

University graduates enrolled in higher VET in Spain: an upskilling or reskilling choice?

Iván Diego Rodríguez¹, Juan P. Gamboa^{2,3}

¹Valnalon, Spain, ²Orkestra-Deusto Foundation, Spain ³Deusto Business School, University of Deusto, Spain.

Abstract

Post-Baccalaureate reverse transfer students (PRTSs) are students that enroll at a VET institution after completion of at least a bachelor's degree. This paper is an exploratory, descriptive and correlational study of Higher VET graduates with a previous university qualification in Spain. The purpose of this study is to contribute to the knowledge of PRTSs in Spain by identifying if it is an upskilling or reskilling choice. The study uses data from the ETEFIL-19 survey to examine the demographics, previous degrees, program of enrollment, and prevalence of university graduates who get VET degrees. The results suggest that the transition of university graduates in Spain into Higher VET is best interpreted as an upskilling strategy due to a significant correlation between the original university field and the VET professional field of destination. A summary discussion of the results along with implications and recommendations for the practice, policy and further research are included.

Keywords: Higher VET; postbaccalaureate reverse transfer; university to VET transitions; upskilling; reskilling; university dropout.

1. Introduction

Vocational Education & Training (henceforth, VET) attracts very varied profiles of people in adulthood who decide to resume their studies at some point in their life (Cournoyer et al., 2017). In Europe, this trend has been accentuated in recent years and more and more VET providers are admitting adults to initial vocational training courses (Markowitsch & Hefler, 2019). In Spain, Higher VET programmes are seen to represent an incipient way of re-entry into the educational system for university graduates who seek to specialize in certain areas or complement their training (García-Brosa, 2019) but to date, this phenomenon remained largely unexplored.

This research has a two-fold objective. Firstly, it aims to quantify the number of Higher VET graduates in Spain with a previous university degree. Secondly, it seeks to establish whether this educational transition obeys a strategy of specialization (upskilling) or retraining (reskilling) by analysing the relationship between previous university degree and a Higher VET programme followed. To achieve our research goals, the paper taps on the Educational-Training Transition and Labour Insertion Survey (hereinafter, ETEFIL-19) carried out by the Spanish National Institute of Statistics in 2019 (INE, 2020).

The following section offers a review of the academic literature on this phenomenon. Later, the method used to carry out the study will be explained, as well as the data that make up the sample. In the third section the main results obtained will be presented. Conclusions and limitations of this research will be derived in the final section.

2. The transitions of university graduates towards Vocational Education & Training

The presence of university graduates in VET is not a new or exclusive phenomenon in Spain. The research work in this field has been developed mainly in countries such as Australia and the United States with lines of work aimed mainly at determining the volume of this flow, the context in which it occurs, the reasons behind this decision and the experience of people with a university degree in the vocational training system. The “counter-intuitive” nature of this movement may be one of the reasons for the scant attention that this phenomenon has received as an object of study in Europe.

In the United States, Townsend & Dever (1999) coined the concept "Post-Baccalaureate Reverse Transfer" to characterize the movements of people with university degrees towards Community Colleges (2-year vocational training). Two years earlier, a study for the National Association of Community Colleges estimated that between 10% and 20% of the students who accessed this type of training had a previous university degree (Gose, 1997 cited by Leigh, 2009). Since then there have been several authors (e.g. Friedel & Friesleben, 2017;

Leigh, 2009) who have continued this line of research with studies limited to the scope of certain educational institutions or states, for which reason there is no a clear vision at the national level.

In Australia, the movement of graduates from university to VET is known as 'reverse articulation' (Haas, 1999). In a study carried out in the state of Victoria between 1991-1997, Golding (1999) estimated that around 40,000 students a year entered VET with a previous university degree and that a similar number of VET students would have previously gone through university without having completed these studies. These figures were questioned years later by Moodie (2004) who specified that taking into account the quality of the data available at that time, the only thing that could be stated was that the movements from the university to vocational training were between 50% less and 50% higher than movements in the opposite direction depending on the definition and the transfer measurement strategy used.

3. Method

3.1. Data source

The key source for the aims of the present study is a survey about the Educational-Training Transition and to the Labour Market (ETEFIL) (INE, 2020). The National Institute of Statistics makes the microdata available to third parties completely free of charge. The latest edition of the survey (ETEFIL-19) surveyed a representative sample of 7,802 people who had completed a Higher VET Programme in 2013-2014 all around Spain from the whole set of professional fields (26 fields). The general aim of the survey is to collect data on their academic and employment situation five years after graduation (in 2019).

3.2. Sample

The study focuses on a subsample of 767 Higher VET graduates who got their degree in 2014 holding a previous university degree or diploma.

The number of people with a previous university degree who had obtained a Higher VET degree in 2013-2014 amounts to 767, which represents 9.8% of the sample for the entire country (n=7802). In addition to a university degree, 17.1% had at least a Master's degree.

The average age of this subset of the sample at the time of obtaining the Higher Technician degree in 2014 was 32 years and 50% were 30 years or older (min=23, max=45, SD=6.45). Both data indicate that the decision to enroll in a Higher VET programme does not occur immediately after completing their university studies. 67.5% are women, although an increase in the percentage of men is observed as the age group increases.

Almost half of Higher VET graduates with a previous university qualification come from the field of “Social and Legal Sciences” (49.9%). They are followed in order of importance by the field of "Engineering and Architecture" (16.8%) and "Sciences" (13.3%) which, considered as a whole, reveal that 30% of this group are STEM graduates. Health Sciences and Arts and Humanities provide a similar number of graduates to the sample, standing in both cases slightly above 9%.

Table 1. Higher VET graduates with a previous university degree, according to Academic Discipline of their university studies.

Academic discipline	Frequency	Percentage
Social Sciences	383	49,9%
Engineering and architecture	129	16,8%
Sciences	102	13,3%
Health Sciences	72	9,4%
Humanities and Arts	70	9,1%
Indeterminable	11	1,4%
TOTAL	767	100,0%

Source: Own elaboration based on data from ETEFIL-19.

Individuals have been classified according to two dichotomous qualitative variables: STEM professional family (Yes/No) and STEM University academic disciplines (Yes/No). The two branches of studies assigned to the STEM category are Engineering and Architecture and Science. In the case of Higher VET, 9 professional fields have been included following the classification proposed by the National Institute for Educational Evaluation (INEE, 2017).

Table 2. STEM-related Academic Disciplines and Higher VET professional fields.

STEM University Academic Disciplines	STEM VET professional fields
1. Science Degrees	1. Building and Civil Works
2. Engineering and architecture Degrees	2. Electricity and electronics
	3. Energy and Water
	4. Mechanical manufacturing
	5. Food industries
	6. Information Technologies and Communications
	7. Installation and maintenance
	8. Chemical industry
	9. Transportation and vehicle maintenance

Source: Own elaboration based on INEE (2017).

4. Results

4.1. Upskilling or reskilling

Interpreting the university graduates transition to VET as a complement to training or specialization (upskilling) or as a change of course in their professional career (reskilling)

requires determining to what extent the previous university education is related to the higher technical degree obtained in 2014.

Table 3. Contingency table of STEM VET qualification of destination vs STEM University Degree of origin.

VET (destination)	Qualification	Previous University Degree (origin)		
		STEM	NO STEM	Total
STEM	Observed	134.00	83.00	217.00
	Expected	72.10	144.90	217.00
	% line	61.75 %	38.25 %	100.00 %
	% column	65.37 %	20.15 %	35.17 %
NO STEM	Observed	71.00	329.00	400.00
	Expected	132.90	267.10	400.00
	% line	17.75 %	82.25 %	100.00 %
	% column	34.63 %	79.85 %	64.83 %
Total	Observed	205.00	412.00	617.00
	Expected	205.00	412.00	617.00
	% line	33.23 %	66.77 %	100.00 %
	% column	100.00 %	100.00 %	100.00 %

Source: Own elaboration based on data from ETEFIL-19.

The analysis shows 65.4% of university graduates from the branches of Science and Engineering and Architecture tend to opt for STEM-related Higher VET programs. This pattern is even more pronounced in the case of HASS graduates, where 79.8% of the graduates are concentrated in non-STEM Higher VET programs. The re-skilling strategy or career change is more frequent in STEM graduates (34.6%) than in HASS graduates (20.2%).

The χ^2 statistic ($\chi^2(1) = 122.7, p < .001$) shown in Table 4 indicates that there is a significant relationship between the original university field and the VET field of destination. The magnitude of the relationship between the variables shows a moderate to large effect size (Phi 0.45).

Table 4. Chi-square test results for the correlation between the original university academic discipline and the VET professional field of destination

	Value	Degrees of freedom	p
X ²	122.77	1	<.001 **
N	617		
Phi	0.45		

Source: Own elaboration based on data from ETEFIL-19.

5. Conclusions

The presence of university graduates in Higher VET programs reflects the growing individualization, fragmentation and complexity of academic-professional trajectories (Montes Ruiz, 2019). The study provides quantitative evidence on the ambiguous, prolonged and indirect nature of educational itineraries and routes to employment (e.g. Golding, 1999; Moodie, 2004; Taylor & Jain, 2017; Townsend & Dever, 1999). The increasingly blurred borders between Vocational Education and Training and the University System in Spain point to the need to leave behind the excessively rigid conceptualisation of VET-University pathways. This study demonstrates that the flow in the opposite direction, from University to VET, is also taking place.

Up to now, Post-Baccalaureate Reverse Transfer has been occurring spontaneously. The magnitude and nature of this flow points to the need to adopt measures that improve and reinforce the permeability, the exchange of information and credit recognition schemes between Higher Education Institutions and Higher VET providers.

The results contradict the common assumption that associate the presence of University Graduates in VET programmes with the need for a career change. We demonstrate the transition of university graduates into Higher VET is best interpreted as an upskilling decision both for STEM and HASS graduates and that the re-skilling strategy is more frequent in STEM graduates than in HASS graduates.

6. Limitations and future research

Although the ETEFIL-19 microdata allows a higher level of disaggregation by VET professional field, it would still be difficult to estimate the relationship between the two qualifications (university and VET). In the same way, the complementarity of studies that at first are not related to each other may end up becoming evident in the medium or long term if the combination of both qualifications are revealed as a plus in a recruitment process. Further qualitative studies (e.g. interviews, discussion groups) are needed for the in-depth exploration of the motivations and reasons informing this decision.

Another line of future research is to determine the medium-term impact of this decision on employment-related indicators such as the employment rate, the relationship between VET program completed and the occupation, wages and other employment quality indicators.

University graduates make up only a part of the total volume of people who transit from University to VET. As a reference, Moodie (2004) estimated that in Australia almost two thirds of the protagonists of University to VET transitions correspond to students who had abandoned their university studies. In Spain, a recently released study commissioned by the Spanish Ministry of Universities found 13.5% of undergraduate students leave University

before completing their degree (Fernández Mellizo, 2022). Unfortunately, the ETEFIL-19 data does not include any variables identifying University drop-outs in Higher VET programmes so we consider that it would be interesting to further explore the destinations of this group in order to have the most complete picture of the University to VET transitions in Spain.

References

- Cournoyer, L., Fournier, G., & Masdonati, J. (2017). Going Back-to-School in Vocational Education and Training: Introduction. *International Journal for Research in Vocational Education and Training*, 4(3), 196-205. <https://doi.org/10.13152/IJRVET.4.3.1>
- Fernández Mellizo, M. (2022) *Análisis del abandono de los estudiantes de grado en las universidades presenciales en España*. Ministerio de Universidades. https://www.universidades.gob.es/wp-content/uploads/2022/11/EAU_Informe_abandono.pdf
- Friedel, J. N., & Friesleben, K. L. (2017). Postbaccalaureate Reverse Transfer Students in Iowa: An Expanded Look at Community College Students with Previous Degrees Earned. *Community College Journal of Research and Practice*, 41(4-5), 273-287. <https://doi.org/10.1080/10668926.2016.1251360>
- García-Brosa, G. (2019). La inserción laboral de los graduados universitarios en España. ¿Qué hacen las empresas, las universidades y la Administración para mejorar la empleabilidad?. En Fundación CYD (Ed.) *Monografía: La inserción laboral de los graduados universitarios en España. Experiencias recientes* (pp. 135-139). <https://www.fundacioncyd.org/wp-content/uploads/2019/09/ICYD2018-E-Monografia.pdf>
- Golding, B. (1999). When the backwash dwarfs the wave: A case study of the relationship between research, policy and practice concerning two-way inter-sectoral movement in Australia. In C. Selby Smith (Ed.), *The Impact of R&D on VET Decision Making: A Range of Case Studies* (pp. 5-16). National Centre for Vocational Education Research (Australia). <https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-impact-of-r-and-d-on-vet-decision-making-a-range-of-case-studies>
- Haas, A. R. (1999). *Trends in Articulation Arrangements for Technical and Vocational Education in the South East Asian Region*. RMIT University. https://unevoc.unesco.org/fileadmin/user_upload/pubs/rmit99.pdf
- INEE. (2017). Indicadores y estadísticas educativas: las ciencias ¿una opción al alza? Ministerio de Educación, Cultura y Deporte. <http://educalab.es/documents/10180/640047/JuevesJoseGallego.pdf/14e76a10-7eec-46d9-8f4b-ebe4588721c0>
- INE. (2020, November 27). *Encuesta de transición educativa-formativa e inserción laboral*. Microdatos. https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736056996&menu=resultados&idp=1254735573113#!tabs-1254736058554

- Leigh, R. A. (2009). *Post-Baccalaureate Reverse Transfer Students in Iowa: 2006 to 2008*. <https://files.eric.ed.gov/fulltext/ED515621.pdf>
- Markowitsch, J., & Hefler, G. (2019). *Future developments in Vocational Education and Training in Europe: Report on reskilling and upskilling through formal and vocational education training* (JRC Working Papers Series on Labour, Education and Technology 2019/07). European Commission. https://joint-research-centre.ec.europa.eu/publications/future-developments-vocational-education-and-training-europe_en
- Montes Ruiz, A. (2019). Trayectorias no tradicionales de acceso a la educación superior: Nuevas y viejas desigualdades en tiempos de expansión educativa [Ph.D. Thesis, Universitat Autònoma de Barcelona]. TDX (Tesis Doctorals en Xarxa). <http://hdl.handle.net/10803/666871>
- Moodie, G. (2004). Reverse transfer in Australia. *International Journal of Training Research*, 2(2), 24-48. <https://doi.org/10.5172/ijtr.2.2.24>
- Taylor, J. L., & Jain, D. (2017). The Multiple Dimensions of Transfer: Examining the Transfer Function in American Higher Education. *Community College Review*, 45(4), 273-293. <https://doi.org/10.1177/0091552117725177>
- Townsend, B. K., & Dever, J. T. (1999). What Do We Know About Reverse Transfer Students? *New Directions for Community Colleges*, (106), 5-14. <https://doi.org/10.1002/cc.10601>