

# VET at HE institution: the Technological Specialisation Courses at the University of Aveiro

Lucília Santos<sup>1,2,4</sup> – [lucilia.santos@ua.pt](mailto:lucilia.santos@ua.pt),

Susana Ambrósio<sup>1,2</sup>, Henrique Fonseca<sup>1,3</sup> & Joana Ferreira<sup>1,2</sup>

<sup>1</sup>UNAVE/Uinfoc - Integrated Unit for Continued Education

<sup>2</sup>CIDTFF - Research Center “Didactics and Technology in Education of Trainers”

<sup>3</sup>Department of Biology & GeoBioTec; <sup>4</sup>Department of Physics

**University of Aveiro, Portugal**



# Outline

- Setting the scene - Overview of the research project

*Non-Traditional Students (NTS) in Higher Education: Research to steer institutional change (PTDC/IVC-PEC/4886/2012)*

- VET at HE Institutions: the Permeability momentum
- VET at Portuguese HE Institutions
- Case study
- Preliminary Results
- Final Remarks



# Overview of the research project (i)

## ***Non-Traditional Students (NTS) in Higher Education: Research to steer institutional change (PTDC/IVC-PEC/4886/2012)***

- From May 2013 until October 2015, funded by the Foundation for Science and Technology
- Two HE institutions involved: University of Aveiro (UA) and University of Algarve

### Main objectives

- To analyse the **learning trajectories, difficulties and/or barriers** each group of NTS has faced/ is facing in HE - *not only from NTS' perspectives, but also other 'voices'*
- To draw recommendations directed to institutional managers from each HE institution, taking into consideration the results and different 'voices' with the intention of: enhancing the overall quality of NTS' experiences, from their transition to HE, social integration, on-going support, and academic success and thus retention, and promoting institutional change.

# Overview of the research project (ii)

	Research lines	Strategies of data collection
<ul style="list-style-type: none"><li>• <b>Exploratory research</b></li><li>• <b>360° perspective</b> – participants: students, teachers, course directors, department directors, persons of interest from several (management) services</li><li>• <b>Mixed methodology, but mainly of qualitative nature</b></li></ul>	<b>Line 1:</b> Mature students' (over 23 years old) employability	Interviews
	<b>Line 2:</b> Students with disabilities	
	<b>Line 3:</b> The experiences of students from African Portuguese-speaking countries	
	<b>Line 4:</b> Students of technological specialisation programmes	Questionnaires, interviews





# Overview of the research project – Line 4

## Description of line 4: TSC Students

### **TSC Students' Profile**

Who are these TSC Students ?

### **TSC pedagogical process**

What are their difficulties, how do they deal with them?

### **TSC at HE**

What are the strengths and the weaknesses?

Data were collected through Questionnaires to students and Interviews to students, teachers, TSC directors and TSC Coordinators



To draw some suggestions at institutional level in order to make their path at HE more successful.

# VET at HE Institutions: the Permeability momentum

The terms for post-secondary education change from country to country (Garrod and MacFarlane, 2009). However, the Vocational and Educational Training (VET) designation is predominantly used.

Universities have expanded their offerings to match the demands of society, namely workplaces and local industries. Nowadays the economy requires graduates who are able to blend academic knowledge with the skills and attributes required by employers.

The European agenda for education and training has as key priority to ensure that learners may easily move between education and training levels/sectors, namely between VET and HE. (Bruges Communiqué, 2011),

This integration of knowledge (universities) with skills (vocational education) has reshaped how society thinks about VET, namely on post-secondary level.

This lifelong learning perspective stresses the importance of promoting flexible pathways between VET and HE and enhance permeability by strengthening the links between them (European Commission, 2011).

Permeability is about supporting learners to move between VET and HE, which means that learners may easily move between VET and HE in terms of i. access, ii. admission and iii. exemption or partial equivalence (CEDEFOP, 2014)

The main idea of permeability is to put into practice that the possibility of learners' performance and learning outcomes may be recognised and credited between different education and training sectors. Permeability implies mutual acceptance of learning outcomes, credits, degrees or/and diplomas and it could be horizontal and vertical (Schlögel & Archan, 2007).

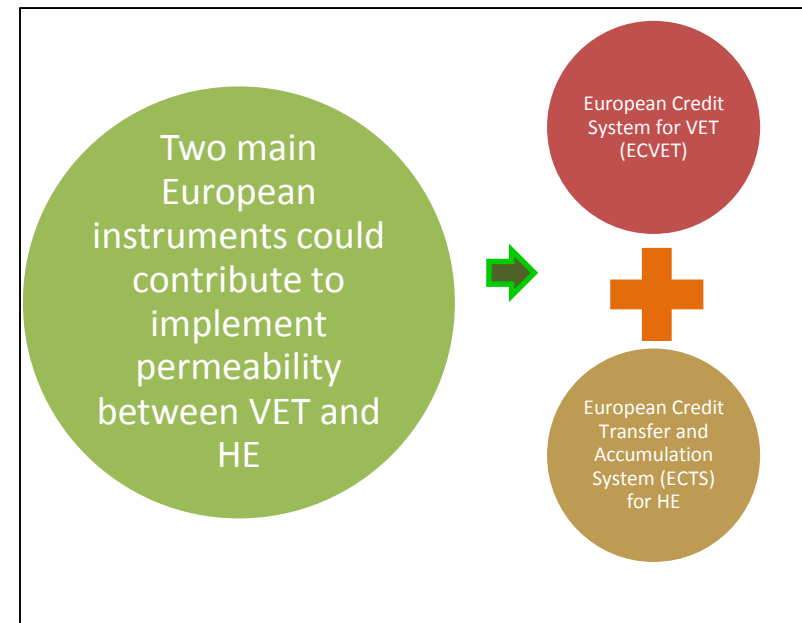
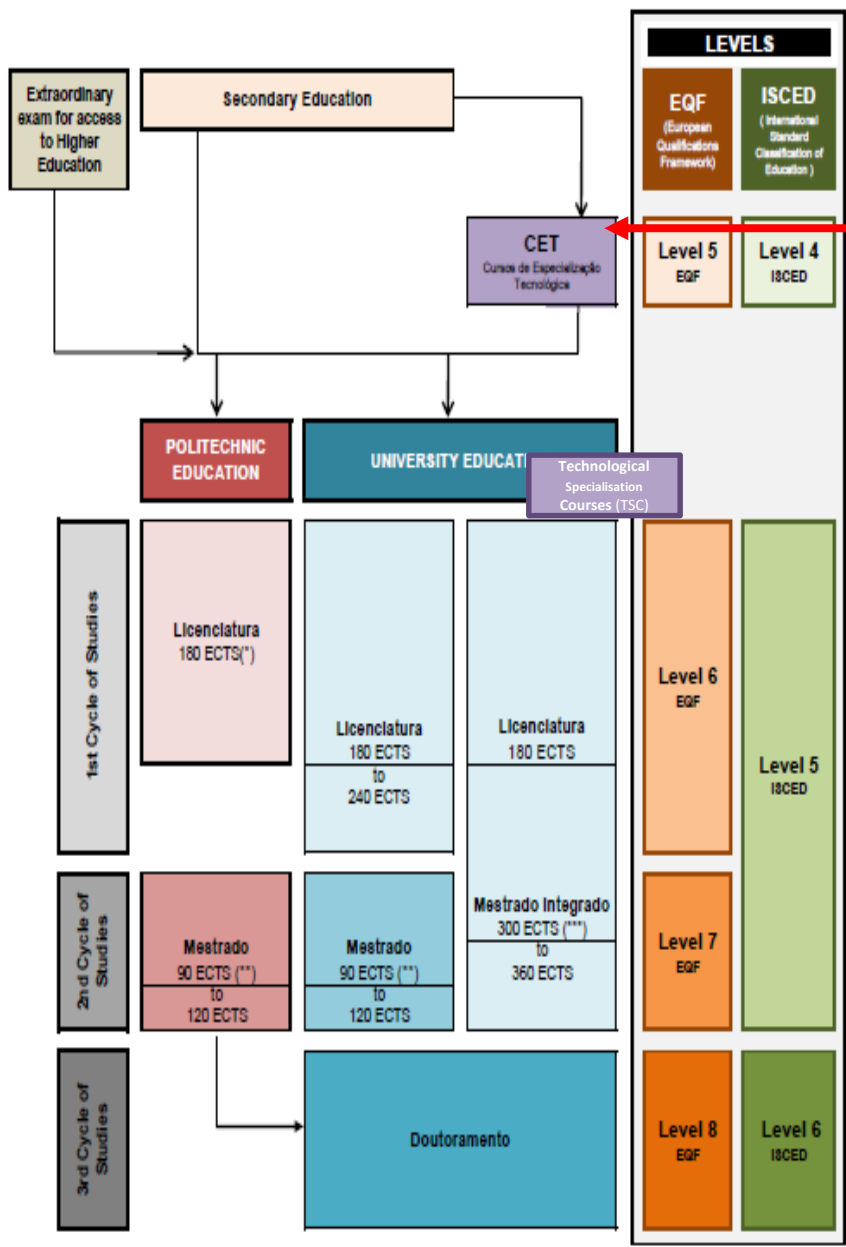


Diagram of the Portuguese Higher Education System according Bologna



# VET at Portuguese HE Institutions



## Technological Specialisation Courses

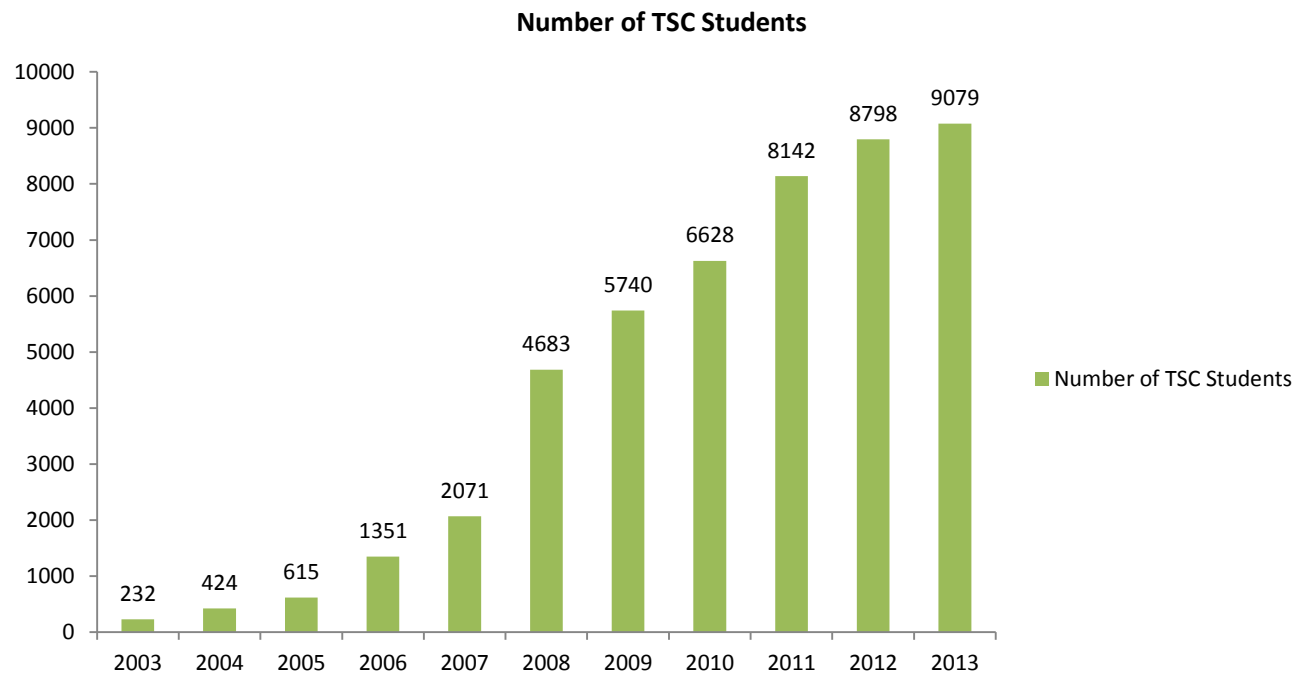
(TSC) are post-secondary courses that provide a **level 5** professional qualification (EQF) through the combination of secondary-level education, either general or professional, with a post-secondary technical training.

These **60 to 90 ECTS'** courses have training plans comprising approximately 860 hours of general training and 540 hours of technical expertise training, spent in companies and other professional entities in the geographical region of the TSC.

The holders of a TSC degree **may benefit from a special access procedure when applying to a HE degree** (credit transfer from the VET course to the HE system).

# VET at Portuguese HE Institutions

- From its beginning, in 2002/2003, TSC have been attended by around two thousands students. According to national data (PORDATA, 2015), the number of students attending TSC has been increasing over the years, starting in 2003 with 232 students and final data from 2013 pointed out to 9.079 students.





# VET at Portuguese HE Institutions

The TSC can be offered either in HE Institutions or in non-higher education institutions, such as technological schools or vocational training centers.

Regarding the year of 2015, from the current 737 TSC, only 100 are not carried out in HE Institutions. Most of the TSC are offered in public universities.

<i>Institution Typology</i>	<i>Number of TSC</i>
Non-Higher Education	100
<hr/>	
Higher Education	637
Public Institutions	419
Private Institutions	218
Total	737

Source: DGES, 2015

# VET at Portuguese HE Institutions

- In the **Portuguese literature review** we can find some studies regarding TSC. In general, all studies point out TSC' strengths, underlining
- (i) the suitability of the offered training areas (Inocentes, 2006; Pereira, 2006; Santos, 2010);
  - (ii) the reasonable valuation of the TSC by the employers (Pereira, 2006);
  - (iii) the positive appreciation of the training components of the curricula by different actors involved in the course (Pereira, 2006);
  - (iv) the positive impact of the expertise training period at the level of unemployed students (Pereira, 2006);
  - (v) the TSC as an effective means for acquiring and updating new knowledge and skills (Pereira, N. , 2009);
  - (vi) the return to education and training of people with intermediate levels of education and professional experience provide by TSC, (Pereira, N. , 2009; Santos, 2010);
  - (vii) the TSC as an alternative pathway for further studies and entrance in the labour market for younger people (Pereira, N. , 2009; Santos, 2010)

## Suggested improvements



Researchers are unanimous to consider that TSC could be a contribution for the qualification of the Portuguese population (youngsters and adults) and for the promotion and enhancement of lifelong learning. However, they suggest some aspects to improve, particularly in terms of (i) **communication between the various stakeholders in the educational process** (Pereira, 2006; Pereira, N. , 2009); (ii) **teaching methodologies and curriculum** (Costa, Simões, Pereira & Pombo, 2009; Pereira, 2006); (iii) **promotion of the social image of these courses in the society in general, and students of secondary education and employers in particular** (Costa et al., 2009; Pereira, 2006; Santos, 2010); (iv) the **involvement of employers in the design of courses** (Pereira, N. , 2009); (v) the **external evaluation procedures and quality indicators** (Pereira, 2006; Pereira, N. , 2009). Researchers such as Pereira (2006) and Pereira, N. (2009) also consider that it would be important to study the academic path of the students who enrolled HE through this access way.



# Case study

## Method

- Case study of exploratory and explanatory nature

## Instrument

- Institutional data analysis

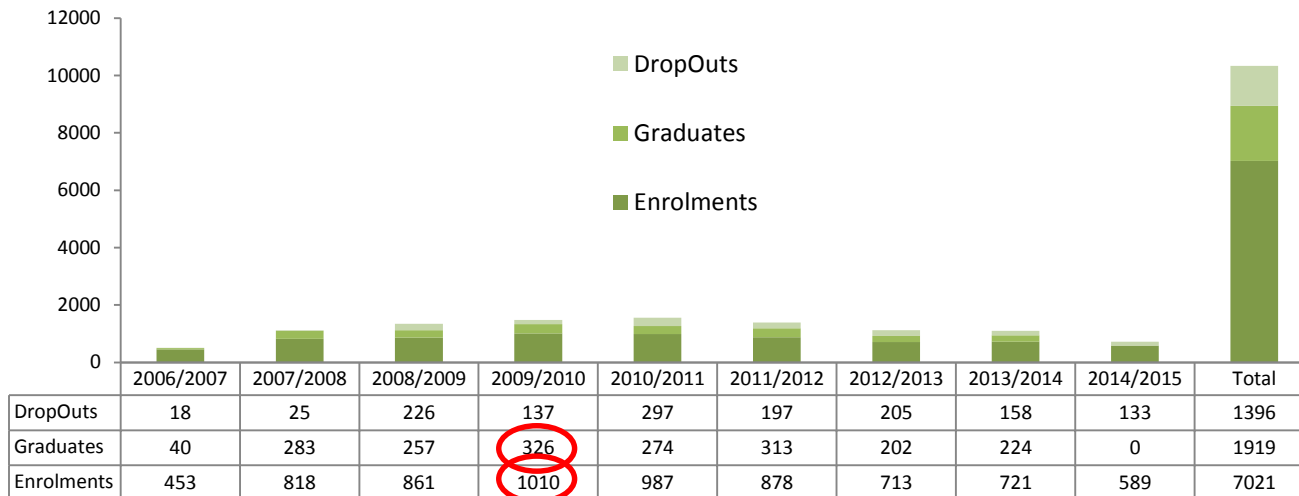
## Main objectives

With the present study, the authors intend to:

i. characterise the academic path of TSC students at the UA

ii. understand the role of credit transfer in these students path

# Overview of the University of Aveiro

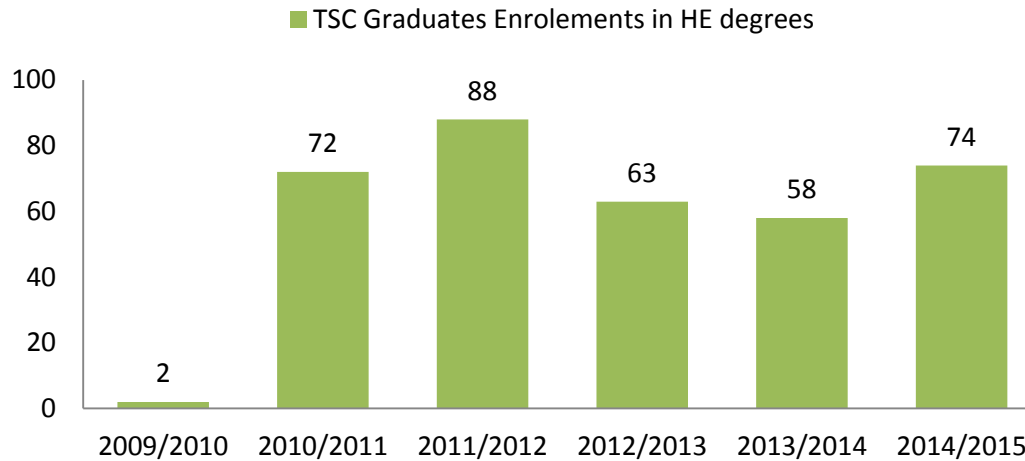


Between the academic years 2006/2007 and 2014/2015 there were 7021 students enrolled in TSC at the UA.

The academic year with more enrolments was 2009/2010 with 1010 students. In relation to the TSC graduates, data indicate a **total of 1919 TSC graduates**, with also the academic year of 2009/2010 with more TSC graduates: 326.

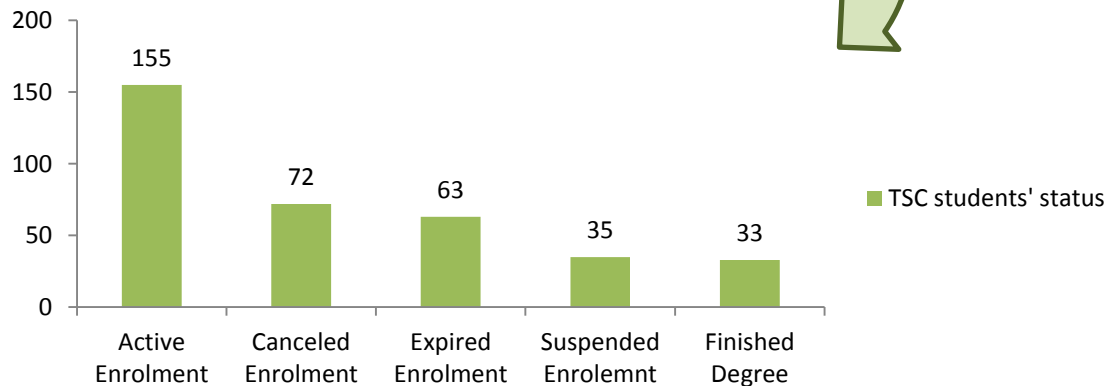


# From VET to HE



From the 1919 TSC graduate students, **358 (18,7%)** apply and enrol in a HE degree at the UA.

Most of them have an **active status (n=155, 43,3%)**, which means that the majority of the TSC students that apply to a HE degree continues to pursue their goal. However the number of canceled (n= 72, 20,2%) and expired (63, 17,7%) enrolments is also noteworthy since together they add up to 135 TSC students (37,9 %) that abandoned HE.



# Where do they come from, where are they going

## The 358 TSC students enrolled in HE degrees at UA are from 19 different TSC:

- banking and insurance (TSC1)
- multimedia products development (TSC2)
- software development and system administration (TSC3)
- footwear design (TSC4)
- renewable energies (TSC5)
- installation and maintenance of computer systems (TSC6)**
- electrical installations and industrial automation (TSC7)**
- logistic (TSC8)
- organization and work planning (TSC9)**
- office administration and translation (TSC10)
- multimedia products (TSC11)
- moulds project development (TSC12)
- geographic information systems (TSC13)
- techniques and management of tourism (TSC14)
- information systems programming and technologies (TSC15)**
- topography and computer aided design (TSC16)
- automation, robotics and industrial control (TSC17)
- quality management (TSC18)
- mechatronics technology (TSC19)

Degrees chosen	n
<b>accounting **</b>	<u>20</u>
chemical engineering	1
computer and telematics engineering	19
design	4
economics	1
electronic and telecommunications engineering	14
<b>electrotechnical engineering</b>	<u>64</u>
environmental engineering	4
<b>finance *a</b>	<u>21</u>
gerontology	2
informatics engineering	3
<b>information technologies</b>	<u>45</u>
management	5
management and industrial engineering	11
marine sciences	1
marketing*	17
materials engineering	6
mechanical engineering	19
new communication technologies	12
office administration studies	13
psychology	2
public administration	4
<b>quality management</b>	<u>23</u>
retail management	9
technologies and information systems	18
technology and product design	8
tourism	9
translation	3

# Where do they come from, where are they going

Degrees chosen	n	HE Degrees with precreditation from TSC	(Total of TSC: 19)
<b>accounting **</b>	<u>20</u>	accounting **	5/19
chemical engineering	1	computer and telematics engineering	1/19
computer and telematics engineering	19	electronic and telecommunications engineering	2/19
design	4	electrotechnical engineering	<b>17/19</b>
economics	1	finance *	3/19
electronic and telecommunications engineering	14	informatics engineering	2/19
<b>electrotechnical engineering</b>	<u>64</u>	information technologies	<b>15/19</b>
environmental engineering	4	management and industrial engineering	2/19
<b>finance *a</b>	<u>21</u>	marketing*	3/19
gerontology	2	mechanical engineering	2/19
informatics engineering	3	new communication technologies	2/19
<b>information technologies</b>	<u>45</u>	<u>office administration studies</u>	<b>17/19</b>
management	5	<u>public administration and local government</u>	<b>17/19</b>
management and industrial engineering	11	<u>quality management</u>	<b>17/19</b>
marine sciences	1	<u>retail management</u>	<b>17/19</b>
marketing*	17	technologies and information systems	2/19
materials engineering	6	technology and product design	4/19
mechanical engineering	19	tourism	2/19
new communication technologies	12		
office administration studies	13		
psychology	2		
public administration	4		
<b>quality management</b>	<u>23</u>		
retail management	9		
technologies and information systems	18		
technology and product design	8		
tourism	9		
translation	3		



# Some Preliminary Results

- As explained before, **all TSC at the UA are organized in ECTS.**  
UA also has an **accreditation plan**, which allows, according with each TSC and HE degree curricula, **TSC graduates to benefit from credit transfer from the VET course to the HE system.** The credit transfer could be related to common core disciplines or specialty of the degree.
- Data show that within the accreditation plan regarding the 19 TSC analysed, there are **18/51 HE degrees with credit transfer from TSC.**
- There are **six HE degrees that seem to be more linked to the permeability from VET to HE.** This means that in the 19 TSC analysed, there are six most common HE degrees within the credit transfer.

The HE degrees more related to TSC accreditation are electrotechnical engineer (17/19) office administration studies (17/19), public administration and local government (17/19), quality management (17/19), retail management (17/19) and information technologies (15/19).





## Some Preliminary Results

- Taking into account, on one hand, the **HE degrees more chosen** by TSC graduates (accounting (11), marketing, quality management, mechanical engineering, electrotechnical engineering, finance and information technologies) and, on other hand, the **HE degrees with more frequencies in the TSC accreditations plan** (electrotechnical engineer (14), office administration studies (14), public administration (14) and local government (14), quality management, retail management (14) and information technologies (12) and accounting (4)), it is possible to conclude that **in the seven most chosen HE degrees by TSC graduates, only four are on the list of the degrees with stronger profile in the accreditation list**: accounting, quality management, electrotechnical engineering and information technologies.
- Further, accounting, that is **the degree more chosen by TSC graduates** (11), is the **last in the** seventh position of the **accreditation list** .



# Final Remarks

- University of Aveiro actually fosters permeability between VET and HE through access, admission and equivalence.
- TSC graduates disperse the choice of their training/knowledge area when entering HE.
- Most TSC graduates that proceed to HE do not do it through the most accredited course.
- Most accredited courses have a lower rate of choice.

## Permeability through RPL

- TSC graduates do not choose the more RPL facilitated path when proceeding to HE.
- A stronger accreditation (RPL) profile does not necessarily make a HE degree more attractive to TSC graduates.
- Credit transfer does not have a direct relevance in these students' path.

# Thank you for your attention!

Susana Ambrósio<sup>1,2</sup> – [sambrosio@ua.pt](mailto:sambrosio@ua.pt),

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<sup>3</sup>Department of Biology & GeoBioTec; <sup>4</sup>Department of Physics

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