

GROWTH THROUGH EDUCATION: A PERSPECTIVE RESEARCH ON SHORT-CYCLE PROGRAMS

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Abstract

This study examines the implementation and impact of Short-Cycle Technical Higher Education Programmes (Cursos Técnicos Superiores Profissionais – CTeSP) at the Polytechnic University of Cávado and Ave (IPCA), located in the Minho region of northern Portugal. Drawing on document analysis and institutional data, the research explores how CTeSP respond to regional labour market demands, strengthen cooperation between higher education and industry, and promote social inclusion through flexible learning pathways. Between 2017 and 2020, IPCA developed over 8,000 internships in partnership with 2,650 companies—mainly small and medium-sized enterprises—demonstrating a strong alignment with the local economic profile. The results highlight the value of co-designed curricula, hybrid teaching models, and work-based learning in enhancing graduate employability. With 35% of students attending evening or part-time programmes, CTeSP show particular relevance for adult learners and non-traditional students. Despite the positive outcomes, challenges remain concerning the transferability of this model to less industrialised regions, its dependence on European funding, and the limited academic progression options. The study concludes with recommendations to support the sustainability and expansion of short-cycle higher education, including stable funding, enhanced vertical mobility, and context-sensitive replication of best practices.

Keywords: *Short-cycle higher education, employability, regional development, TeSP.*

1. Introduction

In recent decades, European higher education has undergone significant reforms, driven by the Bologna Process and policies aimed at enhancing its social and economic relevance (OECD, 2022). Within this context, the Cursos Técnicos Superiores Profissionais (Cursos Técnicos Superiores Profissionais (CTeSP) – Short-Cycle Technical Higher Education Programmes) have emerged as a response to regional needs, promoting employability and strengthening the relationship between higher education institutions and the productive sector. Lasting two years (120 European Credit Transfer and Accumulation System (ECTS)) and positioned at level 5 of the National Qualifications Framework (NQF) and the European Qualifications Framework (EQF), CTeSP represent a shorter, more flexible and practice-oriented route within higher education (Kirsch & Beernaert, 2011).

The Polytechnic University of Cávado and Ave (Polytechnic University of Cávado and Ave (IPCA)), located in the Minho region of northern Portugal, has played a key role in implementing these programmes. In the 2023/2024 academic year, IPCA recorded over 2,500 students enrolled in CTeSP, including around 750 (35%) in evening or part-time study, reflecting the programmes' capacity to reach diverse groups. This growth has been accompanied by a strategy of collaboration with businesses and local authorities, through curricular internships, co-designed courses, and support mechanisms for labour market transition.

Despite their regional impact, questions remain regarding the transferability of this model to other contexts, due to the heterogeneity of local economies, the reliance on European funding, and institutional capacity. This article critically examines the impact of CTeSP at IPCA, focusing on their alignment with regional labour market needs, collaboration strategies with local stakeholders, and implications for public policy in short-cycle higher education.

The article is structured into five sections. Following this introduction, a literature review contextualises short-cycle higher education within the European landscape. The third section outlines the qualitative methodology adopted. The fourth presents and discusses the empirical findings. The final section offers recommendations for the consolidation and sustainability of this model at IPCA and in other European regions with similar socioeconomic profiles.

2. Literature review

Recent developments in European higher education have reinforced the demand for flexible, accessible, and employment-oriented models. Short-Cycle Technical Higher Education Programmes (Cursos Técnicos Superiores Profissionais, CTeSP), aligned with Level 5 of the National Qualifications Framework (NQF) and the European Qualifications Framework (EQF), respond to this demand by offering technical education with strong regional ties and a practical focus (Kirsch & Beernaert, 2011; OECD, 2022). These programmes have become central to the European Union's strategic vision for employability and lifelong learning (EURASHE, 2011).

Modelled on international frameworks such as the German Fachhochschulen and North American community colleges, CTeSP were introduced in Portugal in 2014 to bridge the gap between secondary education and bachelor's degrees. They aim to provide shorter, employment-oriented programmes (Hasanefendic, Heitor, & Horta, 2016). The curriculum is organised across four semesters and includes general and technical components, along with a work-based placement in the final year, typically lasting between 610 and 840 contact hours. These programmes are particularly well-suited to peripheral regions and smaller institutions, as they contribute to territorial cohesion and the diversification of higher education (OECD, 2022; Ministry of Science, Technology and Higher Education, 2018).

The core value of CTeSP lies in their curricular flexibility and responsiveness to regional needs, preparing professionals with sector-specific skills aligned with local economies (Alves et al., 2015; OECD, 2022). At the Polytechnic University of Cávado and Ave (IPCA), this alignment is evident. Between 2017 and 2020, over 8,000 internships were organised in collaboration with 2,649 companies—mainly small and medium-sized enterprises (SMEs)—highlighting the region's industrial profile. Case studies show that employer involvement in curriculum design, alongside lecturers with industry experience, contributes positively to graduate employability and enhances company competitiveness (Hasanefendic et al., 2016; OECD, 2022). IPCA's "Courses with Companies" model, which integrates teaching in industrial environments with direct business collaboration, exemplifies this innovative hybrid approach (IPCA, 2023).

Beyond employability, CTeSP play an important role in promoting social inclusion and widening access to higher education, particularly for non-traditional students and those from disadvantaged backgrounds (Urbano, 2011). National data indicate that CTeSP students benefit more frequently from social support grants compared to bachelor's students. Additionally, perceived employability, vocational exploration, and intrinsic motivation have emerged as crucial predictors of academic adjustment and retention in these programmes (Silva, Gamboa, & Taveira, 2023; Taveira, 1997). Nonetheless, structural challenges persist. The heavy reliance on European structural funds—currently secured until 2027—raises concerns about long-term sustainability (OECD, 2022). Moreover, the limited availability of progression pathways and the lack of full academic recognition for CTeSP graduates may reduce the attractiveness of this model (Hasanefendic et al., 2016). National and European recommendations emphasise the need to enhance vertical mobility, expand recognition of micro-credentials, and secure stable, diversified funding mechanisms (OECD, 2022; EURASHE, 2011).

In addition, research on similar programmes in other European contexts—such as the Netherlands and Germany—confirms that short-cycle higher education is most effective when supported by strong partnerships with employers and flexible institutional frameworks (Hasanefendic et al., 2016; Dias & Gomes, 2018). These findings underscore the strategic relevance of CTeSP in addressing both regional development and innovation challenges.

This study adopts an exploratory qualitative approach, focusing on a single institutional case study—the Polytechnic University of Cávado and Ave (IPCA)—and the CTeSP programmes it offers. The central aim is to examine how CTeSP contribute to regional development, graduate employability, and the interface between higher education and industry, while also questioning the conditions for transferring this model to other contexts with different socioeconomic profiles.

3. Methodology

This study is based on document analysis and the examination of institutional and national statistical data. Primary sources included internal reports produced by the Polytechnic University of Cávado and Ave (IPCA, 2023), particularly the “IPCA in Numbers – School of Technical Short Cycles” report. Policy documents from the OECD (2022), EURASHE (Kirsch & Beernaert, 2011) were also consulted.

A qualitative approach was selected to allow for an in-depth understanding of local dynamics, with a focus on the Minho region and IPCA’s role in implementing short-cycle higher education programmes (CTeSP). This methodology supports interpretative analysis within a specific regional context.

4. Results

The analysis of the data collected reveals three key areas of impact of the Cursos Técnicos Superiores Profissionais (CTeSP) at the Polytechnic University of Cávado and Ave (IPCA): (1) engagement with the regional business sector, (2) contribution to economic development, and (3) professional advancement of students.

Between 2017 and 2020, IPCA established 2,649 cooperation agreements with local companies, resulting in 8,267 curricular internships—an average of 3.1 internships per organisation. The majority of these companies are small and medium-sized enterprises (SMEs), with 65% employing fewer than 50 workers, reflecting the industrial structure of the Minho region. These figures suggest an effective strategy of embedding CTeSP within the local economy and tailoring training to real labour market needs. The connection between education and industry is further strengthened by the “Courses with Companies” model. In this approach, part of the teaching takes place on company premises and is delivered by professionals currently working in the field. This model has been implemented in collaboration with companies such as Deloitte, Primavera, Hydra IT, Ceia, and Capgemini—some of which also provide scholarships or tuition support for students.

Survey responses from 161 companies that hosted CTeSP interns indicate high levels of satisfaction. Employers highlighted students’ punctuality, adherence to rules, task commitment, interpersonal skills, and the technical value of their contributions. Over 90% of companies expressed willingness to host future interns. Institutional data from 2022/2023 show a total of 2,162 students enrolled in IPCA’s CTeSP programmes, including 752 (35%) attending in evening or part-time mode. This proportion reflects the relevance of CTeSP for adult learners and working students, underscoring their role in reskilling and lifelong learning, as well as their inclusive potential. (Table 1)

Table 1. Key indicators of the implementation and outcomes of CTeSP at IPCA (2017–2023).

Analysis Dimension	Value
Agreements with companies (2017-2020)	2.649
Internships established (2017-2020)	8.267
Companies with <50 employees	65%
Companies with >250 employees	5%
Companies available to take on new interns	>90%
Students enrolled in CteSP (2022/2023)	2.162
Students studying after work (2022/2023)	752 (35%)
Number of companies surveyed	161

In summary, the results demonstrate the effectiveness of the CteSP model in aligning higher education with labour market demands, with measurable impacts on student employability, pedagogical innovation, and the capacity-building of the regional business sector.

5. Discussion

The findings of this study confirm the strategic role of Cursos Técnicos Superiores Profissionais (CTeSP) as tools for regional development, employability, and innovation in short-cycle higher education. The case of IPCA illustrates a successful model based on strong collaboration with local businesses, responsiveness to labour market needs, and the promotion of inclusive educational pathways.

As highlighted by Kirsch and Beernaert (2011), the success of short-cycle higher education (short-cycle higher education (SCHE)) programmes depends on their contextual relevance and the involvement of local economic actors. At IPCA, partnerships with SMEs and the adoption of co-designed training models support this view and reinforce the importance of territorially grounded higher education. This alignment between educational provision and regional context not only improves graduate employability but also contributes to the modernisation and competitiveness of businesses themselves. Survey data indicate that host companies recognise the technical contributions of interns, thereby confirming the positive economic impact of CTeSP at the local level (Hasanefendic, Heitor, & Horta, 2016; OECD, 2022).

CTeSP have proven effective both for the professional integration of recent secondary school graduates and for the requalification of adult learners. The high proportion of part-time students (35%) suggests that these programmes are reaching groups traditionally underrepresented in higher education. This inclusive dimension aligns with the objectives of European lifelong learning strategies (ET 2020). Despite their effectiveness in the IPCA context, questions remain regarding the scalability and long-term sustainability of the CTeSP model. Its current reliance on European structural funds—secured only until 2027—raises concerns about future viability in the absence of continued external financing. The OECD (2022) also identifies this as a critical constraint for the consolidation of short-cycle provision. In addition, replicating the model in other regions may be hindered by structural challenges, such as lower business density, limited institutional capacity for coordination, or economic profiles that do not support work-based learning. As Kirsch and Beernaert (2011) caution, the diversity of national and regional contexts requires careful consideration before generalising such approaches.

This study also reinforces the role of polytechnic higher education in promoting proximity, innovation, and employability. By positioning CTeSP as action-oriented programmes, the model revives the practical tradition of technical education and integrates it into a broader framework of lifelong learning, industry collaboration, and territorial development. In doing so, it contributes to strengthening the identity and mission of the polytechnic sector.

6. Conclusion and recommendations

This study examined the role of Cursos Técnicos Superiores Profissionais (CTeSP) at the Polytechnic University of Cávado and Ave (IPCA) as a model for regional development, employability promotion, and strengthening the link between higher education and the local economy. Drawing on qualitative analysis supported by institutional data, employer surveys, and academic literature, the study identified a successful model characterised by proximity, flexibility, and relevance in short-cycle provision.

The results confirm a strong alignment between CTeSP and the business ecosystem of the Minho region, particularly through partnerships with SMEs, co-designed programmes with companies, and high satisfaction levels among internship hosts. These elements reinforce the recognition of CTeSP as effective instruments for workforce qualification and innovation within the polytechnic sector. Furthermore, the high proportion of part-time and evening students highlights the programmes' capacity to attract non-traditional learners and promote social and educational inclusion, in line with lifelong learning (lifelong learning (LLL)) and territorial cohesion objectives.

However, the study also identifies key risks and limitations, notably the reliance on European funding, the difficulty of replicating the model in less economically active regions, and the lack of a comprehensive national framework for academic progression and recognition. To ensure the sustainability of the model, the following measures are recommended:

- Establish stable funding mechanisms for CTeSP to reduce dependence on European structural funds;
- Strengthen vertical pathways into bachelor's programmes through clear progression routes and recognition of prior learning;
- Adapt and expand institutional good practices in collaboration with businesses to other regions, considering their specific economic contexts;
- Implement continuous monitoring and evaluation systems, involving local stakeholders to assess the quality and impact of CTeSP.

In summary, CTeSP represent a relevant response to the current challenges facing higher education, provided they are embedded within a coherent territorial strategy and supported by appropriate resources. The IPCA case offers valuable insights for the expansion and deepening of this model in other European regions, while acknowledging their distinct social, economic, and institutional conditions.

Acknowledgments

I acknowledge the use of ChatGPT 4.0 (OpenAI, <https://chat.openai.com>) and Notebook LM (<https://notebooklm.google.com>) for text summarization and revision; Grammarly (<https://www.grammarly.com>) for text correction and plagiarism detection; DeepL Translator and Write (<https://www.deepl.com/en/translator>) for translation and text review; QuillBot (<https://quillbot.com>) and Mendeley (<https://www.mendeley.com>) for bibliography and reference management.

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