learning and the boundaries between the two are blurred” (*op. cit.*:613). Lifelong learning is also frequently taken to be a key to both national economic competitiveness and social cohesion (Green, 2006). In order to accomplish this goal, the access to learning must be available for all citizens, including those who were not able to pursue their studies at a higher level for some reason. Furthermore, the communication *The role of the universities in the Europe of knowledge* (Commission..., 2003), recognises the role of the Universities within the knowledge society and economy in Europe and on the conditions under which they will be able to effectively play that role. As a matter of fact, “universities employ 34% of the total number of researchers in Europe”, they “train an ever increasing number of students with increasingly higher qualifications, and thus contribute to strengthening the competitiveness of the European economy”; they also “contribute to the employment and social cohesion, and to the improvement of the general level of education in Europe” (*op. cit.*:5).

In this paper we briefly describe the Portuguese higher education system, emphasising the different routes non-traditional adult students can take to access Universities. We also present the PRILHE project, its aims and objectives together with the methodology used to gather and analyse data. Finally, we present and discuss the results of the Portuguese case.

PORTUGUESE HIGHER EDUCATION SYSTEMS AND ACCESS ROUTES FOR ADULT STUDENTS

In Portugal, higher education (HE) comprises university and polytechnic education, both public and private, all with different aims, programmes and characteristics. Adult access to HE in Portugal is through one of the three possible routes (Law n° 49/2005 – Portugal, 2005, and Decree-Law n° 74/2006, of 24th March – Portugal, 2006):

- Via a traditional route - adults follow all the stages of the education system. In the situation where circumstances may have dictated an interruption of their normal education route and they decide to return, they re-enter the system at an age greater than the norm but progress through all the steps. This is the route which the majority of the Adult population take, at present, while attending HE, in Portugal.
- Via a special route previously designated (until the year 2005/2006) by *Exame Extraordinário de Acesso ao Ensino Superior* – in this case, the assessment of candidates capabilities to access HE is the exclusive responsibility of the HEI; the candidate selection is made according to what each HEI considers more appropriate to each course and to each candidate, through the evaluation of his/her professional curriculum and through theoretical and practical examinations (*provas teóricas e práticas*) to evaluate the competences considered fundamental for the course selected by the candidate.
- Via attendance at *Cursos de Especialização Tecnológica* (CET) - this attendance will be undertaken under the auspices of an agreement, or protocol, with at least one Higher Education Institution. These protocols - agreed between the provider of CET and HEI - will define the progression into Higher Education programmes, for students with a CET. These protocols state the programmes of study that candidates, who finish a CET, can undertake, as well as establishing the conditions for recognition of training for advanced entry, within those HE programmes. This is only possible for those students that complete

the CET course and have 18 months of professional experience. They get an advanced entry, without the need to sit the National HE Access examination.

These are the possible ways an adult can choose to (re)enter HE in Portugal. Although there seems to be different possibilities for adults to pursue a higher level of education, what the statistics say is that the number of adults (re)entering HE is very low (Correia and Mesquita, 2006).

While Europe is trying to prepare its Human Resources to be competitive and to develop the necessary skills and competences, the results vary across the Continent. Furthermore, it is recognized that in order to be competitive, citizens need, not only to have those competences, but to continuously update them (long life learning). It is in this context that the PRILHE project appears. In the next sections we describe the project, its aims and objectives together with the methodology used to gather and analyse data.

CASE STUDY

As a consequence of the policy push for lifelong learning – at national government, European Commission and Bologna Process levels – more adults are taking part in Higher Education (HE). Adults bring with them a wide range of life experiences to the learning process. The use of these experiences, in the HE curriculum, can assist academic learning and enable adult students to become independent (autonomous) and reflective learners. It is also recognized that to study throughout life requires the development of some additional skills and competences. Taking this into consideration, the project PRILHE (Promoting Reflective Independent Learning in HE) funded by the European Commission Socrates Adult Education Programme has as its aims:

- to identify the learning processes which enable adult students in HE to become independent and reflective learners (to include study skills, self management, reflective processes and timings, learning to learn, analysing learning and teaching styles, interaction with lecturers and peers, institutional support and structures);
- to determine how this process can be better supported, in terms of materials, systems, staff, lecturers, web support, peers, family, friends; and to examine the interface between learning from experience and academic learning - the overlaps and conjunctions - and how experience may help academic learning and future learning, including in the workplace.

The overall aim is to identify models of good practice in higher education institutions to share across Europe, in order to improve policy and teaching practices in this field. The project is being developed by a consortium of European HE organizations, in seven countries – namely, the Centre for Lifelong Learning, United Kingdom (coordinator); ISEGI, Universidade Nova de Lisboa, Portugal; Centre for Extension Studies, University of Turku, Finland; Georg August Universität Göttingen, Germany; The University of Lower Silesia, Poland; CREA, University of Barcelona, Spain; Department of Education, University of Stockholm, Sweden.

Within this research, both quantitative and qualitative methods were used to determine how students organise their studies and to discover their learning experiences. In this paper we present the Portuguese results in particular the learning experiences in the Technological Schools and in the Higher Education Institutions (Polytechnic Institutes and Universities).

METHODOLOGY

In this section we refer to the methodology used to select the target as well as to the consideration given to the choice of the sample. Afterwards we present the procedures used to select and analyse data.

Target-population and sample

The adult student is considered to be a person over 25 (23 in Portugal) years old who left school with few or no qualifications, who have been out of the educational system for a long time, have no previous higher education experience, and come from a disadvantaged group (one or more of these conditions may apply; Bourgeois, Duke, Guyot, & Merrill, 1999). In Portugal, the numbers of students, fitting this description, have been much reduced (in 2005 only 3776 adults applied to enter to HE and only 901 have been admitted. Knowing that the number of traditional students who enrolled for the first time in HE in the year of 2005 was 86 000, one can see that the number of adult students represents around 1% of the total number of students in HE (Correia and Mesquita, 2006)).

Furthermore, students can choose to enrol in a Technological School, which gives them a certificate of level 4 (more practical courses) or to enrol in a Higher Education Institution (polytechnique or university) which offers courses of level 5. Taking this into consideration we decided to have 2 samples: one from technological schools and the other from HE institutions. Although in the project we also collected information from lecturers to compare the results with those coming from the students, in this paper we will only present the results from students.

Data collection and processing

A Web-based system was developed to collect the data and to do the statistical analysis. As studies on Adults in HE in Portugal are a new area of research, the Portuguese team felt that they should be in control of data entering the system. This enabled them to direct PRILHE project promotion and control the issue of questionnaires to those HE institutions that were being expanded and their programmes reorganised to address the needs of adults returning to HE.

The system incorporates several modules: online questionnaires; interactive database and email sender service [Correia *et al*, 2006]. The system objectives were:

- To facilitate the project dissemination and to promote, in the period allocated for data collection, the highest number of responses from the target-population (adult students in HE and their lecturers);
- To make the questionnaire completion task as user-friendly as possible, with the data being entered automatically into the database in real time, or in printed format, according to users' needs;
- To reduce the costs – both time and effort – associated with questionnaire completion, as respondents could review their answers online before submitting them electronically;

- To increase data storage and downstream processing efficiency in the database supporting the system – this contributes to a reduction in errors and other problems traditionally associated with manual data introduction;
- To make available an automatic procedure, alerting the introduction of new questionnaire answers in the system, through the automatic sending of email messages to the system and project managers; this protects data base integrity in real time.

In order to increase the rate of questionnaire return, we made presentations of the project in some HE institutions (both technical schools and universities). After the presentation we asked the students to fill the questionnaire online as soon as possible. We also sent emails directly to students in HE institutions or we sent those emails to someone in the institution and asked that person to send it to the maximum number of students.

Analysis framework

The system facilitated the compilation of data from the questionnaire which aimed to gather information about the way the students learned. From the literature review we identified 8 categories that have impact / importance in the learning process, helping or preventing the student to become more autonomous and independent. For each category we prepared some statements and asked the student to classify each statement according to a 7 point Likert scale, ranging from “totally agree” to “totally disagree”. Failure to answer was also noted.

After being collected, we reclassified the answers in 3 groups: one group corresponding to all the agreement values of each question (totally agree, agree, and partially agree); all the values of disagreement (partially disagree, disagree and totally disagree); and the values “don’t know” or “don’t answer”. This has been done for Higher Education (HE) and Technological Schools (TS) observations separately.

Those 8 categories are named *knowledge and learning vectors* and their construction is detailed as follows:

- *Role of work/life experience in the learning process* (v1) – By work experience we mean specialized knowledge (related to the profession) and competences (e.g. talent for organization, ability to be critical, team spirit...). We wanted to know the role of the above-mentioned work experience in the learning process. This vector comprises the following questions: “My work/life experience doesn’t support my learning in higher education” (v1q1); “I am learning from the work/life experience of my fellow students” (v1q2); “Lecturers value my work/life experience” (v1q3); “My previous work/ life experience affects my current learning” (v1q4).

- *Individual organization of learning* (v2) – On the one hand one might say that learning is an individual issue; on the other hand one might have a clear idea of how learning should be undertaken. Here, we are interested in the point of view of the student. This vector comprises the following questions: “I have changed my approach to learning since I came to higher education” (v2q1); “The way I learn is taken account of by lecturers” (v2q2); “I am unsure how lecturers expect me to learn” (v2q3); “I have a clear idea how I learn” (v2q4).

- *Reflection of contents* (v3) – The statements reflect the importance of sharing of opinions and comments from lecturers regarding their performance and participation in critical debates. This vector comprises the following questions: “The exchange of different

views is important to me” (v3q1); “In general, lecturers expect me to reproduce what I am taught” (v3q2); “Lecturers encourage critical thinking” (v3q3); “I like to engage in critical discussions in informal situations” (v3q4); “I like to engage in critical discussions in seminars, etc.” (v3q5).

- *Framing of the learning process* (v4) – The statements deal with contexts of learning. To what extent is learning influenced by prior life experience or by specific learning situations? This vector comprises the following questions: “My background (personal, social, work, etc.) plays an important role in my learning” (v4q1); “I can’t separate my feelings from my learning” (v4q2); “My life experience prevents me from opening up towards new knowledge” (v4q3); “My learning is affected by the situation in which I learn” (v4q4).

- *Dialogue in the learning process* (v5) – The statements deal with the relevance of communication with other people during learning. This vector comprises the following questions: “I prefer to work in groups” (v5q1); “I learn best on my own” (v5q2); “My peers are useful to my learning” (v5q3); “I learn best through interaction with others” (v5q4).

- *Learning motivation* (v6) – Here, we ask which motives and expectations caused the student to take up his / her studies and how they influence their learning process. This vector comprises the following questions: “Sometimes I don’t know why I am taking this study” (v6q1); “The expectations of others towards me to be a successful learner have a great influence on me” (v6q2); “I am an organized learner” (v6q3); “I am studying because I want to progress in my career” (v6q4).

- *Learning approach* (v7) – Everybody develops individual approaches to learning in the course of his/her learning life. Here, we are interested in the personal way of learning as well as the aims pursued with it. This vector comprises the following questions: “Learning is for me quite easy” (v7q1); “Learning must have a practical outcome” (v7q2); “I am an experimental learner” (v7q3); “I am rather cautious when I begin something new” (v7q4); “I also learn for the sake of the learning itself” (v7q5).

- *Instructions and space for individual organization* (v8) – For some people it is helpful to get clear instructions on how to organize their learning process; while others need space to proceed individually. In the following, we are interested in the learning conditions the student prefers. This vector comprises the following questions: “In my learning I definitely need support” (v8q1); “All strict and rigid instructions disturb my learning” (v8q2); “Without clear instructions learning is quite difficult for me” (v8q3); “I learn best when I organize my learning process on my own” (v8q4).

In the analysis stage, for each vectors’ component, the average percent of answers were computed for the 3 groups (agreement, disagreement, and don’t know/don’t answer), for HE and TS students separately. The average absolute difference between HE and TS, were then summed up, providing a measure of distance (similarity) between the vectors from HE and TS.

The results from the distance analysis are summarized in the following section. Afterwards, we discuss with more detail the components of the knowledge and learning vectors, regarding the agreement values group.

DISTANCES IN LEARNING PROCESSES

This section discusses the results from the distance analysis, by vector (Table 1).

Table 1: Distance by vector

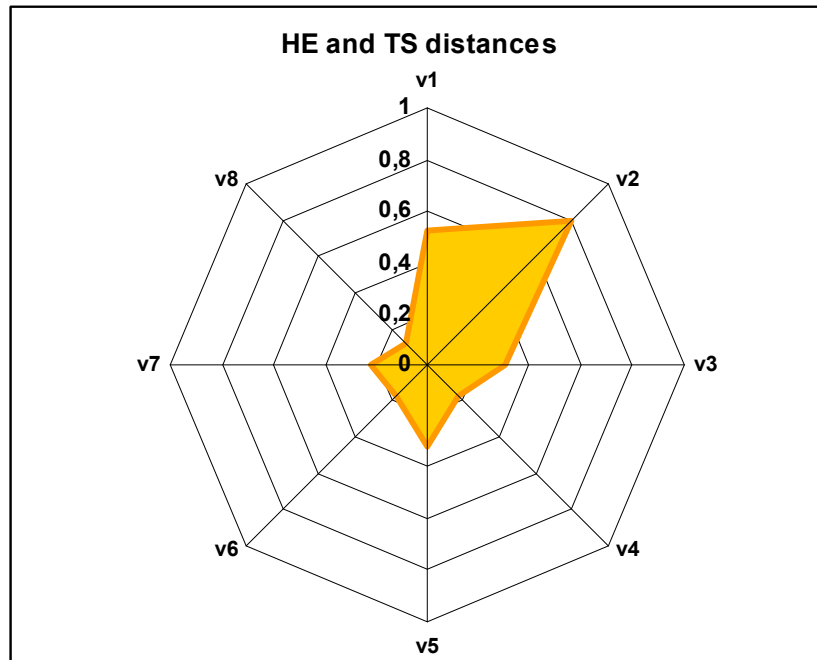
<i>HE and TS distances</i>								
<i>vector</i>	v1	v2	v3	v4	v5	v6	v7	v8
<i>distance</i>	0,521371	0,794647	0,300422	0,163063	0,320917	0,177153	0,216435	0,120679

The vectors (v_i , $i = 1$ to 8) can be grouped, according to the values obtained for distance, in four categories:

1. Strong similarity (distance $\leq 0,15$):
 - Instructions and space for individual organization (v_8) – 0,12.
2. Weak similarity (distance $> 0,15$ and $\leq 0,25$):
 - Framing of the learning process (v_4) – 0,16;
 - Learning motivation (v_6) – 0,18;
 - Learning approach (v_7) – 0,22.
3. Difference (distance $> 0,25$ and $\leq 0,35$):
 - Reflection of contents (v_3) – 0,30;
 - Dialogue in the learning process (v_5) – 0,32.
4. Strong difference (distance $> 0,35$):
 - Role of work/life experience in the learning process (v_1) – 0,52;
 - Individual organization of learning (v_2) – 0,79.

The most important distance between HE and TS concerns the learning experiences and, in particular, in the students' learning organization (see Figure 1). Although less important, there is also a difference in the reflection of contents and in the dialogue in the learning process.

Figure 1: Distances in learning processes



KNOWLEDGE AND LEARNING VECTORS

In this section, we discuss with more detail the components of the knowledge and learning vectors, regarding the agreement values group, to characterize each vector in HE and TS.

Similar or close vectors

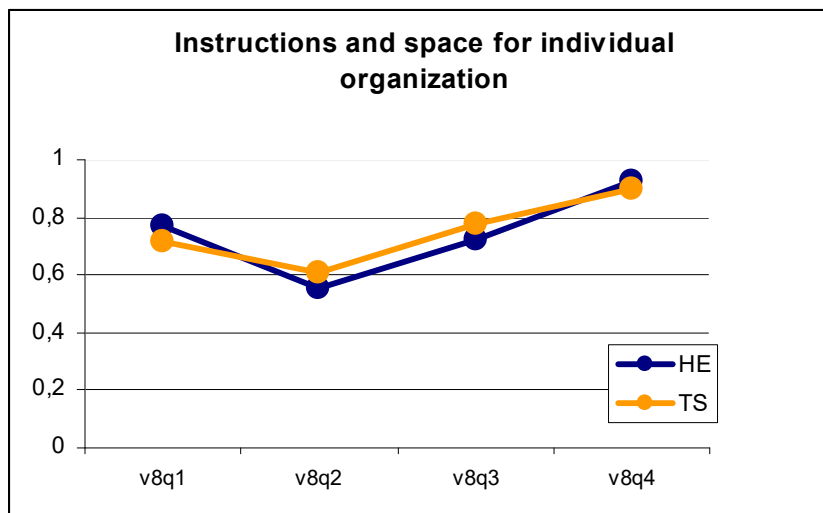
Instructions and space

For the vector (v₈) - Instructions and space for individual organization – there are four components concerning the opinions of the students:

- (v_{8q1}): Certainty of the need for learning support;
- (v_{8q2}): Concern regarding all the restrictive and rigid instructions;
- (v_{8q3}): Difficulty in learning in the absence of clear instructions;
- (v_{8q4}): Ease of learning, dependent on personal autonomy in organising the learning process.

The similarity between HE and TS occurs in all components (v_{8q1} to v_{8q4}), as shown in Figure 2 below.

Figure 2: Instructions and space for individual organization



According to this analysis, the students of higher education institutions show themselves as more convinced of their need for learning support (v8q1) and in their ability to organize their own learning processes (v8q4).

On the other hand, the students of TS show a little bit more sensitivity to situations of rigid or restrictive instructions (v8q2) and to the absence of clear instructions (v8q3).

Vectors with weak similarity or proximity

Framing of the learning process

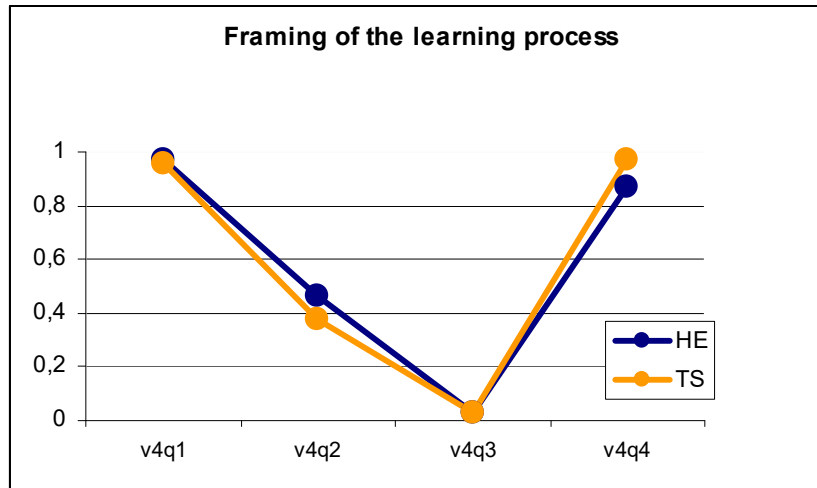
To the vector (v4) - Framing of the learning process – there are four components, concerning the opinion of the respondents:

- (v4q1): Conviction that background (personal, social, professional) has an important role in the learning process;
- (v4q2): Scepticism concerning the capacity to separate their own feelings from the learning process;
- (v4q3): Conviction that life experience has a negative role in their openness to new knowledge;
- (v4q4): Influence of learning contextualization in the way students learn.

The vector (v4) – framing of the learning process – with a distance of 0,16, is included in the group of vectors “weak similarity” (distance $> 0,15$ and $\leq 0,25$), but located closely to the previous group, the one of similar vectors (distance $> 0,15$). This means that concerning the

agreement of the respondents, the similarity between HE and TS is, as in the previous situation, is present in all the components (v4q1 a v4q4), as shown in Figure 3, below.

Figure 3: Framing of the learning process



We see almost total agreement in both HE and TS, concerning the importance of background (personal, social and professional) in learning (v4q1), as well as in the influence of the contextualization of learning, in the way we learn (v4q4). On the other hand, both HE and TS show almost a total disagreement concerning the role that life experiences play when preventing the acceptance of new knowledge (v4q3). Furthermore, about 38% of TS and 46% of HE consider they do not have the ability to separate feelings from learning (v4q2).

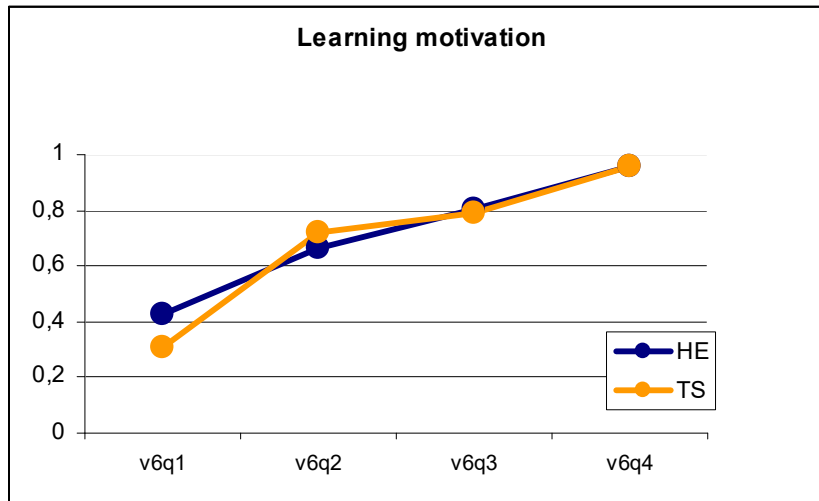
Learning motivation

The vector (v6) - Learning motivation – comprises four components concerning the questions:

- (v6q1): Uncertainty regarding entry into the actual study program;
- (v6q2): Influence on the personal level of good performance at school, due to expectations of others;
- (v6q3): Conviction of being organized in their learning;
- (v6q4): Study as an objective of progressing in their professional careers.

Concerning the agreement of the respondents, the similarity between HE and TS is present in the components (v6q3 e v6q4), as shown in Fig. 4 below.

Figure 4: Learning motivation



One can see that there is an almost total agreement between HE and TS concerning the fact that the purpose of studying is to progress in the professional career (v6q4). Similarities are also present in the conviction that the students are organized in their learning (80% of the students from both HE and TS (v6q3).

The components of uncertainty regarding entry into the present program study (v6q1) and the fact that influence at the personal level is due to others' expectations (v6q2), are those that in the vector (v₆) – learning motivation – most contribute to the distance between HE and TS. The major difference in this vector concerns the doubt “why am I attending this program of study”, doubt which affects almost 42% students from HE, against 31% students from TS.

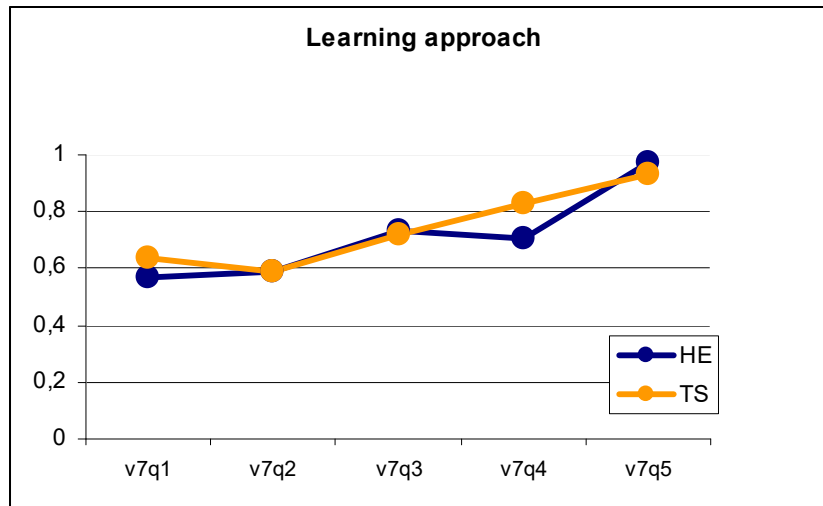
Learning approach

The vector (v₇) - Learning approach – comprises 5 components, concerning the following questions:

- (v7q1): Conviction of their learning facility;
- (v7q2): The dependence of learning on the need to see its practical application;
- (v7q3): Conviction of learning mostly due to experience;
- (v7q4): Care while dealing with new situations;
- (v7q5): The pleasure of learning for itself.

Concerning the agreement of the respondents, the similarity between HE and TS can be seen in the components (v7q₂ , v7q₃ e v7q₅). The first two concern the need for experimentation and understanding the application of learning and the 3rd, the pleasure of learning as one of the reasons why the student learns. This is shown in figure Fig. 5 below.

Figure 5: Learning approach



In TS 63% of the students consider it is easy to learn and in HE only 53% of the respondents agree (v7q1). Furthermore, 83% of the students from TS consider themselves very cautious when they start something new, while in HE 73% consider themselves to be so (v7q4).

Dissimilar or distant vectors

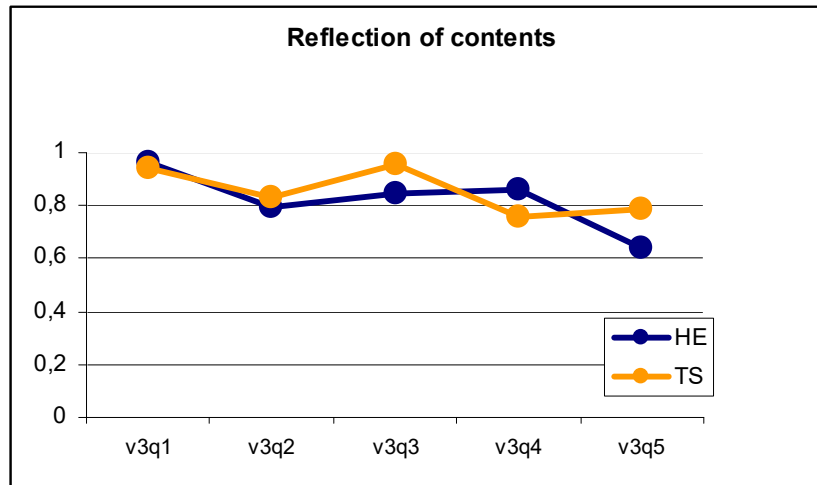
Reflection on content

The vector (v₃) - Reflection on content – encompasses five components concerning the following questions:

- (v₃q₁): Importance of exchange of different points of view;
- (v₃q₂): Conviction that lecturers expect students to reproduce what they teach;
- (v₃q₃): Contribution of classes to increase the development of critical thinking;
- (v₃q₄): Enjoyment of critical discussions in informal situations;
- (v₃q₅): Enjoyment of critical debates in the classroom.

The agreement, the similarity between HE and TS can be seen in the variables (v₃q₁ e v₃q₂), concerning the importance of learning, the exchange of different points of view and to the conviction that lecturers expect students to reproduce what they teach. The other components (v₃q₃ a v₃q₅), show differences between HE and TS (see figure 6, below).

Figure 6: Reflection of contents



Classes contribute to the development of critical thinking, according to the opinion of 96% of the students of the TS and of 85% of those from HE (v3q3). As for involvement in discussions and critical debates, the students of HE prefer doing it in informal situations (v3q4) and the students of TS, prefer seminars (v3q5).

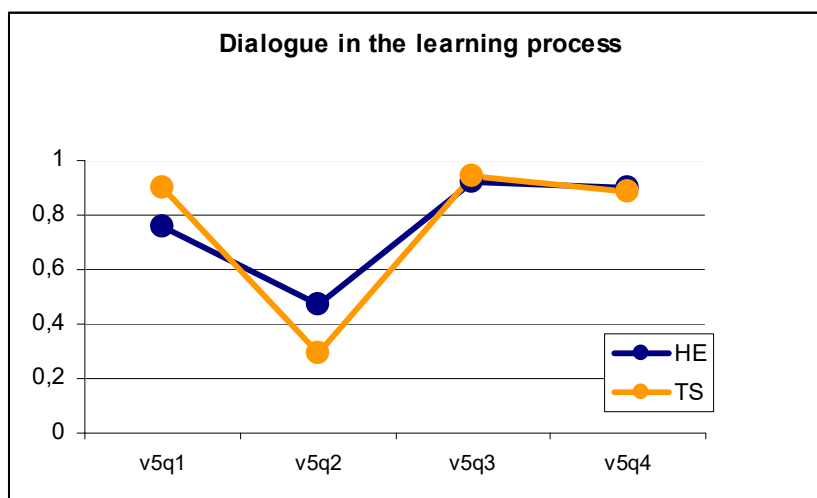
Dialogue in the learning process

Vector (v₅) - Dialogue in the learning process – has four components:

- (v_{5q1}): Preference for group working;
- (v_{5q2}): Preference for working alone;
- (v_{5q3}): Belief of the usefulness of colleagues in the learning process;
- (v_{5q4}): Belief in the interaction with the others, when learning.

Concerning the agreement of the respondents, the similarity between HE and TS is present only in the components (v_{5q3} and v_{5q4}), which indicate the degree of belief that colleagues are useful in the learning process and that interaction with others is beneficial (see Figure 7 below).

Figure 7: Dialogue in the learning process



The students from TS prefer group work (about 90% against 75% from HE (v5q1)). On the other hand, 47% students from HE feel that they learn better alone, against 30% from students of TS (v5q2).

Strongly dissimilar or distant vectors

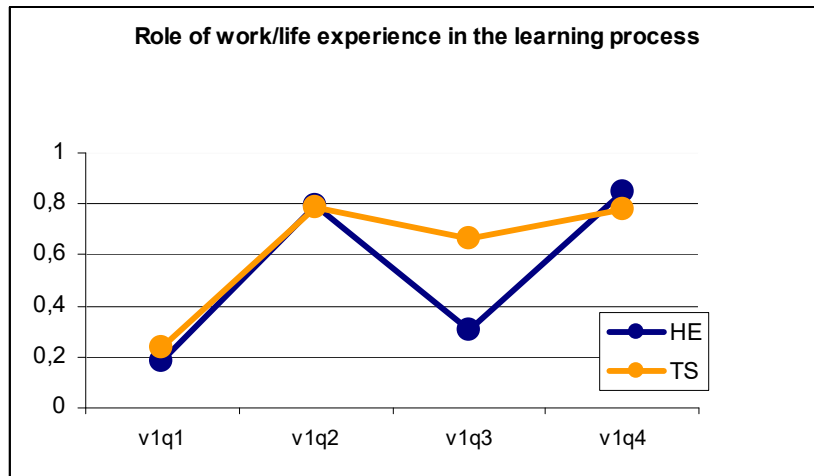
Life and work experience

Vector (v₁) - Role of work/life experience in the learning process – has four components:

- (v_{1q1}): Influence of life / professional experience on the learning process ;
- (v_{1q2}): Desire to learn from the professional experience of others (colleagues);
- (v_{1q3}): Value given by lecturers to the life / professional experience of students;
- (v_{1q4}): Influence of previous life / professional experience on learning.

Concerning the agreement of the respondents, there is some similarity between HE and TS in all components, except one (v_{1q3}). This measures the conviction of the student that the lecturer gives some value to his / her life / professional experience. In TS, 66% believe that lecturer values this kind of experience, while in HE only 30% believe that this is so (see figure 8 below).

Figure 8: Role of work/life experience in the learning process



Only 20% of the students from HE and TS consider that there is no influence of their life / professional experience in learning (v1q1). About 80%, consider that they can learn from the professional experience of their colleagues (v1q2). And 85% from HE, against 79% from TS believe that previous life / professional experience influences their learning (v1q4).

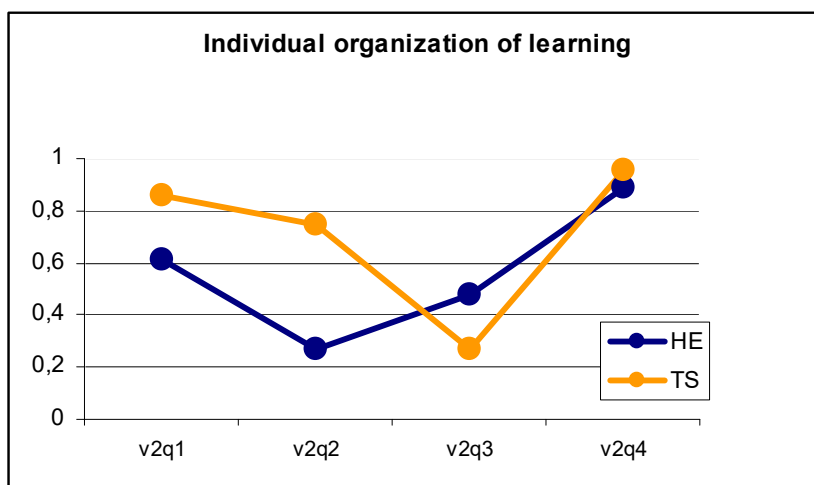
Individual organization

Vector (v₂) - Individual organization of learning – has four components:

- (v₂q₁): Change in the approach of learning, after entering in higher education;
- (v₂q₂): Conviction that lecturers take some care in the way students learn;
- (v₂q₃): Uncertainty regarding lecturers expectation in the way that students learn;
- (v₂q₄): Clarity about the way that students learn.

Regarding the agreement of the respondents, there is some similarity between HE and TS in the variable (v₂q₄), where 96% of the students from TS and 88% from HE consider that they have a clear idea of the way they learn. For the other components (v₂q₁ to v₂q₃) there is a strong difference (see figure 9).

Figure 9: Individual organization of learning



After entering higher education, more students from TS (86% against 62% from HE) change their approach to the way they learn (v2q1). Also, more students from TS (75% against only 27% from HE), consider that lecturers take into consideration the way they learn; this is the major differences between HE and TS in this study (v2q2). In a way, it confirms the answers for the next component – the number of students who feel insecure about the way lecturers expect them to learn (v2q3) is higher in HE (47% against 27% for TS).

CONCLUSION

In this study we attempted to see if there were any significant differences between the characteristics of students from higher education institutions and technological schools, in Portugal. According to the results presented above, there are both similarities and differences between them.

As can be seen, the level of uncertainty regarding the reasons that lead the student to enter a certain study program is higher for those in higher education institutions. There were more students saying that they didn't know why they were attending that program of study. It may be that because, for mature students in Portugal, there are study programs which are easier to apply for (social sciences, humanities, management) than others (engineering, medicine). Furthermore, in terms of culture one can feel a social pressure coercing students to attend a course in higher education. This probably means that the candidates try to find, not the program of study that they really want, but the one who seems to be easier and can be completed in a few years.

Students from TS said that they are more cautious when they start something new. Students of HE seem to be more carefree; the reasons for this need further investigation but it could be that HE students are more likely to be seeking a new career path.

As for the reflection on content, more students from TS agree that classes contribute to the development of critical thinking. This may be due to the fact that HE classes have a higher

number of students and so the opportunities to have discussions are less. Students from HE also say that they prefer discussions and critical debates in informal situations, while students from TS prefer those discussions in seminar. We think that the reason given for the development of critical thinking also applies here – the size of the classes prevent discussions and so HE students prefer the informal situations to have debates, instead of using the space of the class to do so.

As for dialogue in the learning process, students from TS prefer group work while those from HE feel that they learn better when they study alone. A reason for this difference may also lie in the number of students in the classes – usually it is more difficult to work in groups with big classes and so the lecturer may avoid those situations, preferring students to work alone.

Regarding life and work experience, students from TS believe that lecturers give some value to their previous experience. Again, we feel that this may happen because of the larger classes in HE; it can be difficult to gauge what the student already knows and use this experience in the curriculum.

Concerning the individual organization, students from TS said that they have changed their approach to the way they learn. In HE the approach remained the same, probably the same one that the student used in secondary school, not having had the opportunity to develop a new one. Students in TS also say that lecturers take into consideration the way they learn; students from HE feel that they don't know the way lecturers expect them to learn. This may be due to clear objectives not being adequately established at the beginning of the session / study program.

To sum up, one can see that there are some similarities between HE and TS but that there are also some important differences. We have identified those differences and given some possible explanations for them. Of course, those explanations are speculative but are well grounded in our experience as researchers and lecturers in HE for some years. The next step in this research could be to assess the situation in HE and TS, after application of the PRILHE proposals. It would be interesting to analyse the differences in HE and TS take up. The results could further help to develop guidelines / recommendations to increase the success of mature students.

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