



INNOVATION IN THE CONTINUING VOCATIONAL EDUCATION AND TRAINING (CVET) GOVERNMENT-RUN PROGRAMME IN CATALONIA

Liviú Catalin Mara

ADVERTIMENT. L'accés als continguts d'aquesta tesi doctoral i la seva utilització ha de respectar els drets de la persona autora. Pot ser utilitzada per a consulta o estudi personal, així com en activitats o materials d'investigació i docència en els termes establerts a l'art. 32 del Text Refós de la Llei de Propietat Intel·lectual (RDL 1/1996). Per altres utilitzacions es requereix l'autorització prèvia i expressa de la persona autora. En qualsevol cas, en la utilització dels seus continguts caldrà indicar de forma clara el nom i cognoms de la persona autora i el títol de la tesi doctoral. No s'autoritza la seva reproducció o altres formes d'explotació efectuades amb finalitats de lucre ni la seva comunicació pública des d'un lloc aliè al servei TDX. Tampoc s'autoritza la presentació del seu contingut en una finestra o marc aliè a TDX (framing). Aquesta reserva de drets afecta tant als continguts de la tesi com als seus resums i índexs.

ADVERTENCIA. El acceso a los contenidos de esta tesis doctoral y su utilización debe respetar los derechos de la persona autora. Puede ser utilizada para consulta o estudio personal, así como en actividades o materiales de investigación y docencia en los términos establecidos en el art. 32 del Texto Refundido de la Ley de Propiedad Intelectual (RDL 1/1996). Para otros usos se requiere la autorización previa y expresa de la persona autora. En cualquier caso, en la utilización de sus contenidos se deberá indicar de forma clara el nombre y apellidos de la persona autora y el título de la tesis doctoral. No se autoriza su reproducción u otras formas de explotación efectuadas con fines lucrativos ni su comunicación pública desde un sitio ajeno al servicio TDR. Tampoco se autoriza la presentación de su contenido en una ventana o marco ajeno a TDR (framing). Esta reserva de derechos afecta tanto al contenido de la tesis como a sus resúmenes e índices.

WARNING. Access to the contents of this doctoral thesis and its use must respect the rights of the author. It can be used for reference or private study, as well as research and learning activities or materials in the terms established by the 32nd article of the Spanish Consolidated Copyright Act (RDL 1/1996). Express and previous authorization of the author is required for any other uses. In any case, when using its content, full name of the author and title of the thesis must be clearly indicated. Reproduction or other forms of for profit use or public communication from outside TDX service is not allowed. Presentation of its content in a window or frame external to TDX (framing) is not authorized either. These rights affect both the content of the thesis and its abstracts and indexes.



Innovation in the continuing vocational education and training (CVET) government-run programme in Catalonia

Liviu-Catalin Mara



TESI DOCTORAL – TESIS DOCTORAL- DOCTORAL THESIS
2018

UNIVERSITAT ROVIRA I VIRGILI

INNOVATION IN THE CONTINUING VOCATIONAL EDUCATION AND TRAINING (CVET) GOVERNMENT-RUN PROGRAMME
IN CATALONIA

Liviu Catalin Mara

Liviú-Catalin Mara

**Innovation in the continuing vocational
education and training (CVET)
government-run programme in Catalonia**

Doctoral thesis

supervised by Dr. Ignasi Brunet Icart

**Department of Business Management
Research group: Anàlisi Social i Organitzativa**



UNIVERSITAT ROVIRA I VIRGILI

Reus

2018

UNIVERSITAT ROVIRA I VIRGILI

INNOVATION IN THE CONTINUING VOCATIONAL EDUCATION AND TRAINING (CVET) GOVERNMENT-RUN PROGRAMME
IN CATALONIA

Liviu Catalin Mara



UNIVERSITAT ROVIRA I VIRGILI

FAIG CONSTAR que aquest treball, titulat "Innovation in the continuing vocational education and training (CVET) government-run programme in Catalonia", que presenta Liviu-Catalin Mara per a l'obtenció del títol de Doctor, que opta a menció internacional, ha estat realitzat sota la meva direcció al Departament Gestió d'Empreses d'aquesta universitat.

HAGO CONSTAR que el presente trabajo, titulado "Innovation in the continuing vocational education and training (CVET) government-run programme in Catalonia", que presenta Liviu-Catalin Mara para la obtención del título de Doctor, que opta a menció internacional, ha sido realizado bajo mi dirección en el Departamento de Gestión de Empresas de esta universidad.

I STATE that the present study, entitled "Innovation in the continuing vocational education and training (CVET) government-run programme in Catalonia" presented by Liviu-Catalin Mara for the award of the degree of Doctor, which opts to the International distinction, has been carried out under my supervision at the Department of Business Management of this university.

Tarragona, 12 de juny de 2018 / Tarragona, 12 de junio de 2018 / Tarragona, June 12th, 2018

El/s director/s de la tesi doctoral
El/los director/es de la tesis doctoral
Doctoral Thesis Supervisor/s

A handwritten signature in blue ink, appearing to read 'I. Brunet Icart', is written over a white background.

Dr. Ignasi Brunet Icart

UNIVERSITAT ROVIRA I VIRGILI

INNOVATION IN THE CONTINUING VOCATIONAL EDUCATION AND TRAINING (CVET) GOVERNMENT-RUN PROGRAMME
IN CATALONIA

Liviu Catalin Mara

Acknowledgements

I would like to thank all the persons and institutions, and especially the staff of these institutions, which made possible in one way or another, this doctoral thesis. First, thanks to my supervisor Dr. Ignasi Brunet, Joan, Oriol, Aitor, Karne etc. and rest of friends, colleagues of CREA, reviewers and family that have given their support during the process and opened the doors for me. Second, I would like to thank the University Rovira i Virgili, the Department of Business Management, the research group Anàlisi Social i Organitzativa. Special thanks in this category to the CIFO network coordinator and the centres for opening the door and participating in this research and Dr. Jim Crowther, from whom I learned so much about this field and for receiving me at the University of Edinburgh. And also to Dr. Regina Egetenmeyer and the organising team at the Julius-Maximilians-Universität Würzburg, for the opportunity to participate at the International Winter School for Master and Doctoral Students: *Comparative Studies in Adult Education & Lifelong Learning*, held in Würzburg (Germany). It would have been impossible doing this thesis without all of you.

Agraïments

Voldria donar les gràcies a totes les persones i institucions, i especialment al personal d'aquestes institucions, que van fer possible d'una manera o altra aquesta tesi doctoral. En primer lloc, gràcies al meu supervisor, el Dr. Ignasi Brunet, el Joan, l'Oriol, l'Aitor, Karne etc. i la resta d'amics, companys/es de CREA, avaluadors i familiars que m'han recolzat durant el procés i m'han obert les portes al futur. En segon lloc, m'agradaria donar les gràcies a la Universitat Rovira i Virgili, al Departament de Gestió d'Empreses, al grup de recerca Anàlisi Social i Organitzativa. Un

agraïment especial en aquesta categoria a la coordinadora de la xarxa dels CIFO i als centres per obrir les seves portes i participar en aquesta investigació i al Dr. Jim Crowther, de qui he après molt sobre aquest camp i per rebre'm a la Universitat d'Edimburg. I també a la Dra. Regina Egetenmeyer i l'equip organitzador de la Julius-Maximilians-Universität Würzburg, per l'oportunitat de participar a l'Escola Internacional d'Hivern per a estudiants de Màster i Doctorat: *Comparative Studies in Adult Education & Lifelong Learning*, celebrada a Würzburg (Alemanya). Hauria estat impossible fer aquesta tesi sense tots vostès.

Mulțumiri

Aș dori să mulțumesc tuturor oamenilor și instituțiilor, în special personalului acestor instituții, care au făcut această teză de doctorat posibilă, într-un fel sau altul. Mai întâi de toate, mulțumesc supervisorului meu, dr. Ignasi Brunet, lui Joan, Oriol, Aitor, Karmeï etc. și restul prietenilor și colegilor din CREA, evaluatorilor și familiei pentru că m-au susținut în timpul procesului și au făcut ca totul să fie mai ușor pentru mine. În al doilea rând, aș dori să mulțumesc Universității Rovira i Virgili, Departamentului de Management al Afacerilor, grupului de cercetare Anàlisi Social i Organizativa. Mulțumiri speciale în această categorie coordonatoarei rețelei CIFO și centrelor pentru că ne-au deschis porțile și au participat la această cercetare și d-nului dr. Jim Crowther, de la care am învățat atât de mult despre acest domeniu și care m-a primit la Universitatea din Edinburgh. Și, de asemenea, d-nei dr. Regina Egetenmeyer și echipei de organizare de la Julius-Maximilians-Universität Würzburg, pentru oportunitatea de a participa la Școala Internațională de Iarnă pentru Studenții de Master și Doctorat: *Comparative Studies in Adult Education & Lifelong Learning*, desfășurată la Würzburg (Germania). Această teză ar fi fost imposibil de realizat fără voi toți. Poza de pe copertă

este de la închisoarea politică de la Sighetu Marmației. Ea amintește de timpuri întunecate, lipsite de umanitate și de sens din istoria României. Timpuri care, prin educație, printre altele, nu trebuie să lăsăm să se producă din nou, “pentru văzduhul tău liber de mâine”.

Abstract

The main objective of this doctoral thesis has been to analyse how innovation is trained in the context of a continuing vocational education and training (CVET) government-run programme for unemployed people in Catalonia (Spain), within the perspective of lifelong learning. Although this is a relevant topic for the ‘information society’ that we live in, it has been very little studied, and even less empirically, therefore this study is exploring and laying the foundations for further research in this area. Chapter 1 introduces the theoretical framework of the area of study, limits the study object, it states the objectives and the structure of the thesis. Chapter 2 is dedicated to the social impact analysis, including the role of the innovation in the policy documents of the European Union and the UNESCO. Furthermore it contrasts the activity of the CVET programme with the 4 strategic objectives of the EU Strategic Framework Education and Training 2020. Chapters 3 and 4 focus on the analysis of the innovation carried out in the CVET programme by giving voice to the heads of the centres and to the students and former students in this programme, respectively. Chapter 5 discusses the limitations, conclusions and further venues of research. Although it is an empirical exploration of the area of CVET and innovation, the results presented in this thesis can contribute to improving the existing policy and practice in the area of CVET, by further improving what it works and working on what it lacks, and also in other areas of formal education, such as vocational education and training (VET) or higher education, which can learn from the strengths of the type of training analysed in this thesis, and work together towards a better quality education and training for all.

Resum

L'objectiu principal d'aquesta tesi doctoral va ser analitzar com es treballa la innovació en el marc d'un programa governamental de formació professional per a l'ocupació (CVET, en anglès) dirigit per a persones desocupades a Catalunya (Espanya), des de la perspectiva de l'aprenentatge permanent. Tot i que aquest és un tema rellevant per a la "societat de la informació" en què vivim, s'ha estudiat molt poc, i fins i tot menys empíricament, per tant, aquest estudi està explorant i posant les bases per a la investigació addicional en aquesta àrea. El capítol 1 presenta el marc teòric de l'àrea d'estudi, limita l'objecte d'estudi, estableix els objectius i l'estructura de la tesi. El capítol 2 està dedicat a l'anàlisi d'impacte social, incloent el paper de la innovació en els documents normatius de la Unió Europea i la UNESCO. A més, contrasta l'activitat del programa CVET amb els 4 objectius estratègics del Marc Estratègic Educació i Formació 2020 de la UE. Els capítols 3 i 4 se centren en l'anàlisi de la innovació realitzada al programa CVET donant veu als responsables dels centres i als estudiants i antics alumnes d'aquest programa, respectivament. El capítol 5 analitza les limitacions, conclusions i altres línies de recerca. Tot i que és una exploració empírica de l'àrea de CVET i la innovació, els resultats que es presenten en aquesta tesi poden contribuir a millorar la política i la pràctica existents en l'àrea de CVET, millorant encara més el que funciona i treballant sobre el que manca, i també en altres àrees de l'educació formal, com la formació professional o l'educació superior, que poden aprendre de les fortaleces del tipus de formació analitzada en aquesta tesi, i treballar juntament per aconseguir una educació i una formació de millor qualitat per a tothom.

Resumen

El objetivo principal de esta tesis doctoral ha sido analizar cómo se trabaja la innovación en el contexto de un programa gubernamental de formación profesional para la ocupación (CVET, en inglés) para desempleados en Cataluña (España), dentro de la perspectiva del aprendizaje permanente. Aunque este es un tema relevante para la "sociedad de la información" en la que vivimos, ha sido muy poco estudiado, y aún menos empíricamente, por lo tanto, este estudio explora y sienta las bases para futuras investigaciones en esta área. El Capítulo 1 presenta el marco teórico del área de estudio, limita el objeto de estudio, establece los objetivos y la estructura de la tesis. El Capítulo 2 está dedicado al análisis del impacto social, incluido el papel de la innovación en los documentos de políticas de la Unión Europea y la UNESCO. Además, contrasta la actividad del programa CVET con los 4 objetivos estratégicos del Marco Estratégico Educación y Formación 2020 europeo. Los Capítulos 3 y 4 se centran en el análisis de la innovación realizada en el programa CVET dando voz a los responsables de los centros y a los alumnos y ex alumnos en este programa, respectivamente. El Capítulo 5 discute las limitaciones, conclusiones y otras líneas de investigación. Aunque es una exploración empírica del área de CVET y la innovación, los resultados presentados en esta tesis pueden contribuir a mejorar la política y prácticas existentes en el área de CVET, mejorando aún más lo que funciona y trabajando en lo que le falta, y también en otras áreas de la educación formal, como la formación profesional o la educación superior, que pueden aprender de las fortalezas del tipo de capacitación analizado en esta tesis, y trabajar juntos hacia una educación y formación de mejor calidad para todo el mundo.

List of abbreviations

3D - Three-Dimensional

ACGME - Accreditation Council for Graduate Medical Education

AE - Adult Education

AIPE – Asociación de Ingenieros Profesionales de España (Spanish Association of Professional Engineers)

APP - Application Software

CATIA - Computer-Aided Three-dimensional Interactive Application

Cedefop - European Centre for the Development of Vocational Training

CIFO - Centres d'Innovació i Formació Ocupacional (Centres of Innovation and Occupational Training)

CNC - Computer Numerical Control

CPE - Continuing Professional Education

CVET - Continuing Vocational Education and Training

DAFO - Debilidades Amenazas Fortalezas y Oportunidades (Strengths, Weaknesses, Opportunities, and Threats)

DE - Democratic-Emancipatory

EC - European Council

EPA - Entrustable Professional Activity

ESF – European Social Fund

ET 2020 - EU Strategic Framework – Education & Training 2020

EU - European Union

EU-27 - European Union during 2007 to 2013, when it had 27 countries

EUROSTAT - Statistical Office of the European Communities

FCT - Formación en Centros de Trabajo (Workplace Training)

FOAP - Formació d'oferta en àrees prioritàries (Training Offer in Priority Areas)

HRM - Human Resources Management

ICT - Information and Communications Technology

INE – Instituto Nacional de Estadística (Spanish National Statistics Institute)

IPR – Ingeniero Profesional (Professional Engineer)

ISCED - International Standard Classification of Education

ISO - International Organization for Standardization

IVET - Initial Vocational Education and Training

MECU - Marco Español de Cualificaciones (Spanish Qualification Framework)

MOOC - Massive Open Online Course

MSC - Modernisation and State Control

NAS - Next Accreditation System

NRC - National Reference Centres

OECD - Organisation for Economic Co-operation and Development

PhD - Doctor of Philosophy

PLAR - Prior learning assessment and recognition

PLC - Programmable Logic Controller

RPL - Recognition of Prior Learning

R&D - Research and development

SDG – Sustainable Development Goal

SME - Small and Medium-sized Enterprise

SSH – Social Sciences and Humanities

TVET - Technical and Vocational Education and Training

UN – United Nations

UNE – Una Norma Española (A Spanish Standard)

UNESCO - United Nations Educational, Scientific and Cultural
Organization

VET – Vocational Education and Training

List of figures

1.3.1.CVET system in Catalonia	9
2.4.1.CIFO network in Catalonia	28
2.4.2.Main features of the CIFO network in Catalonia	32-35
2.4.3.Implementation of the CVET programme in Catalonia	36
2.5.1.Requirements of the candidates	72
2.5.2.Professional certificates applications handled, by professional families	74
2.5.3.Number of centres that offer training for professional certificates, by professional families	75
3.1.1. Interviews with the Directors of 7 CIFO and with the Coordinator of the CIFO network, in Catalonia	99
3.1.2.Analysis matrix	101
4.1.1.Participants, by sex	144
4.1.2.Participants, by place of origin	145
4.1.3.Participants, recoded by groups of age	147
4.1.4.Participants, by educational level attained or attended	149
4.1.5.Participants, by employment status	151
4.1.6.Innovation skills trained at the CIFO	153
4.1.7.Strategies for innovation training at the CIFO	158
4.3.1.Students who achieved a professional certificate at the CIFO ..	175
4.3.2.Students' assessment of the training and treatment at the CIFO	177
4.3.3.Future participation in training actions	179
4.3.4.CIFO communication channels	181

List of tables

2.4.1. Employment rates per centre	40-41
2.4.2. Students' satisfaction and usefulness of the course	43
2.5.1. Unemployment rate in EU (28 countries), Spain and Catalonia, 2008-2017	59
2.5.2. Participation in one CIFO, by academic level, group age and legal status	77
4.1.1. % of participants, by sex	145
4.1.2. % of participants, by place of origin	146
4.1.3. % of participants, recoded by group of age.....	147
4.1.4. Further measurements of the original variable "Age"	148
4.1.5. % of participants, by educational level attained or attended ...	150
4.1.6. % of participants, by employment status.....	151-152
4.3.1. Students who achieved a professional certificate at the CIFO ...	176
4.3.2. Students' assessment of the training and treatment at the CIFO	178
4.3.3. Future participation in training actions	179
4.3.4. CIFO communication channels	181

List of journal articles derived from the thesis

Paper 1: Impact of lifelong learning: evidence from Catalonia (Spain). Under review, SCOPUS

Paper 2: Mara, L. C., & Brunet, I. (2017). Centres d'Innovació i Formació Ocupacional (CIFO) network and the promotion of equity, social cohesion, and active citizenship in Catalonia (Spain). *Revista Internacional de Organizaciones*, 19, 117-142. <https://doi.org/10.17345/rio19.117> (WEB OF SCIENCE - Emerging Sources Citation Index)

Paper 3: Mara, L. C. (2018). Innovation in the government-run Continuing Vocational Education and Training programme for unemployed in Catalonia (Spain): Challenges and opportunities. *Intangible Capital*, 14(3), 370-386. <http://dx.doi.org/10.3926/ic.1298> (SCOPUS)

Paper 4: Mara, L. C., Brunet, I., Cabré, J. (2020). Innovation skills training in a lifelong learning programme for unemployed people, in Catalonia (Spain). *Innovation: The European Journal of Social Science Research*. (online)

Index

Acknowledgements	i
Abstract	iv
List of abbreviations	vii
List of figures	x
List of tables	xi
List of journal articles derived from the thesis	xii
Chapter 1. Introduction and structure of the thesis	1
1.1. Rationale for the present research.....	1
1.2. CVET within the lifelong perspective	3
1.3. CVET in Catalonia	5
1.4. Objectives of the thesis	10
1.5. Structure of the thesis	11
1.6. References	13
Chapter 2. Social Impact research perspective on the CIFO	19
2.1. Social impact and the CIFO network	19
2.2. UNESCO and innovation in lifelong learning	20
2.2.1. Sustainable Development Goals	20
2.2.1. The Strategy for Technical and Vocational Education and Training (2016-2021).....	22
2.3. References	22
2.4. Objectives 1, 2, and 4 of the ET 2020 (Papper 1)	23
2.5. Objective 3 of the ET 2020 (Paper 2)	53

Chapter 3. CIFO perspective on innovation	91
3.1. Innovation in the government-run Continuing Vocational Education and Training programme for unemployed people in Catalonia (Spain): Challenges and opportunities (Paper 3)	91
3.2. Annex	128
Chapter 4. Students' perspective on the CIFO	135
4.1. Students' perception on innovation skills trained at the CIFO (Paper 4)	135
4.2. Annex	172
4.3. Other benefits from the training and assessment of the CIFO ..	174
4.4. Annexes	182
4.4.1. Codification of open-ended answers into closed-ended	182
4.4.2. Ethics and research: online questionnaire	187
4.4.3. Ethics and research: consent form	188
Chapter 5. Conclusions, limitations and further research	194
5.1. Conclusions	194
5.2. Limitations of this research	199
5.3. Further research	200
5.4. References	202

Chapter 1. Introduction and structure of the thesis

1.1. Rationale for the present research

The present doctoral thesis is derived from the research project ‘Vocational training and SMEs: the challenge of innovation in Catalonia’ (grant 2014ACUP0077), carried out from 2015 to 2017 in Catalonia (Spain). This competitive research project was funded under the framework of the RecerCaixa programme by the private foundation Obra Social ‘la Caixa’. In this section I will briefly describe the main objective and theoretical grounds of the RecerCaixa project, in which the author of this thesis was member of the research team. Under the leadership of Dr. Ignasi Brunet Icart, the project had a twofold aim: first, to study the adjustment between the training in innovation offered at the vocational training (VET) centres and the innovation skills demanded by the companies from their technical workers; second, to analyse how can the technical workers that graduate from the VET centres, contribute to the innovation carried out in the SMEs (Anàlisi Social i Organitzativa, n.a.).

The RecerCaixa project was designed during the most recent economic and financial crisis that affected Catalonia and Spain, which started in 2008. Thus, the crisis was considered as an opportunity to rethink the social and economic models that are desirable for Catalonia (Anàlisi Social i Organitzativa, n.a.). In this context, the project intended to contribute to the debate regarding the contribution of the VET system to this new economic model, especially regarding innovation (Anàlisi Social i Organitzativa, n.a.). Brunet et al. (2017) note that recent studies in Spain have highlighted the importance and the necessity of strengthening the innovation system in Spain (Fundación Cotec para la innovación tecnológica, 2015; Reig Martínez, 2016). However, most of the studies focus on the universities, technological centres or

enterprises as the main agents in the innovation process and ignore the VET centres.

The RecerCaixa project placed its focus on the role of the VET centres in innovation, building on the Catalan political guidelines on VET and studies such as that of the European Centre for the Development of Vocational Training (Cedefop, 2010), which claims ‘the centrality of VET to support economic development, stimulating business innovation and improving productivity’ (Anàlisi Social i Organitzativa, n.a.). The VET system can be crucial for innovation in Catalonia because it can better adapt and operate regarding the specificities of the Catalan economic model: the predominance of small and medium-sized enterprises (SME) in industry and service sectors, and the difficulties that these SME have when it comes to innovating using their own resources or establishing collaborations with other agents, such as universities or R&D agents, to innovate (Anàlisi Social i Organitzativa, n.a.).

The RecerCaixa project has focused on the innovation training at the VET centres in Catalonia, whereas the research in this doctoral thesis has focused on the innovation in the continuing vocational education and training (CVET) programme for unemployed people, carried out at the network of the Centres d’Innovació i Formació Ocupacional (Centres of Innovation and Occupational Training) (CIFO centres), in Catalonia. All in all, this research with the CIFO complements and gives a wider perspective on the VET system in Catalonia, enriching the overall findings of the RecerCaixa project, although its perspective, methodology and findings shifted away from those of the RecerCaixa project. The rest of the sections will deal exclusively with the research process carried out for this doctoral thesis.

1.2. CVET within the lifelong learning perspective

Lifelong learning has an influence on the world of education and that of employment, and these two associations make it a disputed concept within the scientific literature. One proof of that is that there are different terms employed throughout the history, such as lifelong learning, lifelong education, recurrent education, adult education, adult learning and education etc., each of them carrying a different perspective and meaning in this scientific area. There is an important part of the scientific literature that considers lifelong learning as part of Adult Education, and it shapes two types of adult education. In this corpus of the literature, lifelong learning is associated with the VET training initiatives (Jarvis, 2008) and thus, with CVET. It is usually received with reluctance, because it is considered to be ‘inimical to adult self-direction and acts to produce narrow educational results’ (Hodge, Holford, Milana, Waller, & Webb, 2017, p. 252). Moreover, as Lucio-Villegas (2012) noted in the case of Spain but arguably in other countries as well especially in the EU, states are supporting financially and at the policy discourse level the VET-based lifelong learning policies at the expense of the other, ‘humanist’ (Hodge et al., 2017) type of adult education. Another corpus of the scientific literature considers lifelong learning as a whole, either as strategy that intends to reform the national educational systems with a given objective, such as modernization or adaptation to the information society, or ‘as the organizing principle for education’ (UNESCO, 2015, p. 37); this latter perspective implies placing formal education system and adult learning and education, including non-formal and informal learning, under the umbrella of lifelong learning.

As noted by several authors EU and other international organizations (OECD, World Bank or UNESCO) promote lifelong learning for different reasons (for example, see Kleibrink, 2011; Regmi, 2015). Regmi (2015) notes that in the case of the EU and OECD it is about economic growth and competitiveness while in

the case of UNESCO and World Bank is for improving educational policies and programmes of developing countries. More specific, the revision of the literature regarding the implementation of the lifelong learning strategies in the EU fit it within the ‘human capital’ model (Regmi, 2015) based on the economy: adapting to ‘globalization, technological changes, population ageing, climate change and the effects of the recent economic crisis’ (Paraschiv & Stoika, 2013, p. 533), also noted by Evans, Schoon and Weale (2013); the development of the knowledge-based economy (Glastra, Hake, & Schedler, 2004; Németh, 2010; Regmi, 2015); fight unemployment and support career transitions (Knipprath, & De Rick, 2015); human resources/capital and the development of a knowledge-intensive society (Kleibrink, 2011; Regmi, 2015; Siivonen, 2016); to fulfil labour market needs (Steffens, 2015; Tikkanen, & Nissinen, 2016). Nonetheless, in its policy documents, the EU does place emphasis on the societal benefits of lifelong learning as well. As some authors note, these social aspects are related to issues of social inclusion, employability, active citizenship, personal development, and self-sustainability (Kleibrink, 2011; Guimarães, 2012; Evans et al., 2013; Bodea, Dascalu, Velikic, & Stancu, 2016; Lima & Guimarães, 2016).

This type of lifelong learning strategy based on economic and human capital issues is facing strong criticism in the scientific literature. Thus, the EU perspective is despised because it is seen as responding to liberal economic policies and introducing greater marketisation of the national educational systems (Kliebrink, 2011), or introducing neoliberal educational policies (Siivonen, 2016). When compared to the ‘type of AE [Adult Education that] helps people to understand the world and, as Freire points out, to change it in a liberating way that stimulates people to learn and to teach’ (Lucio-Villegas, 2012, p. 77) the model championed by the EU lacks the reflexivity component, the construction of the self and of the personal identity (Zhao & Biesta, 2012). Zhao and Biesta (2012) refer to two types of reflexivity: one connected to be able to adapt

to the needs of a society that is in constant change and the other one connected to self-assertion. Another criticism to the EU lifelong learning strategy is that it takes the responsibility off the state and places it on the learner, and thus it abandoned the universal value of humanity of the idea of ‘lifelong education’ (Kleibrink, 2011). When describing the humanist approach some authors recall another fundamental element, which is lacking in the economist approach, which is involving learners in the decision of what the purpose of their learning should be (Maruatona, 2011; Pirrie & Thoutenhoofd, 2013).

To sum up, other authors show that lifelong learning has proven that it can be beneficial both for the individual and the society at the same time. Schuller (2017) talks about the wider benefits, and Evans et al. (2013) mention improving life chances, employability and job performance, gaining in confidence, ability to help with children’s homework, developing interests outside the work sphere. This is no surprise if we consider Carlsen and Haddad (2013, p. 311) claim that lifelong learning concedes ‘that the pursuit of knowledge is as much about social inclusion, active citizenship and personal development, as it is about professional development and employability’. Furthermore, Evans et al. (2013) and Friebel (2014) note that there is an interrelationship between the individual biography and society that influences participation and achieving benefits from participation in lifelong learning. Accordingly, as Hart (1990) points out, ‘personal experience can only be the necessary point of departure for gaining socially valid knowledge; it cannot itself constitute the whole universe of such knowledge’.

1.3. CVET in Catalonia

The duality of the lifelong learning between the world of education and the world of employment is perfectly captured by the CVET programme for unemployed people that we analyse in this doctoral

thesis, because this programme is implemented by the Department of Labour, Social Affairs and Family of the Catalan Government, and not by the Department of Education. Actually, the responsibility of the VET system in Catalonia is shared between the two departments: the Department of Education -responsible for the initial vocational education and training -IVET (Cedefop, 2014) subsystem-, and the Department of Labour, Social Affairs and Family –responsible for the entire CVET subsystem-.

According to the definition given by the *Law 10/2015, of June 19, on vocational training and qualification*, the Catalan CVET system (*formació professional per a l'ocupació*, in Catalan) is the set of training actions that are developed in the labour sector that have the purpose of improving the professional qualification and the capacity of insertion or labour reintegration by means of the attainment and the perfection of the professional competences. It includes occupational training [for unemployed people] and continuous training [for employed people] (Catalonia, 2015, p. 5). Furthermore, the training offered under this framework has its objective offering to the working people, first and foremost to the unemployed people, a training aimed at the acquisition, improvement and permanent updating of skills and professional qualifications; it has to enhance the training throughout life of the active population, and combine the needs of people, companies, territories and productive sectors (Catalonia, 2016, p. 1). Thus, the CVET system is a set of programmes funded and managed by the Catalan Employment Service, according to the legal procedures established by the public administration.

As it can be seen in Figure 1, there are two different funding channels, one for the CVET for unemployed people and another one for the CVET for employed people, although both unemployed and employed people can, and in fact, do participate in both types of training actions. As stipulated by the law, the CVET for unemployed people has been provided with more tools and

financing that the CVET for employed people. For example, the budget for 2017, only for the FOAP programme (Training Offer in Priority Areas) was 62.100.000 euros¹ while the CVET for employed people for 2017 had a total budget of 35.000.000 euros².

The object of study of this thesis is the *CIFO network*, which is one of the several programmes funded under the CVET for unemployed. The CIFO programme is not the biggest nor is the programme that receives more funds (that would be the FOAP). The reason why this thesis deals with the CIFO network is because this is the only training programme implemented entirely by the Catalan Government through its network of eight training centres that belong to the Catalan Employment Service. This programme is addressed mainly to the unemployed people but employed people can also participate in the training courses offered by the CIFO (up to 20% of the student per course can be employed). The CIFO network programme is co-financed by the European Union through the European Social Fund with 50% of the annual budget while the Catalan Government participates with the other 50% of the budget.

The *FOAP* programme consists in offering subsidies to training centres and entities (public, private or local public administration) who meet the criteria established by the law to offer free training courses to the target population specified by law (unemployed and other groups of people at risk), in the areas that are considered priorities by the Catalan Government. These areas are established in every call for funding, taking into consideration the labour market data prepared by the Labour and Productive Model Observatory as well as the information provided by various bodies of the Public Employment Service of Catalonia: the Technical Secretariat,

¹ News in Catalan: <https://web.gencat.cat/es/actualitat/detall/Formacio-ocupacional-per-a-aturats-00001>

² News in Catalan:

http://premsa.gencat.cat/pres_fsvp/AppJava/notapremsavw/301763/ca/consorci-formacio-continua-catalunya-incrementa-35-milions-pressupost-subvencionar-professional-90-000-treballadors.do

Territorial Services, the CIFO centres, the agents represented in the Council of Management and the Technical Support Area for Active Policies (Catalonia, 2017, p. 1).

The *Training courses with hiring commitment* programme offers subsidies to entities, training centres and training centres of the Catalan Employment Service in order to organise CVET actions that include a hiring commitment of the students³. *Train and Insert* programme offers subsidies to companies in order to develop CVET actions that include a hiring commitment of minimum 60% of the students that participated in the programme⁴. *Training and learning contracts* is a CVET programme that supports a type of dual training, in a training centre and paid training in a company⁵. Under the *Framework agreement for the recruitment of the training service for employment in the hospitality and the tourism industry*, the Catalan Employment Service offer subsidies to companies and entities from these industrial sectors to organise free training courses, in which unemployed people have preference over the rest⁶. Finally, the *Professional certificates not financed by the public employment services* allows private or public agents (training centres, companies or entities) to offer training courses that lead to obtain a Professional Certificate in any area, upon meeting the requirements established by the law⁷. Since the Catalan Employment does not fund this programme, the cost of the courses has to be covered by the students or other private sources.

³ <http://serveiocupacio.gencat.cat/ca/soc/ambits/formacio-professional-per-a-locupacio/programa-formacio-amb-compromis-de-contractacio/>

⁴ http://serveiocupacio.gencat.cat/ca/detall/article/Forma_i_Insereix_Convocatoria_2017

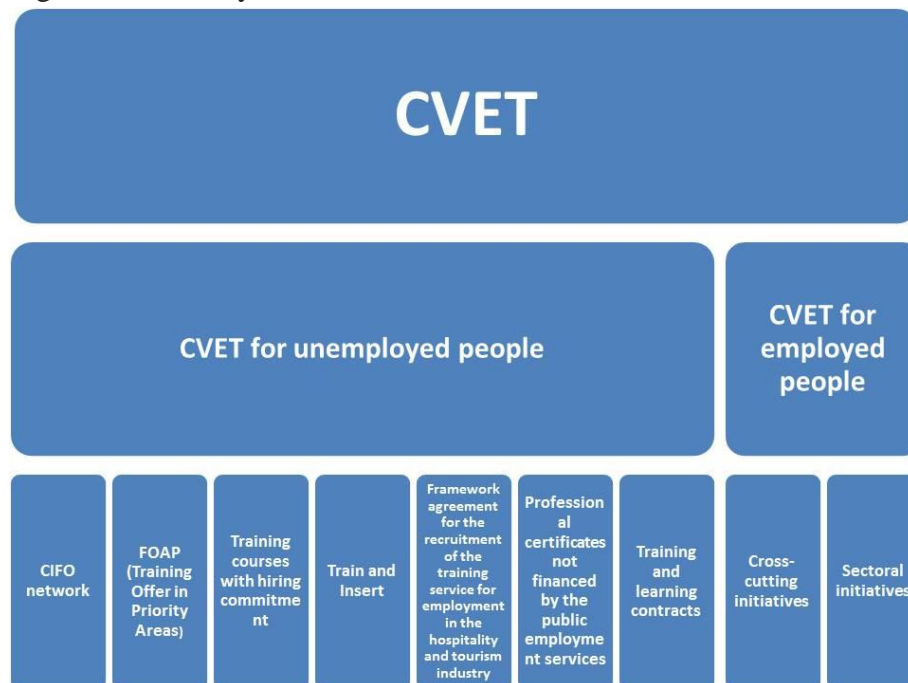
⁵ <http://serveiocupacio.gencat.cat/ca/soc/ambits/formacio-professional-per-a-locupacio/contractes-de-formacio-i-aprenentatge/>

⁶ http://serveiocupacio.gencat.cat/ca/soc/ambits/formacio-professional-per-a-locupacio/acord-marc_contractacio-servei-formacio-ocupacio-industria-hostaleria-i-turisme/

⁷ <http://serveiocupacio.gencat.cat/ca/soc/ambits/formacio-professional-per-a-locupacio/certificats-de-professionalitat-no-financats-pels-serveis-publics-ocupacio/>

As for the other pillar of the CVET system in Catalonia, *CVET for employed people*, the programmes offer is developed in a complementary way to the training programmed by the companies, through training programmes that include training activities that respond to both cross-cutting and sectoral needs, as well as the specific ones of the freelance/self-employed workers and the social economy (Consorti per a la Formació Contínua de Catalunya, 2016, p. 26). The entire CVET system in Catalonia is sensible to the needs that it perceives from the people, companies and territory through the tools that the Catalan Employment Service has available and thus, the training courses that these programmes fund can vary from one year to another. The issue of the programming of the training courses that are implemented by the CIFO network will be discussed in detail in the next two chapters of the thesis.

Figure 1. CVET system in Catalonia



Source: Authors' own using information available on the Catalan Employment Service website.

1.4. Objectives of the thesis

As explained in the first section of this chapter, this thesis is derived from the RecerCaixa research project ‘Vocational training and SMEs: the challenge of innovation in Catalonia’, but applied to the CVET programme for unemployed people that is implemented entirely by the public administration in Catalonia. Therefore, the general objective of this thesis is to explore if and how is the innovation trained at the CIFO centres responding to the innovation demanded by the labour market, in Catalonia. In order to fulfil this objective the methodological design of this thesis is mixed, using both quantitative and qualitative data collection tools explained in each of the chapters, from the perspective of the Communicative Methodology (Gómez, Latorre, Sánchez, & Flecha, 2006).

The main research questions that guided the work carried out for this doctoral thesis were very similar to those from the research project with the difference that the context of the thesis was CVET and not VET. These questions have emerged from the research gap in the existing literature and at the same time, they shaped the specific objectives that were designed in order to achieve the main goal of the research.

Thus, the first question was: *Why are innovation skills important in the context of the CVET?* In order to respond to this question the first specific objective of the thesis was to analyse innovation in the wider policy context of the CVET, as part of lifelong learning, of the European Union and the United Nations.

The next two questions were: *Do the CIFO centres train innovation skills in their courses? If yes, how do they train these skills?* In order to respond these questions the specific objective was to analyse the challenges and opportunities of the implementation of innovation at the CIFO centres in order to adapt to the labour market demands.

Finally, the last question was: *Are the innovation skills trained at the CIFO useful in the labour market?* In order to answer this question the specific objective was to analyse the students' perceptions of the innovation carried out at the CIFO centres. Moreover, from the fieldwork it could be noted that this question was partially responded together with the other specific objectives, because innovation is strongly linked to usefulness of the courses and the necessities detected by the students and in the labour market.

Moreover, this thesis intends to contribute filling up a huge gap in the area of lifelong learning because the literature on CVET and innovation is scarce, and empirical studies, such as this, on CVET and innovation are practically inexistent. Finally, this thesis identifies successful strategies, and gives evidence of their success, in the process of training innovation skills in the CVET and these strategies can be considered for implementation in other educational and training contexts as well.

1.5. Structure of the thesis

This thesis complies with the formal requirements of a doctoral thesis established by the Universitat Rovira i Virgili by incorporating a set of documents and information at the beginning of the thesis. The thesis itself is a compilation of four journal articles and an essay (not published but presented publicly in an international winter school on lifelong learning), and it consists of five chapters. Each chapter presents the reference list at the end or at the end of the papers included in the chapter, and the style of the references may vary depending on the requirements of the journals where they are published or in the process of review. Chapter 3 and 4 include Annexes regarding the fieldwork carried out for the thesis.

Chapter 1 of the thesis presents the rationale behind the thesis, introduces the topic of the thesis and determines the boundaries of the object of study through the objectives of the thesis and the research questions. This chapter also presents the structure of the thesis and it ends with a reference list.

Chapter 2 introduces social impact, which is the perspective that guided the analysis of the CIFO network throughout the entire research process. Within the social impact perspective the analysis is focused on the activity of the CIFO in relation to the four strategic objectives of the EU Strategic Framework – Education & Training 2020, including innovation, which is part of the fourth objective of the framework. A brief research note is included on the role of the innovation in the latest policy documents of the UNESCO, although the main reference for the analysis of this thesis is the EU strategic framework. This chapter is developed through two journal articles. Article 1 ‘Impact of lifelong learning: evidence from Catalonia (Spain)’ focuses on the objectives 1, 2 and 4 of the strategic framework, while article 2 ‘Centres d’Innovació i Formació Ocupacional (CIFO) network and the promotion of equity, social cohesion, and active citizenship in Catalonia (Spain)’ focuses on objective 3 of the framework. In this chapter, innovation at the CIFO is analysed from perspective of the legislation that regulates the activity of these centres.

Chapter 3 includes the first part of the fieldwork carried out at the CIFO centres, and begins with the empirical exploration of innovation in the Catalan CVET system. Drawing from the interviews with the Coordinator and seven of the heads of the CIFO centres, article 3 ‘Innovation in the government-run Continuing Vocational Education and Training programme for unemployed in Catalonia (Spain): Challenges and opportunities’ explores the innovation that is carried out at the centres and it discusses the challenges and opportunities that the centres face in order to innovate. The article includes an annex with the interview guidelines.

Chapter 4 presents the second part of the fieldwork, namely the results of an online questionnaire that 281 students and ex-students of the CIFO centres in Catalonia have responded. This online questionnaire represents a methodological innovation in the research area of public administration and facilitated carrying out the study in respect to the ethical issues necessary in the research process and also with the data protection laws that the public administration have to observe. Article 4 ““They give us the tools we need to develop our imagination””: innovation in a lifelong learning programme for unemployed people’ presents the general description of the participants in the study and analyses the data related to the innovation skills acquired by the students during their training at the CIFO and also the successful strategies that have led to the development of these innovation skills. The article includes an annex with the questions asked in the online questionnaire and a screenshot with the introduction text used in the online questionnaire. Further data regarding the opinion of the students regarding the centres or their future expectations regarding the participation in lifelong learning are also presented. A final annex is attached with the treatment of the variables from the questionnaire.

Finally, after analysing policy documents and data related to the CIFO activity, including the voice of the persons responsible for the implementation of the programme and that of the students, who are the main beneficiaries of this CVET programme, chapter 5 puts together the main conclusions of this study, the limitations of the research and future avenues of research in this area.

1.6. References

Anàlisi Social i Organitzativa (n.a.). *Vocational training and SMEs: the challenge of innovation in Catalonia*. Retrieved from

<http://www.analisisocial.org/index.php/en/about-aso/projects-list.html?view=project&task=show&id=12>

Bodea, C. N., Dascalu, M. I., Velikic, G., & Stancu, S. (2016). Lifelong Learning and Employability in the Danube Region Countries: Influences and Correlations. *Amfiteatru Economic*, 18(43), 521-536.

Brunet, I., Hernández-Lara, A. B., Cascón, R., Böcker, R., Papaoikonomou, E., & Moral-Martín, D. (2017). *Formación Profesional e innovación en Cataluña* [VET and innovation in Catalonia]. Barcelona: Edicions Bellaterra.

Carlsen, A., & Haddad, G. (2013). Introduction. *International Review of Education*, 59(3), 311-318. <https://doi.org/10.1007/s11159-013-9371-3>

Catalonia (2015). *Llei 10/2015, del 19 de juny, de formació i qualificació professionals* [Law 10/2015, of June 19, on vocational training and qualification]. Retrieved from <http://portaldogc.gencat.cat/utillsEADOP/PDF/6899/1431636.pdf>

Catalonia (2016). *ORDRE TSF/288/2016, de 24 d'octubre, per la qual s'aproven les bases reguladores per a la concessió de subvencions per a la realització d'accions de formació d'oferta en àrees prioritàries, adreçades prioritàriament a persones treballadores desocupades, que promou el Servei Públic d'Ocupació de Catalunya* [ORDER TSF/288/2016, of October 24, which approves the regulatory bases for the granting of subsidies for the realisation of training activities on offer in priority areas, aimed primarily at unemployed workers, which is promoted by the Public Employment Service of Catalonia.]. Retrieved from <http://portaldogc.gencat.cat/utillsEADOP/PDF/7235/1545930.pdf>

Catalonia (2017). *RESOLUCIÓ TSF/1897/2017, de 20 de juliol, per la qual s'obre la convocatòria per a l'any 2017 de les subvencions*

per a la realització d'accions de formació d'oferta en àrees prioritàries adreçades prioritàriament a persones treballadores desocupades que promou el Servei Públic d'Ocupació de Catalunya (ref. BDNS 357954) [RESOLUTION TSF/1897/2017, of July 20, which opens the call for the year 2017 of the subsidies for the realisation of training activities on offer in priority areas, aimed primarily at unemployed workers, which is promoted by the Public Employment Service of Catalonia]. Retrieved from <http://portaldogc.gencat.cat/utillsEADOP/PDF/7426/1629299.pdf>

Cedefop (2010). *La modernización de la formación profesional [Modernising vocational education and training]*. Luxemburgo: Oficina de Publicaciones de la Unión Europea. Retrieved from http://www.cedefop.europa.eu/en/Files/4068_ES.PDF"http://www.cedefop.europa.eu/en/Files/4068_ES.PDF

Cedefop (2014). *Terminology of European education and training policy*. Luxembourg: Publications office of the European Union. DOI: 10.2801/15877

Consorti per a la Formació Contínua de Catalunya (2016). *Report 2016*. Retrieved from http://conforcat.gencat.cat/web/.content/documents/Publicacions/MemoriaActivitat/2016_MEMORIA.pdf

Evans, K., Schoon, I., & Weale, M. (2013). Can lifelong learning reshape life chances?. *British Journal of Educational Studies*, 61(1), 25-47. <https://doi.org/10.1080/00071005.2012.756163>

Friebel, H. (2014). Educational biographies in Germany: From secondary school general education to lifelong learning?. *Australian Journal of Adult Learning*, 54(2), 121-144.

Fundación Cotec para la innovación tecnológica (2015). *Informe COTEC 2015: Tecnología e innovación* [COTEC 2015 report:

technology and innovation]. Retrieved from <http://www.informecotec.es/2015/assets/informecotec2015web.pdf>

Glastra, F. J., Hake, B. J., & Schedler, P. E. (2004). Lifelong learning as transitional learning. *Adult Education Quarterly*, 54(4), 291-307. <https://doi.org/10.1177/0741713604266143>

Gómez, J., Latorre, A., Sánchez, M., & Flecha, R. (2006). *Metodología comunicativa crítica* [Critical Communicative Methodology]. Barcelona: El Roure.

Guimarães, P. (2012). Critical links between recognition of prior learning, economic changes and social justice in Portugal. *Journal of Adult and Continuing Education*, 18(1), 61-76. <https://doi.org/10.7227/JACE.18.1.6>

Hart, M. (1990). Liberation through consciousness raising. In J. Mezirow (Ed.), *Fostering critical reflection: a guide to transformative and emancipatory learning*. San Francisco: Jossey Bass.

Hodge, S., Holford, J., Milana, M., Waller, R., & Webb, S. (2017). Vocational education and the field of lifelong education. *International Journal of Lifelong Education*, 36(3), 251-253. <https://doi.org/10.1080/02601370.2017.1306357>

Jarvis, P. (2008). Rediscovering adult education in a world of lifelong learning. *International Journal of Critical Pedagogy*, 1(1), 1-6.

Kleibrink, A. (2011). The EU as a Norm Entrepreneur: the case of lifelong learning. *European journal of education*, 46(1), 70-84. <https://doi.org/10.1111/j.1465-3435.2010.01461.x>

Knipprath, H., & De Rick, K. (2015). How social and human capital predict participation in lifelong learning: A longitudinal data

analysis. *Adult Education Quarterly*, 65(1), 50-66.
<https://doi.org/10.1177/0741713614561855>

Lima, L. C., & Guimarães, P. (2016). Recognition of prior learning at the centre of a national strategy: Tensions between professional gains and personal development. *Journal of Adult and Continuing Education*, 22(1), 29-45.
<https://doi.org/10.1177/1477971416630127>

Lucio-Villegas, E. (2012). What's going on? An overview of adult education policies in Spain. *Journal of Adult and Continuing Education*, 18(1), 77-89. <https://doi.org/10.7227/JACE.18.1.7>

Maruatona, T. (2011). Lifelong learning and the pursuit of a vision for sustainable development in Botswana. *Studies in Continuing Education*, 33(2), 121-138.
<https://doi.org/10.1080/0158037X.2010.544522>

Németh, B. (2010). The accelerating roles of higher education in regions through the European Lifelong Learning Initiative. *European Journal of Education*, 45(3), 451-465.
<https://doi.org/10.1111/j.1465-3435.2010.01444.x>

Paraschiv, D. M., & Stoika, R. (2013). Using best practices in designing a lifelong learning strategy for human resources in Romania. *Amfiteatru Economic*, XV(34), 532-543.

Pirrie, A., & Thoutenhoofd, E. D. (2013). Learning to learn in the European Reference Framework for lifelong learning. *Oxford Review of Education*, 39(5), 609-626.
<https://doi.org/10.1080/03054985.2013.840280>

Regmi, K. (2015). Lifelong learning: Foundational models, underlying assumptions and critiques. *International Review of Education*, 61(2), 133-151. <https://doi.org/10.1007/s11159-015-9480-2>

Reig Martínez, E. (Dir.). (2016). *La competitividad de las regiones españolas ante la economía del conocimiento*. Bilbao: Fundación BBVA.

Schuller, T. (2017). *What are the wider benefits of learning across the life course?*. London: Government Office for Science. Retrieved from
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/635837/Skills_and_lifelong_learning_-_the_benefits_of_adult_learning_-_schuller_-_final.pdf

Siivonen, P. (2016). Becoming an educable lifelong learning subject: adult graduates' transitions in education and working life. *International Journal of Lifelong Education*, 35(1), 36-50.
<https://doi.org/10.1080/02601370.2015.1129365>

Steffens, K. (2015). Competences, learning theories and MOOCs: recent developments in lifelong learning. *European Journal of Education*, 50(1), 41-59. <https://doi.org/10.1111/ejed.12102>

Tikkanen, T., & Nissinen, K. (2016). Participation in job-related lifelong learning among well-educated employees in the Nordic countries. *International Journal of Lifelong Education*, 35(3), 216-234. <https://doi.org/10.1080/02601370.2016.1165749>

UNESCO (2015). *Rethinking education. Towards a global common good?*. Retrieved from
<http://unesdoc.unesco.org/images/0023/002325/232555e.pdf>

Zhao, K., & Biesta, G. (2012). The moral dimension of lifelong learning: Giddens, Taylor, and the “reflexive project of the self”. *Adult Education Quarterly*, 62(4), 332-350.
<https://doi.org/10.1177/0741713611411176>

Chapter 2 - Social Impact research perspective on the CIFO

2.1. Social impact and the CIFO network

The analysis done in this doctoral research has been carried out using the perspective of social impact. The concept of social impact has been developed by Flecha (2014) and applied in the research project ‘IMPACT-EV. Evaluating the impact and outcomes of European SSH research’, funded by the European Union’s Seventh Framework Programme for research, technological development and demonstration activities (FP7/2014-2017). As mentioned in the first report from IMPACT-EV, social impact of research takes place when ‘the published, disseminated results [of research], which have been transferred, lead to an improvement in relation to the stated goals of European society. In the case of Horizon 2020 these goals refer to the objectives of the EU2020 Strategy’ (IMPACT-EV Consortium, 2014, p. 30), but these goals can be different, as the UN SDG or other that have been decided democratically by countries or other organisations. This project was approved by the European Commission in a context in which the EU wanted to cancel funding for Social Sciences and Humanities and has had the beneficial effect of further demonstrating the value of the SSH to society (see Aiello & Joanpere, 2014; Flecha, Soler & Sordé, 2015).

The social impact of the research can be achieved either as a direct effect of the research or it can be enhanced when the research focuses on initiatives, actions, policies etc. that achieve social impact. In this thesis the social impact perspective is introduced in the latter understanding of the concept, which is by contrasting the results of the implementation of the CVET for unemployed programme in Catalonia with the objectives defined by the EU in the strategic framework for European cooperation in education and training for 2020 (ET 2020). This choice is further justified by two reasons. First of all, because Catalonia is part of the European

Union and in its policy documents related to the CVET it mentions the European Union and the EU 2020 strategy. Second of all, as mentioned in the first chapter, the EU contributes with 50% of the budget of this CVET programme for unemployed in Catalonia through the European Social Fund. The analysis of the innovation in lifelong learning is carried in this chapter and throughout the next two chapters of the thesis.

As mentioned before, the analysis of the social impact of the innovation in the CIFO network in Catalonia is carried out in reference to the ET 2020 strategic framework. However, innovation in lifelong learning is also deemed important by the UNESCO, an organisation that is a key stakeholder in the area of lifelong learning for the EU and for the rest of the world as well, because every country is represented there, among other reasons. The fact that innovation in lifelong learning is included in the UNESCO strategy gives more legitimacy to the endeavour of the CIFO centres and to this research, as it implies that it is a relevant issue and a priority at the global level and not only for Catalonia and the EU. The section 2.2 reproduced here is part of an essay written and presented by the author of this thesis at the 2018 International Winter School: Comparative studies in Adult Education and Lifelong Learning.

2.2. UNESCO and innovation in lifelong learning

2.2.1 *Sustainable Development Goals*

The General Assembly of the UN approved in 2015 the 2030 agenda for Sustainable development, ‘a plan of action for people, planet and prosperity’ (UN, 2015, p. 1), a plan composed of 17 goals and 169 targets that expressed the ambitions of the countries’ leaders and stakeholders to advance in the economic, social and

environmental development. Among these goals there was one related to Education (SDG 4) and one to Economic Growth (SDG 8) that are directly related to CVET, in this case to the programme for unemployed in Catalonia implemented by the eight CIFO centres covering the entire region.

Within these two goals there were several targets related to CVET and to the CIFO activity:

SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations” (UN, 2015, p. 16).

SDG 8: “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training” (UN, 2015, p. 18-19).

2.2.2 *The Strategy for Technical and Vocational Education and Training (2016-2021)*

It is worth to make a short mention of this strategy adopted by UNESCO because it is related to the UN's SDG 4. This strategy has two aims:

support the efforts of Member States to enhance the relevance of their TVET systems and to equip all youth and adults with the skills required for employment, decent work, entrepreneurship and lifelong learning, and contribute to the implementation of the 2030 Agenda for Sustainable Development as a whole (UNESCO, 2016, p. 3).

It has three priority areas: 'fostering youth employment and entrepreneurship; promoting equity and gender equality; facilitating the transition to green economies and sustainable societies' (UNESCO, 2016, p. 6).

2.3. References

Aiello, E., & Joanpere, M. (2014). Social Creation. A New Concept for Social Sciences and Humanities. *Revista Internacional y Multidisciplinar en Ciencias Sociales*, 3(3), 297-313. <http://dx.doi.org/10.4471/rimcis.2014.41>

Flecha, R. (2014, March). ¿Cómo conseguir o aumentar el Impacto de los proyectos y cómo liderar un proyecto de referencia? [How to improve the social impact of the projects?]. In *Horizonte 2020 y Patrimonio Cultural: Investigación e Innovación*, Madrid, Spain.

Flecha, R., Soler, M., & Sordé, T. (2015). Social impact: Europe must fund social sciences. *Nature*, 528(7581), 193. DOI: 10.1038/528193d

IMPACT-EV Consortium (2014). *State of the art in the scientific, policy and social impact of SSH research and its evaluation*.

Retrieved from <http://impact-ev.eu/wp-content/uploads/2015/08/D1.1-Report-1.-State-of-the-art-on-scientific-policy-and-social-impact-of-SSH-research-and-its-evaluation.pdf>

UN (2015). *Draft outcome document of the United Nations summit for the adoption of the post-2015 development agenda*. Retrieved from http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/69/315

UNESCO (2016). *Strategy for Technical and Vocational Education and Training (2016-2021)*. Retrieved from <http://unesdoc.unesco.org/images/0024/002452/245239e.pdf>

2.4. Objectives 1, 2 and 4 of the ET 2020

Impact of lifelong learning: evidence from Catalonia (Spain)

ABSTRACT

Purpose

The European Union has made a priority of the lifelong learning within its Education & Training 2020 Strategic framework, in order to reduce unemployment, increase social cohesion and assure the success of the European economies in a globalised world marked by competition and rapid technological development. The main purpose of this article is to explore how three of the overarching

goals from the European strategic framework are being reflected in a specific policy development, which is the case of a public continuing vocational education and training (CVET) programme, in Catalonia. A second purpose of this paper is to contribute to the scarce literature on the continuing vocational education and training, which nowadays represents the main policy focus of the state policy in the area of adult learning and education, in Europe and beyond.

Design/methodology/approach

In order to analyse this CVET programme we have gathered data from the 8 *Centres d'Innovació i Formació Ocupacional* (CIFO) that integrate the public network that implements this CVET programme in the Catalan region. Secondary data was collected between 2015 and 2016 from these centres, and we also use desk research and policy analysis to illustrate an example of how the design and implementation of an innovative public CVET programme can achieve impact at a regional level, in line with the EU political goals. In order to study the CIFO network, we approach the CVET government-run programme in Catalonia in two ways. First, using the analytical model of Lima and Guimarães (2011) we situate the Catalan CVET programme under a mixed model between *Human Resources Management* and *Modernisation and State Control*, where human capital training features are predominant. Nonetheless, this CVET programme presents a few features of the *Democratic-Emancipatory* model, which are also pointed out in our study. Second, we analyse the political forces that shape the programme, looking at the mega, macro and meso policy levels.

Findings

After defining the object of study, we present the data gathered in our study and analyse the legal regulations of the CIFO centres. Thus, this article offers relevant insights into the different impacts of this CVET programme, including high rates of employment and

it is positive evaluation by the students in what concern usefulness and overall satisfaction with the training they receive at these centres. Furthermore, the regulation of these centres enhances innovation, including the cooperation with the stakeholders from the respective territory, as stipulated by the EU. Finally, we discuss the importance of impact for the policymaking process and raise future questions for research with the focus on democratising the area of adult learning and education.

Originality/value

The value of this paper consists in being one of the first studies of a specific continuing vocational education and training programme for unemployed, using an analytical framework from the field of adult learning and education and, thus, contributing to the literature on adult learning and education. Moreover, this study focused on the impact of the programme, related to the European Union policy, in the territory where it is being implemented and this methodology can be further used in other educational contexts.

KEYWORDS

lifelong learning, vocational training centres, adult vocational education, educational innovation, economic impact, regional programmes

Introduction

Lifelong learning is a strategic objective embedded in the European Union' Strategic framework – Education & Training 2020 (ET 2020) and this fact arguably leads to Continuing Vocational Education and Training (CVET) being the part of lifelong learning for adults that receives more public funds and political attention in Spain. Accordingly, this article analyses the implementation and impact of a government-run CVET programme for unemployed people in Catalonia (Spain), through the network of eight Centre

d’Innovació i Formació Ocupacional (CIFO), contrasting it to the already mentioned EU strategy in Education and Training. Besides, CVET has received little attention in the scientific literature, and another goal of this article is to bring forward the latest CVET policy developments that have taken place in Catalonia. Therefore, the contribution of this article is twofold: on the one hand it intends to explore how European strategy is translated and implemented at a regional level and, on the other hand, fill the gap in the scientific literature regarding CVET.

CVET refers to “education or training after initial education and training or after entry into working life aimed at helping individuals to: improve or update their knowledge and/or skills, acquire new skills for a career move or retraining”, and “continue their personal or professional development”. Moreover, CVET as part of lifelong learning, may include any type of education and is considered crucial for the employability of individuals (Cedefop, 2014, p. 51). In reference to VET training initiatives in adult learning and education, Lucio-Villegas (2012) notes that “outcomes are not yet known. In some cases, these actions have not yet proven their effectiveness in helping people look for jobs” (p. 87). In the present article, we aim to partially redress this situation by showing evidence of the employment rate achieved in 2015 by the CIFO network in Catalonia.

Jarvis (2008) or Lucio-Villegas (2012) noted that vocational training receives most of the attention in the political discourse and policy development of lifelong learning for adults. Moreover, research on vocational training adds richness to the analysis in the field although lifelong learning is a much more open concept (Hodge, Holford, Milana, Waller & Webb, 2017). As Carlsen and Haddad (2013) point out, lifelong learning is the principle that organizes education and learning, taking place throughout life and in a variety of settings, and its purpose is equally for social inclusion, active citizenship, personal development, professional development and employability. However, Hodge et al. (2017) warn

about some of the negatives effects of the vocational training in the adult learning and education field, such as it being harmful to adult self-direction or that it produces narrow results. In the same line, Moir and Crowther (2014), note that lifelong learning is the vehicle for the introduction of neoliberal policies focused mainly on employability in adult learning and education. Thus, Hodge et al. (2017) argue that vocational education should become critical and challenge the mere economic rationale behind it. This study intends to analyse the implementation and impact of the CVET programme in Catalonia building upon the perspective of the lifelong learning as presented by Carlsen and Haddad (2013), a lifelong and life-wide process with a plurality of goals to be achieved.

Currently, the courses offered by the CIFO are free of charge for students, who must demand at the employment office to enrol for a CIFO course. A total of 80% of the seats on each course are intended for the unemployed and the remaining 20% are for those who are employed. The CIFO's activities are governed by *Decree 71/2015, on restructuring the Catalan Employment Service*, and specifically by articles 10 and 11, the latter dedicated to 2 of the CIFO centres in Catalonia (see Figure 1), that are National Reference Centres (NRC) in their professional areas: *CIFO l'Hospitalet de Llobregat* (in Graphic Arts) and *CIFO Sant Feliu de Llobregat* (in Mechanical Manufacture). Finally, it is worth mentioning that within the CIFO network there are some differences between the centres: the two centres that are NRC have more financial and management autonomy and also more responsibilities –they operate in Catalonia but they have responsible with other centres that work in their respective professional areas from Spain.

Figure 1. CIFO network in Catalonia

Centre	Professional families	City (Province)
CIFO L'Hospitalet	graphic arts; image and sound; teaching methodology*	L'Hospitalet (Barcelona)
CIFO Sabadell	metallic manufacture and construction; assembly and installation; teaching methodology	Terrassa i Les Franqueses del Vallès (Barcelona)
CIFO Sant Feliu de Llobregat	automotive industry; mechanical manufacture; teaching methodology	Sant Feliu de Llobregat (Barcelona)
CIFO Santa Coloma	renewable energy; urban gardening; housing renovation and maintenance; teaching methodology	Santa Coloma de Gramenet (Barcelona)
CIFO La Violeta	information and communication technology; teaching methodology	Barcelona (Barcelona)
CIFO Lleida	renewable energy; metallic manufacture and construction; industrial refrigeration; teaching methodology	Lleida (Lleida)
CIFO Salt	metallic manufacture and construction; food industries; teaching methodology	Salt (Girona)
CIFO Tarragona	chemical industry; teaching methodology	Tarragona (Tarragona)

Note: Source is the website of the *Catalan Employment Service*

This article argues that the implementation of the CVET programme in Catalonia is a state driven initiative influenced by the EU agenda of lifelong learning, and these influences are visible in the implementation of the programme. The programme is designed and intended mainly for the unemployed people, considering education and training as a social right, and at the same time it aims at the convergence with the EU approach to lifelong learning seen as human capital model. The evaluation of the implementation of the programme and impact is done according to this Spanish/Catalan region-EU confluence. In the theoretical framework section of the article, we analyse lifelong learning perspective related to CVET, with a focus on the programme implemented through the CIFO network in Catalonia. After that, there is a section which explains the methodology used in this study, and in the following section, we present the data collected for our study of the CIFO in Catalonia (Spain). In the last two sections of the article we analyse the results and the implications for policy and in the conclusion we discuss ideas for further debate.

Theoretical framework

Regmi (2015) argues that there are two different perspectives on lifelong learning that rely on the ‘human capital model’ and on the ‘humanistic model’. The European Union’s view on lifelong learning fits better within the ‘human capital model’ while the UNESCO’s view belongs rather to the ‘humanistic model’ as reflected by the Faure report in 1972, for example. The European Parliament defined lifelong learning as ‘all general education, vocational education and training, non-formal education and informal learning undertaken throughout life, resulting in an improvement in knowledge, skills and competences within a personal, civic, social and/or employment-related perspective’ (European Parliament, 2006, p. 50). Moreover, in the ET 2020, the European Council reinforces this view of lifelong learning as the principle that organizes learning and education of the individuals at

all stages –from early childhood education to higher education, vocational education and training and adult learning-, and contexts - formal, non-formal or informal- (EC, 2009). In contrast, *Rethinking Education* claims that the fundamental purpose of education is the dignity and welfare of the human person, saying that ‘sustaining and enhancing the dignity, capacity and welfare of the human person in relation to others, and to nature, [this is] the fundamental purpose of education in the twenty-first century’ (UNESCO, 2015, p. 38). On a more integrative approach, Aspin and Chapman described what they called “triadic nature of lifelong learning” which is a wider view of lifelong learning for policy development that should serve for: ‘economic progress and development; personal development and fulfillment; for social inclusiveness and democratic understanding and activity’ (Aspin & Chapman, 2000, p. 17).

The European Commission has tried to respond to both economic and societal demands by placing emphasis on training and shifting to the demand side and learning outcomes (Kleibrink, 2011), changing the focus from the internal logics of functioning of the educational centres to the more open demands coming from the economic agents and the society. Even so, Lundvall and Rasmussen (2016) consider that Europe, and especially south-east Europe governments should finance and even organize new training programs to upgrade the skills for the low-skilled workers to be able to address the problems of the most disadvantaged people in the globalizing learning economy. On a similar note, *Rethinking Education* states the importance of the state intervention in education to prevent further inequality, by saying that ‘education must not be ceded entirely to the market, as it constitutes the first link in the chain of equality of opportunity’ (UNESCO, 2015, p. 82).

Finally, we have identified three main ideas regarding the relation between lifelong learning and the labour market in the literature. First, there is the idea that lifelong learning improves the

employability of individuals and helps them keep up with the requirements and necessities both personal and those of the knowledge societies in a changing world. This idea is supported by organizations such as UNESCO (2015), the European Union (2000), and also by authors and research (for example Evans, Schoon & Weale, 2013; Jarvis, 2010; Tikkanen & Nissinen, 2016). Second, lifelong learning is necessary to tackle the effects of the recent economic crisis in the EU and the new shifts in the low/high-skills occupations demanded in the labour market (Bodea, Dascalu, Velikic & Stancu, 2016; Evans et al. 2013; Guimarães, 2012; Lundvall & Rasmussen, 2016; Paraschiv & Stoika, 2013). Third, although VET practices are very valuable to increase employability and economic growth (Bodea, Dascalu, Velikic & Stancu, 2016) research found that individuals with general education adapt more rapidly to the changing demands of the labour market because they tend to participate more in lifelong learning than their counterparts with VET studies (Lavrijsen & Nicaise, 2017).

Analysis of the CIFO network in Catalonia

Lucio-Villegas (2012) points out that in Spain ‘the most important weightings in AE [Adult Education] now relate to participation in VET [Vocational Education and Training] activities’ (p. 87). The CVET program was institutionalized in Spain with the Basic Employment Act of 1980. Article 14.1 of that act introduced an annually program of free Occupational Vocational Training to guarantee adequate vocational training for those who want to join the labour market, or for those who are already in it and want to change jobs or achieve greater professional specialization (Spain, 1980, p. 23134). Afterwards, the CVET system has been shaped by different political processes: Spain’s integration in the European Union, Spain’s political decentralisation and transference of powers in the fields of education and employment or the development of a lifelong learning agenda by the EU and of the ET 2020.

In order to understand better the rationale behind this CVET government-run programme we use the analytical models proposed by Lima and Guimarães (2011) to understand the social policies related to the field of adult learning and education:

the *democratic-emancipatory model*, in which democratic participation and critical education are very important in relation to AE [adult education] actions, in particular popular and community education; the *modernisation and state control model*, based on public provision, the intervention of the welfare state, and generally dominated by educational guidelines; and the *human resources management model*, in search of economic modernisation and the production of skilled labour, led by vocationalist guidelines focusing on the production of human capital (p. 40).

After an in-depth policy analysis of the CIFO network’s main characteristics looking at the legislative documents that regulate it and using the dimensions and specific characteristics exactly as developed by Lima and Guimarães (2011) and reproduced in figure 2, we argue that the CIFO network represents a mixture of the modernisation and state control model –a state driven initiative- and human resources management model –in line with the EU policy-, in which the latter model is predominant, with some characteristics from the democratic emancipatory model. In figure 2 we detail each of the characteristics from the three different models (i.e. *Democratic-Emancipatory (DE)*, *Modernisation and State Control (MSC)* and *Human Resources Management (HRM)*) that can be found in the design and implementation of the CIFO network in Catalonia.

Figure 2. Main features of the CIFO network in Catalonia

Dimensions	DE model	MSC model	HRM model
Political-administrative orientations	- Decentralised control of	-Appreciation of education in the effort to	-Leading role ascribed to the market, civil

	policy and administration of education	modernise, encouraging efficacy, efficiency of public and private management, increasing productivity, the internationalisation of the economy and competitiveness in capitalist democracies	society and the individual (demand-side) -Adoption of active policies for integration and convergence in EU context -Promotion of partnerships between state and other institutional actors
Political priorities	-Education and training as process of empowerment	-Second-chance education	-Fostering employability, competitiveness, economic modernisation through education and training -Education and training as instruments of human capital and adaptation to economic imperatives -Development of vocational training

			<ul style="list-style-type: none"> -Upskilling, economically valuable skills -Certification of knowledge acquired by experience (from school and vocational)
Organisational and administrative dimensions		-Courses for young people and adults	-Appeal to non-state organisation (third sector and market) involvement
Main conceptual elements of public policies	-Adult education as a sector characterised by heterogeneity and diversity	<ul style="list-style-type: none"> -Formal education of adults as social right -Integration of non-formal education into the public education system according to the latter's rules -Education as instrument for promoting equal opportunities -Adult education as second-chance education -Education for 	<ul style="list-style-type: none"> -Vocationalism and continuing vocational training -Production of human capital -Continuing training aimed to remedy obsolescence of vocational knowledge, retraining, recycling -Useful learning and education for employability -Lifelong up

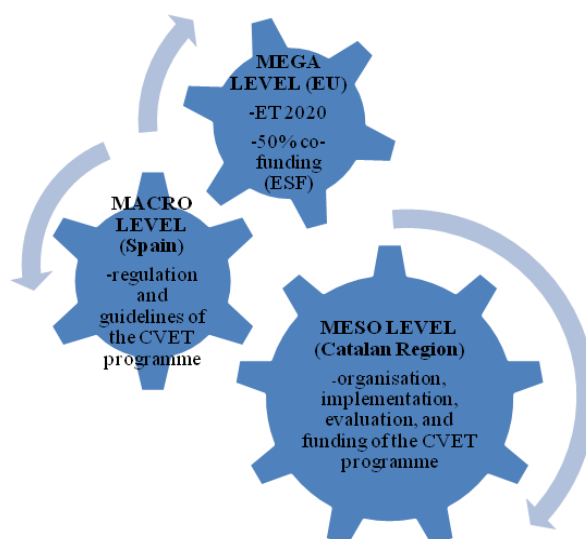
		modernisation and economic development of the nation state	skilling and acquisition of skills to compete -Promotion of trainability and individual responsibility
--	--	---	---

Note: Own elaboration based on Lima & Guimarães (2011)

The CVET programme that we study is a complex system in which many actors are involved (see figure 3). Following the analysis model proposed by Lima, Guimarães and Doutor (2018), these actors act at different levels and they have different power and responsibilities. At the mega level of analysis we have the EU. Currently, the EU influences the programme in two ways: directly and indirectly. The direct influence is co-financing the programme through the European Social Fund (ESF), with 50% of the total cost and demanding from the centre the introduction of content related to gender equality and environment protection in the training courses. These particular demands may create certain tensions with the Maastricht Treaty, in which the Council and Commission of the European Communities (1992) has ultimately committed to fully respect the responsibility of the Member States for the content of teaching and the organization of education systems and vocational training. Indirectly, it influences this programme by establishing four goals in the Education and Training strategic framework that all Member States have to achieve until 2020. At the macro level we have the Spanish policy, which establishes the regulations and main guidelines through the Ministry of Education, Culture and Sport, the Ministry of Employment and Social Security and the National Institute for Qualifications. Furthermore, there are similar centres to the CIFO in all the Autonomous Communities of Spain, and at the national level they are considered as the components of a single sub-system of the VET. Finally, at the meso level we have

the Catalan regional government through the Catalan Employment Service, which implements, coordinates and evaluates the CVET programme, and it assures the financial matters and that Catalan regulations are in accordance with the Spanish legislation. At this level of implementation there is a coordination service with the eight centres that make up the CIFO network in the territory, responding to the needs of the centres or approving their annual courses programming.

Figure 3. Implementation of the CVET programme in Catalonia



Note: Adaptation from Lima, Guimarães, & Doutor (2018)

So far we have seen that the literature on lifelong learning establishes two theoretical models: the “humanistic model” and the “human capital” model. Although some of the authors consider that lifelong learning has multiple purposes which contain goals from the two models, the bulk of the literature is divided between the two main approaches. On the one hand, there is the literature defending the adult education in terms of bottom up, democratic, participatory, critical which contributes to social transformation. On the other hand, there is the literature regarding lifelong learning related to human capital management, vocational training, employability,

skills and neoliberal views of society. The EU agenda on lifelong learning is situated rather in the “human capital” model and EU as a “norm entrepreneur” is influencing the education and training policies of its Member States in this direction. Moreover, the policy analysis regarding the implementation of the CIFO network in Catalonia confirmed that the programme is rather oriented towards the *Human Resources Management* model, although it did present features related to the *Modernisation and State Control* and *Democratic Emancipatory* model, which cover entirely an imaginary continuum between the humanistic and human capital theoretical models.

In this study we intend to go beyond the theoretical postulates and analyse how is implemented the CVET government-run programme in Catalonia and which is the impact of this programme. Thus, after situating the CVET programme in a predominantly Human Resources Management model with strong Modernisation and State Control features, this study will explore the implementation of the CVET programme in relation to the ET 2020, because convergence with the EU policy is one of the features that we have mentioned before as characteristic to the Human Resources Management model. We will also attend the impact achieved by the CIFO network in Catalonia, looking at the economic impact of the programme, which is the employment rate of the CIFO students and the effects perceived by the students on their employability.

Methodology of the study

In this article, we present the results from the secondary data, desk research and policy analysis to illustrate how the CIFO achieve their impact through an innovative design and implementation. In respect to the policy analysis, the documents we selected are the *Strategic Framework for European cooperation in education and training* (‘ET 2020’) of the European Council that defines the European objectives in this area, and the *Decree 71/2015, on*

restructuring the Catalan Employment Service, which controls and regulates the activities of the CIFO. Data and desk research were completed with documents provided by the CIFO upon request. In this article we have studied the eight CIFO public centres that exist in Catalonia. We have selected our analytical categories in base of three of the four strategic objectives present in the ET 2020 framework:

■ *Objective 1. Making lifelong learning and mobility a reality.* In order to measure advances within this objective we will focus on *employability* by using indicators of participation at the courses and employment rates of the students after they finished the course and compare them with the data available on EU and Spain.

■ *Objective 2. Improving the quality and efficiency of education and training.* In order to measure advances in within this objective we will focus in the *quality* of the education and training, by using indicators of student satisfaction and student's perceived usefulness of the course they have done at the CIFO.

■ *Objective 4. Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.* For advances within this objective we will focus on the innovation carried out at the CIFO.

With regard to objective 1, we analyse available data from the *Servei d'Ocupació de Catalunya* (Catalan Employment Service) on student participation for all eight CIFO centres during the 2014 academic year (ending in December) and the employment rates related to those students who participated in 2014 at these courses, provided by the Catalan Employment Service; these are the official employment rates for the month of July 2015. With regard to objective 4, we also use available data from the Catalan Employment Service on student satisfaction and perceptions regarding the usefulness of the courses offered for all eight CIFO centres during the 2014 academic year (ending in December). The data regarding satisfaction and usefulness of the courses has been collected by each centre through their periodical end of the course

questionnaire to the students and provided to us upon request, by the Catalan Employment Service. For objective 4, we have developed an analysis of the current legislation.

Results

Throughout the article we have discussed the convergence of the national and regional policies in education and training with the EU agenda on lifelong learning, and in this part of the article we will delve into the implementation and impact of the CVET government-run programme in Catalonia. It is worth bearing in mind that the purpose of this article is to identify if the CVET government-run programme in Catalonia responds to three of the four objectives established in the ET 2020 strategic framework, and if so, highlight which of the dimensions of these objectives can be identified and how are they being developed in the implementation of this programme through the CIFO network in Catalonia. The results presented in this section of the article reflect this contrast between CVET regional government-run programme and EU policy. There are serious challenges trying to attribute direct impact of the EU policy, and even more difficult at the regional level of Catalonia due to its particularities, and this is beyond the scope of the present article. The only direct connection, in written, that we can establish between the CIFO network and the EU is through funding (CIFO network receives 50% of its budget through the ESF), and the mentions to the EU in the inspiration or justification of the Decree that regulates the CIFO network. These mentions are to the EU 2020 strategy and other EU programmes envisioning a wide and integrated focus of the employment policies and modernisation of the employment systems and administrative structures, to the reorganisation of the structures that manage and control EU funds required by the ESF, and finally, to the implementation of the EU Youth Guarantee in Catalonia (Catalonia, 2015).

Making lifelong learning and mobility a reality

‘Making lifelong learning and mobility a reality’ (EC, 2009, p. 3) is the first of the four strategic objectives in the ET 2020. In the field of adult education, the strategic framework focuses on using lifelong learning as a mechanism to enable adults to gain access to higher qualifications and greater employment opportunities. To this end, among its benchmarks it establishes that ‘by 2020, an average of at least 15% of adults should participate in lifelong learning’ (EC, 2009, p. 7). In this way, the strategic framework specifies the political priorities concerning education and training, which are to help generate high levels of employment, productivity and social cohesion in the EU for the decade 2010-2020, as reflected in the Europe 2020 strategy (European Commission, 2010). In order to do that education and training systems have to be ‘more responsive to change [economic and social] and more open to the wider world’ (EC, 2009, p. 3). In the EU 2020 strategy, in employment, the target is that *75% of the 20-64 year-olds to be employed*, and this population is also within the scope of the lifelong learning policy.

Table 1. Employment rates per centre

CIFO	Total students	Employment rate (%)
L’Hospitalet	1071	52.48
Sabadell	891	54.52
Sant Feliu de Llobregat	465	60
Santa Coloma	724	45.4
La Violeta	942	40.83

Lleida	518	43.70
Salt	291	54.50
Tarragona	390	54
Total/Average	5292	50.68

Note: Source of the data is the Catalan Employment Service

In Table 1 we see the employment rate for the second trimester of 2015 among the 5292 students who enrolled at the various CIFO (in the previous year) is 50.68%, which is very positive given the economic crisis and high unemployment affecting Spanish economy. At the time, unemployment rate in Spain was 22.37% and in Catalonia was 19.10% (INE, 2017). The highest employment rate is 60%, and half of the CIFO present an employment rate of over 50%. It should be kept in mind that most of these employment rates reflect students who have found new jobs, but not all, because up to 20% of students who take these courses are already in work, which is also positive because it means that they have been able to keep their jobs during the 6 months after finishing the course. If we look at the participation in education and training activities for 2014 (as we mentioned in the methodology section, the data from the participation in the CIFO courses is 2014) at the EU and Spain level, the data shows that only 9.8% in the EU and 12% in Spain of the unemployed and 11.7% and 10.2% respectively of the employed people (EUROSTAT, 2017) participated in this type of activities. It is striking the average employment rate obtained by the CIFO in the context of high unemployment in Catalonia and Spain, and of low participation in education and training in the EU and in Spain, both for employed and unemployed. These results add to another research done in Catalonia, in the CVET area, which found that training had a

positive effect on employability (Cueto, Toharia, García Serrano & Alujas, 2010).

Improving the quality and efficiency of education and training

‘Improving the quality and efficiency of education and training’ (EC, 2009, p. 3) is the second strategic objective of the ET 2020. The framework highlights the importance of high quality education and training systems for increasing employability and ensuring economic success. Some of the framework’s recommendations for this objective, such as providing “adequate initial teacher education”, and making “teaching an attractive career-choice” (EC, 2009, p. 4), are implemented at every CIFO. Every CIFO offers a teacher-training course whereby students can obtain a professional certificate in teaching methodology, which is one of the requirements in order to teach at a CIFO, expanding thus the career-choice possibilities to those students who enrol in these specific courses.

In order to measure quality of the courses offered by the CIFO, we present two indicators on students’ perceptions of the quality and efficiency of the courses they have attended: satisfaction and usefulness. Students complete two questionnaires, one in the middle and one at the end of the course; the data presented here come from the 2014 final course questionnaire. Table 2 shows students’ levels of satisfaction and perceptions of the usefulness of the courses they have taken at the CIFO, on a scale from 1 to 10 (per cent). The lowest average for satisfaction is 7.45 and the highest is 8.87. Five of the eight CIFO have an average superior to 8. When it comes to perceived usefulness, seven of the eight CIFO present an average superior to 8, the highest being 8.78 and the lowest being 7.68. An interesting finding is that in six of the eight CIFO, the average for usefulness is higher than the average for satisfaction. All in all, it can be stated that students have a positive perception of the CIFO and the education and training that they offer.

Table 2. Students' satisfaction and usefulness of the course

CIFO	Satisfaction	Usefulness
L'Hospitalet	7.85	8.19
Sabadell	8.50	8.60
Sant Feliu de Llobregat	8.56	8.65
Santa Coloma	8.16	8.29
La Violeta	7.76	8.66
Lleida	8.38	8.29
Salt	8.87	8.78
Tarragona	7.45	7.68

Note: Source of the data is the Catalan Employment Service

Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training

'Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training' (EC, 2009, p. 4) is the fourth objective of the ET 2020. On the one hand, it intends to connect education with research and innovation. On the other hand, its goal is to promote collaboration between enterprises, education, training, research and involving civil society

representatives and stakeholders in order to better focus on the skills required in the labour market. All these initiatives are seen by the EU as fostering innovation and entrepreneurship, and reconciliation between professional and social needs and well-being of individuals (EC, 2009).

In line with this objective, article 10 (c) of *Decree 71/2015*, it is stipulated that CIFO have the function of promoting, supervising and coordinating experimental training activities for new professional qualifications (Catalonia, 2015, p. 7). Furthermore, article 10 (i) states that they have the function of implementing experimental training activities for new professional qualifications adapted to the territorial necessities (Catalonia, 2015, p. 7). This means that these centres can create new courses to cater for emerging professional qualifications or to meet the needs perceived in their territories. Consequently, CIFO can adapt very quickly to the requirements of the market and thus innovate in their curriculum. Regarding entrepreneurship, there are modules or courses dedicated to it; in addition to that, in some of the professional families (such as those related to arts and technology) there are high proportions of self-employed workers, and they are basically designing their own professional path.

Furthermore, the two CIFO that are NRC have more responsibilities, autonomy and resources than the rest of the CIFO network. In recognition of this status, articles 11 2(e) and (f) state that these centres must foster collaboration with entities and institutions involved in training and innovation and collaborate with the manufacturing sector in order to ensure that the training they offer is relevant to the sector's specific needs (Catalonia, 2015, p. 8). Article 11 4(a) states that other functions of the CIFO are to promote and coordinate labour market research and to detect new technologies, new working methods and emerging new productive sectors (Catalonia, 2015, p. 9). Article 11 4(c) states that are responsible for promoting and applying new technologies and methodological and didactic innovation to the development of the

training activities (Catalonia, 2015, p. 9). Therefore, it can be seen that Article 11 4(a) creates the framework for cooperation between research and innovation to ensure that the competences, education and training offered by the CIFO are relevant to the needs of businesses, whereas article 11 4(c) provides for the use of technology and methodological and didactic innovation (such as the use of MOOC technology, see Steffens, 2015) so that CIFO training activities can reach more people and enable them to upgrade their skills with the latest advances in technology.

Discussion

We have showed that the policy developments in the CVET government-run programme in Catalonia partially reflect, through legislation, the ET 2020, and in this way, we argue that the CIFO network considers the EU strategy in their activity and it achieves a positive impact in the territory as reflected by high employment rates and the positive evaluation from their students regarding the usefulness and satisfaction with the training received at the centres. Regarding innovation, we have seen that innovations in didactics (new professions) and in technology (equipment, software) are key elements in the activity of the CIFO network. Through the labour market research, detection of new technologies or processes, emerging sectors, cooperation with the stakeholders, or through experimentation in new occupations, CIFO have the capacity to adjust their courses to the needs detected in their territory, and thus, they can offer courses that achieve high employability rates. When discussing about lifelong learning we have dwelled upon the first dimension mentioned in Aspin and Chapman's (2000) "triadic nature of lifelong learning". In this paper we have discussed how the CIFO network in Catalonia works for the first dimension of the economic progress and development, by offering training that is relevant in the labour market –as we have seen before this is a principle embedded in the regulation of the CIFO network and

materialised in the functioning of its centres, and the high employment rates recorded by the CIFO and presented in this article are a proof of that-, and experimenting in new occupations in the changing economy and technology. It is important to mention that not all CIFO work with the same results, mainly because they do not have the same power and autonomy (like the NRC), but they constitute a network where they can share their experience. Furthermore, the law expects the NRC to take the initiative, innovate, and the rest of the centres in the respective professional area to follow them.

The present study has had some limitations regarding the data we have used, due to the way it was collected. Thus, data related to the employment rates did not allow distinguish those who found a new job from those who already had a job, or were promoted after taking the course. A second limitation was that we could not know if those who found a new job did so directly as a result of the course. The third limitation is that these numbers provide a snapshot for July 2015. Some of the CIFO courses cater for professions characterized by high numbers of self-employed workers. If these people were not registered as active workers at the time the data were collected, they do not appear in the statistics. Another limitation of is that data were only available for some of the courses so this is an approximation to the employment rates achieved by the CIFO. We also see these limitations as challenges for future research, especially when dealing with the public administration. Furthermore, we consider that these shortcomings can happen when working with different and relatively autonomous centres, 5 of which had changed the leadership around the period we did the fieldwork. Moreover, the data presented is considerable in order to offer an image of how the CIFO work and open new venues for research. Being aware of the limitations that we have just exposed, it can contribute to design new instruments or methodologies to study this topic.

Conclusions and further research

This is an exploratory study, since CVET is a wider phenomenon in Catalonia and in Spain. The CVET system in Catalonia, apart from the CIFO network, includes other programmes and agents, such as the private centres (some may offer public subsidized courses), other public or private entities, trade unions, professional associations and enterprises. However, the objective of this article was analysing how is the EU policy on lifelong learning materialised in the public CVET offer in Catalonia, through the CIFO network. We have shown how the Catalan legislation has accommodated some of the EU's recommendations and how CIFO network contributes to the targets established by the EU's political strategy in employment and lifelong learning. In doing so we have also described how CIFO work and we have added to the existing literature on CVET.

We have also responded to the call made by Lucio-Villegas (2012), by showing real data on employment rate, levels of satisfaction and perceptions of usefulness of students regarding the CVET program. However, this study was realised at the level of Catalonia so it will be interesting to expand it at the level of Spain, and thus to obtain a clear image of the government-run CVET impact in Spain, which could also lead to further questions. For example, *Rethinking Education* was raising the question on 'how can education better respond to the challenges of achieving economic, social and environmental sustainability?' (UNESCO, 2015, p.84). UNESCO has already made this demand, through the Sustainable Development Goals agenda, especially SDG 4, and our obligation as researchers is to provide quality research in these areas for promoting a policy based on evidence, on impact. As the Council of Europe reminds us, we need to highlight successful activities because 'high quality will only be achieved through the efficient and sustainable use of resources — both public and private, as appropriate — and through the promotion of evidence-

based policy and practice in education and training’ (EC, 2009, p. 3).

Many authors claim that lifelong learning does not produce critically enough individuals that can transform the unequal structures and be active citizens (Moir & Crowther, 2014). In this article we have seen that the CIFO network is mainly a state driven initiative towards modernisation, labour markets and human capital resources management, with very limited features from the democratic emancipatory model of adult learning and education. One of the features that does come from this model and that we find it in the impact of the CIFO is the empowerment through education and training. Going back at the views of Aspin and Chapman (2000) or Carlsen and Haddad (2013), we can identify these different dimensions or goals of lifelong learning embodied in the CIFO’s activity, combining empowerment and skills training in what can be later developed in critical thinking and become agents of change. And this can be one future line of research, how empowerment and skills or VET-related knowledge can lead to critical, active citizens and increase democracy. So far, the CIFO network offers an approach of the lifelong learning that has a stronger effect in improving the situation of vulnerable groups, and thus, reduce some of the risks generated by the economic crisis in Catalonia and in Spain. Further research is needed to identify elements that work in the successful democratic adult education contexts, such as the solidarity –an element ignored by the adult education research (Wildemeersch, 2013)-, and incorporate them in lifelong learning policy to expand its scope and impact.

Finally, a matter of concern and at the same time an area where further research needs to be done is participation in lifelong learning, which is below the European target. We need to identify which elements can increase this participation of adults in lifelong learning. Steffens (2015), was asking how education can prepare individuals for life in society and maybe one of the best way is to

involve individuals, or the community in the designing of the courses that should be part of the lifelong learning policy, offered at these centres. The CIFO network is an example of involving social agents and stakeholders in the decisions regarding the training they offer, and that can be a good way to connect individuals and society with their needs and to advance more towards the ‘humanistic model’ of lifelong learning, without leaving aside the economic necessities. This way the courses could be more appealing to individuals and at the same time useful for their professional paths and that may contribute to motivate them to participate more in these type of training. Finally, another topic of research might be the relation between innovation done at these centres and the adult participation in lifelong learning, to study if innovation attracts individuals to participate in lifelong learning.

ACKNOWLEDGEMENTS

This study has received support from the Associació Catalana d’Universitats Públiques (ACUP) and Obra Social La Caixa ‘RecerCaixa’, grant 2014ACUP0077.

REFERENCES

- Aspin, D. N., & Chapman, J. D. (2000). Lifelong learning: concepts and conceptions. *International Journal of lifelong education*, 19 (1), pp. 2-19.
- Carlsen, A., & Haddad, G. (2013). Introduction. *International Review of Education*, 59 (3), pp. 311-318.
- Catalonia (2015). DECRET 71/2015, de 12 de maig, de reestructuració del Servei d'Ocupació de Catalunya [online]. [Date consulted: 6 of April of 2018]. Retrieved from: <http://portaldogc.gencat.cat/utillsEADOP/PDF/6871/1424703.pdf>

Cedefop (2014). Terminology of European education and training policy. Luxembourg: Publications office of the European Union [online]. [Date consulted: 6 of April of 2018]. Retrieved from <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4117>

Cueto, B., Toharia, L., García Serrano, C., & Alujas, J. A. (2010). Los efectos de la formación ocupacional: ¿Importa la duración de las acciones? [The effects of CVET: Does the duration of the actions matter?]. *Hacienda Pública Española*, 195 (4), pp. 9-36.

European Commission (2010). Europa 2020: A strategy for smart, sustainable and inclusive growth, Communication from the Commission COM(2010) 2020 final, Bruselas 3-3-2010 [online]. [Date consulted: 6 of April of 2018]. Retrieved from: <http://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf>

(EC). (2009). Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020') [online]. [Date consulted: 6 of April of 2018]. Retrieved from: [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528(01)&from=EN)

Council and Commission of the European Communities (1992). Treaty on European Union. Luxembourg: Office for Official Publications of the European Communities [online]. [Date consulted: 6 of April of 2018]. Retrieved from: https://europa.eu/european-union/sites/europaeu/files/docs/body/treaty_on_european_union_en.pdf

EUROSTAT (2017). Education and Training database. [Date consulted: 6 of April of 2018]. Retrieved from: <http://ec.europa.eu/eurostat/web/education-and-training/data/database>

Evans, K., Schoon, I. & Weale, M. (2013). Can Lifelong Learning Reshape Life Chances?. *British Journal of Educational Studies*, 61 (1), pp. 25-47.

Guimarães, P. (2012). Critical links between recognition of prior learning, economic changes and social justice in Portugal. *Journal of Adult and Continuing Education*, 18 (1), pp. 61-76.

Hodge, S., Holford, J., Milana, M., Waller, R., & Webb, S. (2017). Vocational education and the field of lifelong education. *International Journal of Lifelong Education*, 36 (3), pp. 251-253.

INE (2017). Encuesta de Población Activa [online]. [Date consulted: 6 of April of 2018]. Retrieved from: http://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176918&menu=ultiDatos&idp=1254735976595

Jarvis, P. (2008). Rediscovering Adult Education in a World of Lifelong Learning. *International Journal of Critical Pedagogy*, 1(1), pp. 1-6.

Jarvis, P. (2010). *Adult education and lifelong learning. Theory and practice* (Fourth edition). Oxon: Routledge.

Kleibrink, A. (2011). The EU as a Norm Entrepreneur: the case of lifelong learning. *European Journal of Education*, 46 (1), pp. 70-84.

Lavrijsen, J., & Nicaise, I. (2017). Returns on vocational education over the life cycle: Between immediate labour market preparation and lifelong employability. *International Review of Education*, 63(2), 257-280.

Lima, L., & Guimarães, P. (2011). *European Strategies in Lifelong Learning. A Critical Introduction*. Opladen & Farmington Hills, MI: Barbara Budrich Publishers.

Lima, L., Guimarães, P., & Doutor, C. (2018). Online Tutorial. Introduction to strategies and educational policy analysis for on-line preparation [online]. [Date consulted: 6 of April of 2018]. Retrieved

from: <https://wuecampus2.uni-wuerzburg.de/moodle/mod/page/view.php?id=759847>

Lucio-Villegas, E. (2012). What's going on? An overview of adult education policies in Spain. *Journal of Adult and Continuing Education*, 18 (1), pp. 77-89.

Lundvall, B.-Å., & Rasmussen, P. (2016). Challenges for adult skill formation in the globalising learning economy—a European perspective. *International Journal of Lifelong Education*, 35 (4), pp. 448-464.

Moir, S., & Crowther, J. (2014). Learning for employability? Ideas to reassert a critical education practice in communities. *Cuestiones Pedagógicas*, 23, pp. 43-64.

Paraschiv, D. M., & Stoika, R. (2013). Using best practices in designing a lifelong learning strategy for Hman Resources in Romania. *Amfiteatru Economic*, XV (34), pp. 532-543.

Regmi, K. (2015). Lifelong learning: Foundational models, underlying assumptions and critiques. *International Review of Education*, 61 (2), pp. 133-151.

Spain (1980). Ley 51/1980, de 8 de octubre, Básica de Empleo [online]. [Date consulted: 6 of April of 2018]. Retrieved from: <https://www.boe.es/boe/dias/1980/10/17/pdfs/A23133-23138.pdf>

Steffens, K. (2015). Competences, Learning Theories and MOOCs: Recent Developments in Lifelong Learning. *European Journal of Education*, 50 (1), pp. 41-59.

Tikkanen, T., & Nissinen, K. (2016). Participation in job-related lifelong learning among well-educated employees in the Nordic countries. *International Journal of Lifelong Education*, 35 (3), pp. 216-234.

UNESCO (1972). *Learning to be: The world of education today and tomorrow*. Paris: UNESCO.

UNESCO (2015). *Rethinking education – Towards a global common good*. Paris: UNESCO.

Wildemeersch, D. (2013). Transitions in a life-world: Looking backward and forward after forty-five years of social pedagogical research and teaching in Leuven. *Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas*, 21(38), 1-19.

2.5. Objective 3 of the ET 2020

Centres d’Innovació i Formació Ocupacional (CIFO) network and the promotion of equity, social cohesion, and active citizenship in Catalonia (Spain)

Abstract

The promotion of equity, social cohesion and active citizenship is the third objective of the Strategic framework – Education & Training 2020, of the European Union. The objective of this article is to analyse how the CIFO network in Catalonia advances towards

this European objective⁸. After explaining the creation and evolution of the CIFO network, which is part of the CVET policy and, thus, of the lifelong learning policy in Catalonia, we analyse two of the main tools -related in the scientific literature with social justice and social cohesion-, which all CIFO develop within their activity: the recognition of prior learning (RPL) and the professional certificates. Using secondary and published data from European, Spanish and Catalan institutions, in addition to the scientific literature, legislative and document analyses, and direct observation, we explore this relationship between the European objective of promoting equity, social cohesion and active citizenship and the activity of the CIFO network. Preliminary data shows that CIFO are advancing towards this European objective by developing RPL and professional certificates, reaching people from disadvantaged groups and by providing education in issues related to employability, gender equality and environmental protection.

Key words

CIFO, CVET, recognition of prior learning, professional certificates, Catalonia

⁸ This article is done with the support of a competitive research project titled: Vocational training and SMEs: the challenge of innovation in Catalonia, funded by RecerCaixa. Grant number: 2014ACUP0077.

La red de los Centros de Innovación y Formación Ocupacional y la promoción de la equidad, la cohesión social y la ciudadanía activa en Cataluña (España)

Resumen

La promoción de la equidad, la cohesión social y la ciudadanía activa es el tercer objetivo del marco Estratégico - Educación y Formación 2020, de la Unión Europea. El objetivo de este artículo es analizar cómo avanza la red CIFO en Cataluña hacia este objetivo europeo. Después de explicar la creación y evolución de la red CIFO, que forma parte de la política de la formación profesional para la ocupación y, por lo tanto, de la política de aprendizaje permanente en Cataluña, analizamos dos de las principales herramientas -relacionadas en la literatura científica con justicia social y cohesión social-, que todos los CIFO desarrollan dentro de su actividad: el reconocimiento del aprendizaje previo (RPL, por sus siglas en inglés) y los certificados profesionales. Utilizando datos secundarios y datos publicados de las instituciones europeas, españolas y catalanas, el análisis de la literatura científica, legislativo y de documentos, y la observación directa, exploramos esta relación entre el objetivo europeo de promover la equidad, la cohesión social y la ciudadanía activa y la actividad de la red CIFO. Los datos preliminares muestran que los CIFO están avanzando hacia este objetivo europeo desarrollando RPL y certificados profesionales, llegando a personas de grupos desfavorecidos y proporcionando educación en temas de inserción laboral, igualdad de género y protección ambiental.

Palabras clave

CIFO, formación profesional para la ocupación, reconocimiento del aprendizaje previo (RPL), certificados profesionales, Cataluña

Introduction

Lifelong learning is an increasingly significant strategy for being competitive in the knowledge-based economy in many parts of the world, and the €7 billion invested by the EU in its 2007-2013 Lifelong Learning Program is a proof of it (Tan, 2017). Under this economic perspective, the European Union had it easier to justify its politics and transmit it to the member states in order to make them adapt their educational systems (Clain, 2016; Kleibrink, 2011; Regmi, 2015). A brief review of the most significant pieces of EU legislation in this field gives an idea of the evolution of lifelong learning in the Union. First, in 2000, the European Commission issued a Memorandum on Lifelong Learning because it understood that a Europe of knowledge had implications for the fields of education and training and because it wanted to provide a ‘response to the Lisbon and Feira European Councils to make lifelong learning available to everyone’ (European Commission, 2000). The stated objective of this Memorandum was to ‘open a debate and lay the foundations for a lifelong learning strategy’ (European Commission, 2000). A second important step was taken in 2006, with DECISION No 1720/2006/EC of both the European Parliament and the Council, which established an action program in the field of lifelong learning. The general objective of the ‘Lifelong Learning Program’ is to advance to a knowledge-based society through lifelong learning.

The 2009 Strategic framework – Education & Training 2020 (‘ET 2020’) emphasizes that in order to achieve that knowledge-

based society there is a need to invest efficiently in human capital development. Many authors have criticized what they have perceived as this shift of lifelong learning from ‘idealistic and elusive social justice reform model to a more utilitarian, human capital-based model’ (Tan, 2017, p. 279). For instance, the ET 2020 (EC, 2009) establishes four strategic objectives: *making lifelong learning and mobility a reality; improving the quality and efficiency of education and training; promoting equity, social cohesion and active citizenship* and *enhancing creativity and innovation, including entrepreneurship, at all levels of education and training*. In these objectives, we see a mix of the two perspectives, where the third objective of *promoting equity, social cohesion and active citizenship* relates the most to the principle of social justice and is precisely where we will focus in our analysis. There are also authors who think that the two models of lifelong learning –humanistic model and human capital model (Regmi, 2015)-, are compatible with each other. One example of that is the “triadic nature” of the lifelong learning described by Aspin and Chapman (2000, p. 17), which serves ‘for economic progress and development; for personal development and fulfilment; for social inclusiveness and democratic understanding and activity’.

Luengo (2016) presents a very gloomy and contradictory image of the Spanish workforce regarding its levels of qualifications: on the one hand, the percentage of people in their working-age that have low or no qualification is over 22% higher than the EU-27 (including Norway and Switzerland) average. Furthermore, in what concerns people with intermediate qualifications, their percentage is less than a half compared to that in the EU-27. On the other hand, the percentage of people with higher education is superior in Spain by 3% with respect to the EU-27. In Luengo’s (2016) view, this is a problem because the projections say that half of the jobs that will be created in Europe in the next 10 years will require intermediate qualifications, therefore, existing Spanish workforce is not in a good position to occupy these future jobs. One of the goals of this

article is to explore how Catalonia is tackling this issue within the framework of its lifelong learning policy, while at the same time influenced by EU and Spanish policy. The particular attention of this article is given to a government-run CVET programme addressed to unemployed in Catalonia, analysing two of its main tools: recognition of prior learning (RPL) and professional certificates.

The European Centre for the Development of Vocational Training defines lifelong learning as ‘all learning activity undertaken throughout life, which results in improving knowledge, know-how, skills, competences and/or qualifications for personal, social and/or professional reasons’ (Cedefop, 2014, p. 171). CVET is regarded

as education or training after initial education and training – or after entry into working life aimed at helping individuals to: improve or update their knowledge and/or skills; acquire new skills for a career move or retraining; continue their personal or professional development (2014, p. 51).

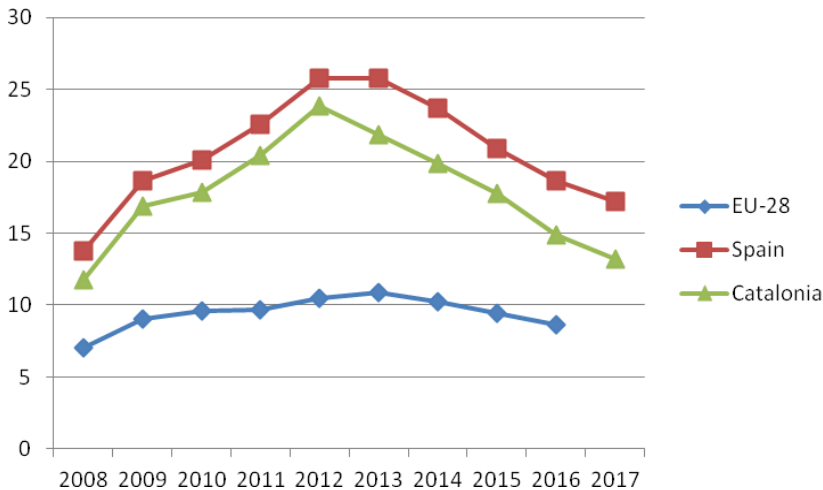
Moreover, CVET ‘is part of lifelong learning and may encompass any kind of education (general, specialised or vocational, formal or non-formal, etc.). It is crucial for employability of individuals’ (Cedefop, 2014, p. 51). In this article we study the development of the Catalan CVET system (*formació professional per l’ocupació*) and discuss some of its most recent legislative developments.

The field of adult education is a contested terrain and open to change over time (Aspin & Chapman, 2000). In the scientific literature, there are many critiques to approaches that see lifelong learning as the solution to the problems raised by the rapidly changing world, ‘a great tale of salvation through learning and knowing in a risk society tinted with threats and continuous change’ (Jauhiainen & Alho-Malmelin, 2004, p. 463). In this line, Siivonen (2016) argues that lifelong learning policy and discourse have been very convincing in sending the message of equal learning opportunities for all and that everybody has the possibility and

capacity to learn according to their needs and desires. Nonetheless, participation in lifelong learning is inferior to the benchmark established by the EU and unemployment rates are still high, at least in Spain and Catalonia, although lifelong learning policies are not responsible, at least not directly, for the raise in the unemployment.

Table 1 shows that the unemployment rate was inferior in Catalonia in comparison with the Spanish average. During the worst years of the economic crisis in Spain, the unemployment rate has been constantly above 20%, with its peak in 2012 when it reached 25.77%, while in Catalonia the peak of the unemployment rate was reached in 2012 at 23.81% (INE, 2017). In contrast, at the European level and during the same period, the peak of the unemployment rate in the EU was 10.9%, in 2013, and with the exception of the period 2012-2014, it has remained below 10%, which is less than half compared to the Spanish and Catalan averages.

Table 1
 Unemployment rate in EU (28 countries), Spain and Catalonia, 2008-2017



Note: Source is the Spanish National Institute of Statistics (2017) and Eurostat (2017). Data for 2017 for Catalonia and Spain is from the second trimester and it was released in July, and for the EU-28 was not available for the same period.

Regarding the participation in lifelong learning, the data from the Eurostat (2017) shows that participation has stagnated for three years at 10.8% in 2016 (except for 2015 when it dropped at 10.7%), which is far from the 15% that was the objective for 2020 (EC, 2009). The scientific literature has shown interest in exploring which are the factors that have an influence in the participation of adults in lifelong learning. These factors go from positive learning attitudes and learning dispositions (Tikkanen & Nissinen, 2016), or self-actualization, to those adults who do it because they are forced to do it by the threat of unemployment (Zhao & Biesta, 2012). In order to continue exploring how to increase this participation of adults in lifelong learning it is relevant the question that Steffens (2015, p. 44) asks: ‘how can education help individuals to develop their personality and prepare them for life in society?’ This question raises important issues even in adult learning, such as the relevance of the courses that are on offer, who gets to decide them, and the utility that adults can see in them.

Catalan CVET system

Catalan CVET system has been developed and shaped under the influence of three institutional forces. Two processes in Spain, namely decentralization and EU integration, have had a major role in the implementation and shaping of the Catalan CVET system. The transfer of powers from the central government to Catalonia has marked the evolution of the system, although it has not always been a smooth process. Recently, the Catalan Employment Service has rejected the Royal Decree 694/2017 because it considers that it reduces its autonomy in the area of CVET and because the central government has not made a previous consultation with the Autonomous Communities nor with the social and economic agents

before approving it⁹. Nowadays, CVET in Catalonia is part of the Active Labour Market Policies, and it focuses on two aspects: for the people, making possible updating their skills and knowledge and thus increasing their value in the labour market and their employability; and for the enterprises, attending their needs of qualified people, in order to carry out their projects (Garau, 2016). In other words, CVET is the set of training activities that are developed in the labour context and whose purpose is to improve the professional qualification and the ability to enter or reintegrate labour through the achievement and improvement of professional competencies; therefore, CVET initiatives are aimed at the acquisition, improvement and permanent updating of professional competencies and qualifications, in order to promote the lifelong learning of the active population and combine the needs of people, businesses, territories and productive sectors (Rodríguez, 2017a, p. 4).

CVET's institutional origin in Spain is marked by the Basic Employment Act of 1980, which introduced with its article 14.1 a yearly program of free *Occupational Vocational Training* for those who want to join the labour market, or for those who are already in it (Spain, 1980). The Organic Law 5/2002 sets up a National System of Qualifications and Vocational Education and Training, including a National Catalogue of Professional Qualifications, which is the basis of the VET and CVET systems, or the accreditation of the professional qualifications, with the objective to enhance personal and social development of the people and the necessities of the economy (Spain, 2002). The Decree 395/2007 merges the two existing types of vocational training for employment at that date, the *occupational* (i.e. for unemployed) and the *continuous* (i.e. for the employed) in one: CVET (*formació*

⁹ For more information (in Catalan): <http://www.catformacio.com/el-soc-rebutja-per-unanimitat-el-decret-del-ministerio-de-empleo-que-desenvolupa-la-llei-reguladora-del-sistema-de-formacio-professional-per-locupacio-a-lambit-laboral/>

professional per l'ocupació, in Catalan), therefore, allowing all workers to participate in CVET no matter what is their situation (Spain, 2007). Notwithstanding, this distinction still exists in the functioning of the CVET system and the funding for the two models is separated. Lastly, the Royal Decree 229/2008 (Spain, 2008a) creates the network of National Reference Centres in vocational education and training, two of which are in Catalonia (CIFO L'Hospitalet de Llobregat and CIFO Sant Feliu de Llobregat).

On its part, Catalonia received from the Spanish government the management of the Occupational Vocational Training (at that time), through the Royal Decree 1577/1991 (Spain, 1991). The CIFO network was created by the *Generalitat* (Catalan government) in eight of the public centres that had assumed from the Spanish government. First, with the Decree 288/1995 it establishes six CIFO: CIFO La Violeta (Barcelona), CIFO Sabadell Mancom. (Terrassa), CIFO Santa Coloma de Gramenet (Santa Coloma de Gramenet), CIFO Salt (Salt), CIFO Lleida (Lleida) and CIFO Tarragona (Tarragona) (Catalonia, 1995). Second, in 2001 it established the two remaining centres of the network: CIFO Sant Feliu de Llobregat and CIFO L'Hospitalet de Llobregat (Catalonia, 2001). The Law 17/2002 created the *Servei d'Ocupació de Catalunya* (Catalan Employment Service) responsible with the coordination of the employment policies in Catalonia; the Catalan Institute of Professional Qualifications, responsible to define, identify and update the professional qualifications needed in Catalonia; and the Consortium for Continuing Education of Catalonia, with the objective of developing continuous vocational training as an essential instrument to guarantee lifelong learning and the adaptation and maintenance of the professional qualification of the workers (Catalonia, 2002). Later on, the Decree 182/2010 defines CVET as being one of the subsystems of vocational education and training (VET), thus VET consists of the initial vocational education and training (IVET) and the CVET subsystems. CVET is integrated by the set of instruments and

actions that are aimed at promoting and extending among companies and workers, both unemployed and employed, a training that responds to their needs for qualification and competitiveness and contributes to economic development and social cohesion (Catalonia, 2010, p. 86694). Additionally, the Decree 28/2010 creates the Professional Qualifications Catalogue of Catalonia and the Integrated Modular Catalogue of vocational education and training, which establishes the skills that are significant in Catalonia (Catalonia, 2010, p. 86692).

Finally, three more important features have a big impact on the present and future activity of the CVET system in Catalonia. **First**, the Spanish Government has approved two Royal Decrees that regulate the professional certificates and the recognition of prior learning, the two instruments that CIFO develop: Royal Decree 34/2008 (Spain, 2008b) for the professional certificates and Royal Decree 1224/2009 for the recognition of prior learning (Spain, 2009). **Second**, the year 2015 has been very important because of three legislative developments: the approval of the Decree 71/2015 (Catalonia 2015a), of Law 10/2015 (Catalonia, 2015b), and the approval of the first Professional accreditation and qualification plan for Catalonia, for 2016-2018¹⁰. The Decree 71/2015 aims to adjust the Catalan Employment Service to the requirements of the EU 2020 strategy and it has a direct impact in the CIFO network because it creates a unit of direction and coordination of the centres.

The Law 10/2015 equips the two departments that promote the VET [i.e. Department of Education and that of Labour] with a tool for prospection, analysis, detection of the needs and evaluation that should improve the adjustment to the policies they develop with the needs of the citizens and of the companies. In relation to the planning of the CVET programs, these are tools that allow to better adjust the programming to the real needs of companies and of

¹⁰ For more information (in Catalan) see: <http://consellfp.gencat.cat/ca/arees-actuacio/primer-pla-acreditacio-2016-2018/>

people, which will lead to a more valuable and useful training (Garau, 2016, p. 18). This law has the purpose of establishing a regulation of lifelong vocational training, adapted to the needs of the people and companies, and establishes the institutions that will govern the VET system and the collaboration with social agents, the official chambers of commerce of Catalonia and the local Administrations. The first Professional accreditation and qualification plan for Catalonia builds upon calls. These ‘calls for validation are limited to certain sectors, depending on the moment, availability of financial resources and sector needs’ (Boeren, Whittaker & Riddell, 2017, p. 205). **Third**, all the political developments after 2000 that we have discussed in this article, include in their preamble their convergence with the goals of the European Politics, such as those of the Lisbon Strategy (2000-2010), the EU 2020 Strategy (2010-2020) or the Lifelong Learning Program (2007-2013), as well as the lifelong learning policy in general.

More generally, adult education in Catalonia is regulated by articles 69 to 71 of the Education Act (Catalonia, 2009). According to this law, adult education in Catalonia is concerned with promoting the right to lifelong learning; preparing students in and for the general or special systems of education; enabling all people to develop their personal and professional projects and facilitating social participation; recognizing skills acquired through other training paths, and the Catalan provisions do not differ significantly from those identified in the Spanish national legislation by other studies (Lucio-Villegas, 2012; Iñiguez & Marcaletti, 2016).

The public CVET programme that we study is taught at the eight CIFO of the network, covering the four provinces of Catalonia. The courses offered at the CIFO are designed in accordance with the National Catalogue of Professional Qualifications, some of them include the possibility of work experience placements (these are compulsory for the courses that lead to the attainment of

professional certificates), and for most of them students can obtain professional certificates in an occupation in the respective professional area. The professional areas offered in the CIFO courses differ from one province to another as one of the guiding principles of the CIFO is to cater for the main industries or perceived needs in their respective territories. Moreover, the two CIFO that are National Reference Centres contribute directly to the development of the National Catalogue of Professional Qualifications, from their respective areas: CIFO L'Hospitalet de Llobregat in Graphic Arts, and CIFO Sant Feliu de Llobregat in Mechanical Manufacture and Transportation and Maintenance of Vehicles. The National Catalogue of Professional Qualifications is the base of the entire VET system (IVET and CVET subsystems), and of the professional certificates that result from the vocational and education training.

RPL, Professional certificates and social justice

RPL, sometimes called PLAR (Prior learning assessment and recognition) is a topic that has raised the attention of the researchers in lifelong learning. In the literature we find the main features of this process that is carried out in different countries: is the process of reviewing, evaluating, and acknowledging a person's knowledge and skills gained through life and work experience, which is rather informal learning, in order to be formally recognized by the national qualification systems (Hamer, 2010; Miguel, Ornelas & Maroco, 2016; Wihak, 2011); it is a tool for social justice and equity in education strategies for disadvantaged groups (Hamer, 2010, 2011); it contributes to supporting lifelong and life-wide learning (Miguel, Ornelas & Maroco, 2016; Wihak, 2011); the knowledge and skills involved in this recognition process comes from diverse learning experiences and cultural locations and is considered to have the ability to bring people in the learning system which otherwise

would not engage (Hamer, 2011); finally, is a way to ‘sort, fix and normalise learning and skills in ways that are understandable to the academy and lead to a select group being privileged over others, in terms of social status, confidence and agency’ (Hamer, 2013, p. 497).

The study of the RPL has been done from different epistemological positions. One of this positions championed by authors such as Andersson (Anderson & Fejes, 2005; Andersson & Osman, 2008; Andersson, 2008) sees RPL as a technique for governing and fabricating the adult subject that nowadays is focused on evaluating the subject’s experience through the concept of competence (Anderson & Fejes, 2005). Therefore, the adult is constructed by the means of the experiences that have to be evaluated (Andersson & Osman, 2008). At a systemic level, adult education is governed and organised following the “salvation narrative” of the RPL (Andersson, 2008). Another approach is that of Sandberg (2012), who applies the theory of communicative action of Habermas to RPL, and he argues that ‘RPL process could probably be enhanced if it focused on mutual understanding between teacher and student’ (Sandberg, 2012, p. 366), where the student does not understand the process of transformation from experience to credits and do not know how to present it. He identified that one important problem in the RPL process is the lack of understanding between the students/candidate and teacher/assessor in the assessment (Sandberg, 2012; and also Hamer, 2010), therefore a communicative relation must be established between them. Another perspective stems from Honneth’s theory of recognition, which sustains that ‘contemporary pluralistic societies should provide undistorted and unrestricted recognition for its citizens’ (Sandberg & Kubiak, 2013, p. 353). The last perspective that we have identified in the literature on RPL is one that we can call humanistic, which is focused on human value (Hamer, 2011) and love-based recognition (Hamer, 2013).

As we can see from the diversity of approaches existing in the literature, RPL is also a contested terrain within lifelong learning (Brown, 2017) and results presented by these studies vary accordingly. Andersson and Osman (2008, p. 42) argue that RPL acts as ‘a dividing practice and a technique for inclusion/exclusion of immigrants in their vocations in Swedish working life’ by ‘targeting of certain vocations for assessment, the degrading of competence in the process, and the differing opportunities vis-à-vis further training and the labour market’. Brown (2017) claims that RPL can be transformative and have an impact on the self-confidence, awareness and perception of the participants but at the same time can also lead to negative transformations. Sandberg and Kubiak (2013) found that RPL could support self-realisation and self-awareness and enhance learning and development. On a similar note, Wihak (2011) found that RPL had significant benefits in confidence building and enhancing reflective capacity for the participants. Other studies found benefits in ‘learning, increased confidence, realization of prior knowledge and skills, valorization of the life experience, and motivation to further learning, suggesting its empowering potential at the individual level’ (Miguel, Ornelas & Maroco, 2016, p. 179), or enhance social justice elements of RPL, bring more diversity to the communities by attracting non-traditional participants and stimulate further learning (Hamer, 2013).

Professional certificates, regulated by the Royal Decree 34/2008, are already a reality in many industrial sectors in Spain. As Lobaco (2017, p. 12) notes, there are economic sectors such as in industrial, energy and water and environment where the professional certificate or the equivalent VET diploma is an indispensable condition for the exercise of the profession. This phenomenon extends to the high-level qualifications, as in the case of the IPR professional certificate for engineers that was introduced by the AIPE (Spanish Association of Professional Engineers) (Agency, 2013). There have been calls made from the research -related to the

high-level qualifications-, in the area of engineering (“La certificación profesional. Nuevos métodos para nuevos tiempos”, 2012; “La certificación profesional como garantía para la sociedad”, 2015). They claim that the professional certificates will guarantee both the training and the professional experience of engineers and thus, will bring more value to the society, among other benefits.

Medical science is the other scientific area that together with engineering, are making a case for the necessity of issues related to professional certificates, such as accreditation processes or competence-based training. Some of the contributions that come from this area are: the transition to competency-based medical education, through the entrustable professional activities (EPAs) in order to reduce the gap between theory and practice (ten Cate, & Scheele, 2007; Carraccio et al., 2017); a systematic research of the scientific literature (Greenfield, & Braithwaite, 2008) found that the accreditation programmes lead to development of health professionals; or ‘the opportunity for residents to learn in innovative programmes, and enhanced resident education in quality, patient safety, and the new competencies’ (Nasca, Philibert, Brigham, & Flynn, 2012, p. 1055) with the introduction of the Next Accreditation System (NAS) by the Accreditation Council for Graduate Medical Education (ACGME).

We can find in the scientific literature specific examples related to these broader areas of medicine and engineering. In the area of engineering, Calvo-Amodio, Tercero-Gómez, Ramirez-Galindo and Martínez-Salazar (2014) argue that the certification rates, determined by the trainee performance in the field project, and identifying bottlenecks in a trainee certification process, contribute to the success of the certification programmes. In another study, Rosado, Sánchez, Mellado and Medina (2015) recommend the inclusion in the Computer Engineering Degree of content from international professional certificates related to computing security and auditing in order to attend better the professional needs of the

engineers. This content should be oriented towards industry and present-day society (Rosado et al., 2015).

In the broader scientific area of medicine, we have the example of the European Respiratory Society International Certificate in Respiratory sleep, developed together with ‘the most respected respiratory experts internationally in order to design and deliver educational activities to raise standards of training for our respiratory health practitioners’ (Mitchell, Riha, Rohde, & Simonds, 2017, p. 11). Another example is the accredited Elderly Certificate Course, in Canada, which preliminary research found to have a positive impact in ‘improvement in participants’ self-rated knowledge of and confidence in managing geriatric problems, [and] positive changes in clinical practice’ (Lam et al., 2015, p. 135). Another study found an ‘increased self-understanding of defined pharmacogenomics competencies. Additionally, pharmacy students, in the role of simulated patients gained knowledge during the live component of the program’ during a pharmacogenomics certificate training programme (Kisor, Bright, Chen, & Smith, 2015, p. 563). Finally, in a study of an online certificate programme for the Employee Assistance Program, the authors include the voice of a participant saying that ‘Certification always improves quality of services and makes sure the professionals are doing what they are supposed to do’ (Masi & Carlson, 2015, p. 204).

Methodology

The CIFO study has been carried out within a competitive research project titled: **Vocational training and SMEs: the challenge of innovation in Catalonia**, which lasted from 2015 to 2017. This project was funded by a private foundation in Catalonia. The study on the public CVET programme (of the CIFO centres) was done in parallel. The research project consisted of working with the VET centres, which are part of formal education and are attached to the Department of Education of Catalonia. In contrast, the CIFO centres that are the object of study in this article are attached to the Department of Labour, Social Affairs and Family and have a different working perspective and methodology. The overall objective of the CIFO study was to analyse the best practices that these centres carry out in order to adapt their training strategies to the needs of Catalan businesses, with a specific focus on innovation. A secondary objective is to identify successful actions with evidences of impact of the CIFO network to inform evidence-based policies in CVET, which can be implemented in other educational contexts.

For this article, we have used legislative analysis regarding CVET issued by the Spanish and Catalan governments. Additionally, we have analysed EU's policy document regarding the Strategic Framework – Education & Training 2020 and lifelong learning. In order to show the impact of the two tools that CIFO centres use in their activity, recognition of prior learning and professional certificates, we have used published statistics of the Catalan Employment Service, in addition to the use of secondary data to analyse employment and participation rates in lifelong learning from Eurostat and INE (Spanish National Institute of Statistics) databases. Regarding the EU objective of *promotion of equity, social cohesion, and active citizenship*, we have analysed data and documentation received from two CIFO centres. Literature review and information coming from direct

observation from the visits to the eight CIFO centres complement the methodology used in this article.

Data analysis

CIFO and the RPL

As we have mentioned before, the Royal Decree 1224/2009 governs the process and the requirements for the evaluation and recognition of the professional competences acquired by the individuals through work experience or non-formal training, as well as the effects of that assessment and accreditation of competences (Spain, 2009, p. 2). In Catalonia, the RPL is carried out through *Acredita't* (the first Professional accreditation and qualification plan for Catalonia, from 2016-2018). A competence is the set of knowledge, skills, aptitudes and attitudes in order to successfully develop a series of tasks (Rodríguez, 2017b, p. 8).

The process of recognition of prior learning has three phases: **counselling**, where an authorized person accompanies and advises the candidate on whether or not to access the evaluation phase; **evaluation**, where the candidate must demonstrate their professional skills by providing evidence of the training carried out and the professional experience. Likewise, and according to the criterion of the reviewer, different methods of evaluation are used to finish accreditation of professional competencies: professional interview, simulation of professional situations, observation in the workplace and other tests of different nature; and **accreditation and registration** after successfully completing the evaluation the candidate receives the accreditation of those competences, and when he completes all the modules of a specific professional certificate he can claim it at the Catalan Employment Service (Rodríguez, 2017b, p. 9). In figure 1 we can see the requirements that the successful candidates must meet in order to apply for the

RPL, depending on the level of the qualifications they want to apply for, where 3 is the more complex.

Figure 1
Requirements of the candidates

Level 1	Level 2 and 3
Age: 18+ year-old	Age: 20+ years-old
2 years and 1200 hours of work experience	3 years and 2000 hours of work experience
200 hours of training in the last 10 years	300 hours of training in the last 10 years

Note: Authors' own in base of the information from Rodríguez (2017b, p. 8).

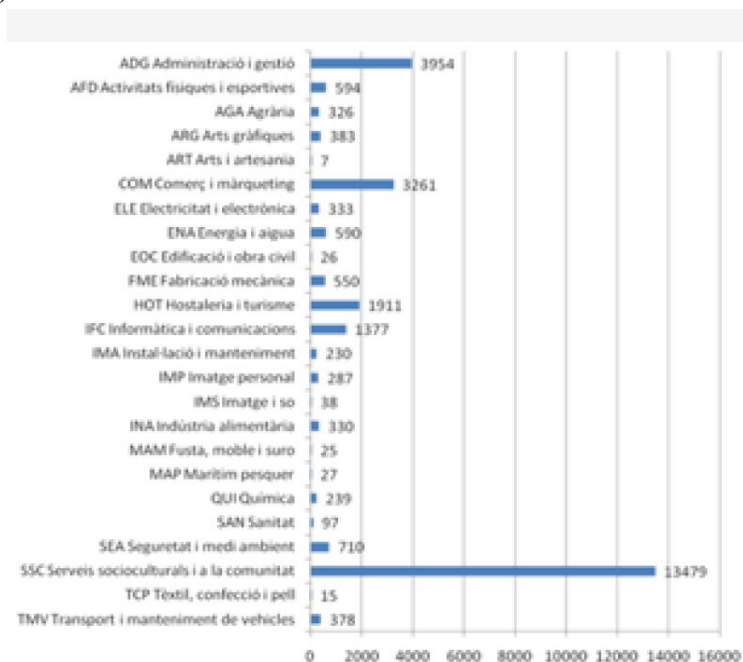
Finally, it is important to mention that there are three possible ways to obtain a professional certificate in the actual system. If we look at the data available since the beginning of the accreditation of the professional certificates through the Office of Professional Accreditation (Oficina de Certificació Professional) in Catalonia, so far, the most important way for achieving a professional certificate is through CVET training (24530 or 84.10% of the total), followed by the attainment through the recognition of prior learning, the *Acredita't* program (4561 or 15.63%). The third and last possibility, the attainment through VET (Department of Education), is so far very little used (76 or 0.26%) (Gutiérrez, 2017b, p. 9).

CIFO and the professional certificates

According to the 2016 data, for all CVET programs in Catalonia, the training was distributed as follows: 670 different specialties, from 72 professional families and 79 leading to professional certificates. Furthermore, 51.07% of the training promoted by the Consortium for Continuing Education of Catalonia (CVET for

employed people) leads to professional certificates or other types of professional accreditation. Finally, the training actions were done mostly in the classroom (88.37%), followed by telelearning (11.06%) and mixed (0.57%) (Rodríguez, 2017a, p. 5). The Office of Professional Accreditation (Oficina de Certificació Professional), which belongs to the Catalan Employment Service, has granted so far 29167 professional certificates (Gutiérrez, 2017, p. 8). Figure 2 shows that the professional families with most applications for professional certificates are: Sociocultural Services and to the Community with 13479, followed at great distance by Administration and Management with 3954, and Trade and Marketing with 3261. The least demanded professional families are: Wood, furniture and cork with 25, Textile, clothing and leather with 15, and Arts and Crafts with 7. Figure 3 shows that the professional families with most centres that offer training for professional certificates are: Administration and Management with 328, Sociocultural Services and to the Community with 245 and Trade and Marketing with 221. The professional families where there are less centres are: Arts and Crafts with 1, while Glass and Ceramics and Extractive industries have none. In Wood, furniture and cork there are eight centres while in Textile, clothing and leather there are 4. We can see that the three professional families where there have been more professional certificates applications coincide with the professional families where there are more centres that offer training for professional certificates, although the first and second places are inverted. As for the professional families with less professional certificates applications, we see that there is a mismatch, although the differences are not significant.

Figure 2
Professional certificates applications handled, by professional families



Note: Source of this graphic Gutiérrez (2017, p. 9)

Figure 3

Number of centres that offer training for professional certificates, by professional families



Note: Source of this graphic Gutiérrez (2017, p. 8)

CIFO and the ET 2020 strategic framework

‘Promoting equity, social cohesion and active citizenship’ (EC, 2009, p. 4) is the third objective of the strategic framework for Education & Training 2020. The focus is placed on promoting inclusive education, ‘ensure that all learners — including those from disadvantaged backgrounds, those with special needs and migrants — complete their education’, ‘promote intercultural competences, democratic values and respect for fundamental rights and the environment, as well as combat all forms of discrimination, equipping all young people to interact positively with their peers from diverse backgrounds’ (EC, 2009, p. 4). In this sense, some

advances have been made. CIFO have introduced teaching units on employability, gender equality -using material on harassment and gender issues prepared by the Catalan Department of Labour, Social Affairs and Family, on which CIFO depend administratively-, and environment protection related to each respective professional area. Moreover, migrants have access and do take part in these courses offered by the CIFO. The teaching units mentioned before are transversal to all of their courses and they were introduced as a request by the EU.

In Table 2 we can see a socio-demographic profile of 590 students who participated at courses offered at one of the CIFO centres, in 2014. As we have seen before, the courses offered at the CIFO target especially unemployed people, people who are in a vulnerable position in society. In this case, 75.76% of the students were unemployed, 19.66% where employed and 4.58% in other situation, at the time they began the course. Also, 6.95% of the students were immigrants. Furthermore, there is heterogeneity in terms of education level that students have achieved: 4.75% of the students had achieved Primary Education; 55.08% had some type of secondary or Pre-University level; 35.42% had a Tertiary education degree; 4.41% had Master's degree and 0.34% had Doctoral or equivalent studies (one immigrant female and one not immigrant male). Regarding the age of the students, 43.39% were between 16 and 36 years old, 38.64% were between 36 and 45 years old and 17.97% were above 45 years old. There are more students male (61.35%) than female (38.65%), and if we cross variables of gender and age, we find that both immigrant and not immigrant women that participate more are in the 26-35 age group, and the same is valid for immigrant men. Not immigrant men that participate more are those from the 36-45 age group. Finally, of these students, 33.70% of men had achieved tertiary education and above, compared to 50.44% of women. Looking at the global data in this sample, we can point out that women who participate tend to have more education level than men, and that the majority of students have

high level of education: Tertiary education and above, plus the Upper-Level Training Cycles (*Ciclos Formativos de Grado Superior*, in Spanish) represent 67.29% of the sample. The higher level of education is important because all courses have different entry level requirement, and many courses at this CIFO demand a higher level, which can lead to obtaining a professional certificate. The professional area they work at this CIFO contributes to explain why there is a relatively high number of women compared to other professional areas at other CIFO, traditionally dominated by men.

Table 2

Participation in one CIFO, by academic level, group age and legal status

Education level (ISCED 2011)	NOT IMMIGRANT								IMMIGRANT							
	Male				Female				Male				Female			
	16-25	26-35	36-45	>45	16-25	26-35	36-45	>45	16-25	26-35	36-45	>45	16-25	26-35	36-45	>45
1		0.17	0.85	0.17			0.34	0.34	0.17	0.68	0.85	0.17		0.68	0.34	
2	0.85	1.35	1.69	0.51		0.34	0.34	0.34						0.17		
3	0.51	4.58	6.78	4.24	0.85	1.69	1.02	0.85		0.51	0.17			0.85	0.17	0.17
4	2.03	4.58	6.95	2.54	0.68	5.25	3.73	0.85		0.34				0.17		
5		1.52	2.2	0.85	0.17	1.69	1.19	0.85				0.17				
6	0.68	3.9	6.44	2.37	1.35	4.58	4.07	2.37		0.34		0.34		0.17	0.17	
7	0.17	1.02	0.34	0.17	0.34	0.85	0.68	0.68							0.17	
8			0.17											0.17		

Note: Source of the data is CIFO L'Hospitalet, for 590 students, for 2014. The academic level grouping has been done by the authors in base of the International Standard Classification of Education¹¹ (ISCED). Level 1 is represented by those who have Primary Education and level 8 is for those who have Doctoral or equivalent studies. The results of the calculations were rounded in base of the milesimal, if it was 6 or above.

In what concerns the partnership with enterprises and collaborations with other stakeholders, which are mentioned in the ET 2020 framework, we have some specific examples. One of the CIFO centres reported two collaboration agreements, one with the *Gremi d'Editors de Catalunya* (Publishers' Guild of Catalonia) and another with the *Institut Català de l'Indústria Cultural* (Catalan Institute of Cultural Industries). CIFO offer the opportunity to realize internships in enterprises from the sector, organise visits to enterprises and invite enterprises to make presentations at its courses. The same CIFO reported agreements with 37 enterprises in 2014 and 33 in 2015 for internships, and organised 4 visits in 2014 and 9 in 2015 to enterprises from the sector. For the same period, another CIFO reported agreements with 7 enterprises in 2014 and 66 in 2015 for internships, organised 56 visits in 2014 and 62 in 2015, and scheduled 20 session in 2014 and 22 in 2015, with enterprises from the sector. All these activities are carried at all the CIFO from the network, although in different scale, depending on factors such as budget constraints, legal barriers, staff, territorial networks, leadership of the centre, economic agents and industry. Besides, the latest policy developments have been very recent, 2015, so most of the centres from the network were just starting to experience these legal changes.

¹¹ For more details of how ISCED is calculated refer to:
[http://ec.europa.eu/eurostat/statistics-explained/index.php/International_Standard_Classification_of_Education_\(ISCED\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/International_Standard_Classification_of_Education_(ISCED))
)

Mobility of the CVET students is another important element of the ET 2020 framework. Spain has yet to make effective its Spanish Qualification Framework for lifelong learning (*Marco Español de Cualificaciones – MECU*) (Cedefop, 2017). However, the CIFO students have the possibilities to go abroad with *Erasmus+* and other similar programs, and CIFO L'Hospitalet reported that in 2015 they sent 11 students to do internships at enterprises in Wales, Italy, Netherlands, and eight of those students received a job offer of which seven accepted it. As noted by the CIFO, the most important obstacle for this internationalization remains the English language requirement. Finally, all the CIFO have an ISO 9001 quality assurance system certification, which is displayed at the entry in each centre, and quality is another element related to the ET 2020 framework.

Conclusions

This is an exploratory study of one of the dimensions of the CVET system in Catalonia: the public CIFO network. The research on the CVET is very scarce so one of the intentions of this article is to contribute to fill in the gap and incite for more research within this scientific discipline. We have explored elements of equity, social cohesion and active citizenship that are specific to the activity of the CIFO network. We have seen that CIFO serve vulnerable groups in society like unemployed and immigrants, people with different levels of educational achievement, and they offer education in aspects related to employability, gender and environment protection, all these aspects reflected by the ET 2020 objective mentioned above. However, it can be argued that there is more work to be done in the area of social inclusiveness and democratization.

As an educational and training strategy to improve employability, CIFO offer courses leading to professional certificates and they also participate in the process of recognition of prior learning, a process related to social justice in the scientific literature, as is the case in other countries and as promoted by UNESCO (2015) or by the EU in its lifelong learning policy. Instruments such as recognition of prior learning –widening access to the education and training system, and even to the higher education for many people who have abandoned school at some point without holding a credential or for those who want to continue their studies, or giving training and skills that are useful and help individuals to find a job, improving people employability (Celaya, 2017), can contribute to individual empowerment and help in other area of their lives. As Miguel, Ornelas and Maroco (2016, p. 191) conclude that

despite the predominance of the economic perspective of lifelong learning, in times of crisis, such as we have experienced in recent years, and the predominantly economic expectations of participants, the results suggest that the impact of recognition of prior learning is primarily in terms of personal development. Personal development and empowerment are important as catalysts of individual liberties, allowing the individual to understand the options he or she can make and, therefore, promoting better choices and opportunities.

References

Agency (2013). Presentación oficial de IPR, la certificación de los ingenieros. [Official presentation of IPR, the certification of engineers]. *Dyna*, 88(4): 399.

- Andersson, P. (2008). National policy and the implementation of recognition of prior learning in a Swedish municipality. *Journal of Education Policy*, 23(5), 515-531. DOI: 10.1080/02680930802209727
- Andersson, P., & Fejes, A. (2005). Recognition of prior learning as a technique for fabricating the adult learner: a genealogical analysis on Swedish adult education policy. *Journal of education policy*, 20(5), 595-613.
DOI: 10.1080/02680930500222436
- Andersson, P., & Osman, A. (2008). Recognition of prior learning as a practice for differential inclusion and exclusion of immigrants in Sweden. *Adult Education Quarterly*, 59(1), 42-60. DOI: 10.1177/0741713608325173
- Aspin, D. N., & Chapman, J. D. (2000). Lifelong learning: concepts and conceptions. *International Journal of lifelong education*, 19(1), 2-19. DOI: 10.1080/026013700293421
- Boeren, E., Whittaker, S., & Riddell, S. (2017). *Provision of seven types of education for (disadvantaged) adults in ten countries: overview and cross-country comparison*. Retrieved from <https://h2020enliven.files.wordpress.com/2017/09/enliven-d2-1.pdf>
- Brown, J. (2017). Exploring the transformative potential of recognition of prior informal learning for learners: A case study in Scotland. *Journal of Further and Higher Education*, 41(1), 60-78. DOI: 10.1080/0309877X.2015.1062850
- Calvo-Amodio, J., Tercero-Gómez, V. G., Ramirez-Galindo, J. G., & Martínez-Salazar, I. (2014). A Systemic Analysis of Professional Certification Rates: The Case of a Six Sigma Training Certificate Program. *Engineering Management Journal*, 26(4), 13-22.

Carraccio, C., Englander, R., Gilhooly, J., Mink, R., Hofkosh, D., Barone, M. A., & Holmboe, E. S. (2017). Building a framework of entrustable professional activities, supported by competencies and milestones, to bridge the educational continuum. *Academic Medicine*, 92(3), 324-330. DOI: 10.1097/ACM.0000000000001141

Catalonia (1995). Decret 288/1995, d'11 d'octubre, de creació dels centres d'innovació i formació ocupacional del Departament de Treball. [Decree 288/1995, of October 11, on the creation of the centres of innovation and occupational training of the Department of Labour]. Retrieved from <https://dogc.vlex.es/vid/centres-innovacio-formacio-ocupacional-36565989>

Catalonia (2001). Decret 273/2001, de 25 de setembre, pel qual es creen els centres d'innovació i formació ocupacional de Sant Feliu de Llobregat i l'Hospitalet de Llobregat. [Decree 273/2001, of September 25, by which the centres of innovation and occupational training of Sant Feliu de Llobregat and l'Hospitalet de Llobregat are created]. Retrieved from https://dogc.vlex.es/vid/creen-innovacio-formacio-ocupacional-feliu-113846?_ga=2.63613675.598182933.1507647786-2130270540.1507647786

Catalonia (2002). *Llei 17/2002, de 5 de juliol, d'ordenació del sistema d'ocupació i de creació del Servei d'Ocupació de Catalunya*. [Law 17/2002, of July 5, on the organisation of the employment and creation system of the Catalan Employment Service]. Retrieved from <https://www.upf.edu/sintesi/2002/lju17.htm>

- Catalonia (2009). *Llei 12/2009, del 10 de juliol, d'educació*. [Law 12/2009, of 10 July, of education]. Retrieved from <http://portaldogc.gencat.cat/utillsEADOP/PDF/5422/950599.pdf>
- Catalonia (2010). *Decret 182/2010, de 23 de novembre, d'ordenació de la formació professional per a l'ocupació a Catalunya*. [Decree 182/2010, of 23 November, on planning continuing vocational and education training in Catalonia]. Retrieved from http://serveiocupacio.gencat.cat/web/.content/20_millorar-el-perfil/certificats-de-professionalitat/normativa/Decret182_2010.pdf
- Catalonia (2015a). *Decret 71/2015, de 12 de maig, de reestructuració del Servei d'Ocupació de Catalunya*. [Decree 71/2015, of 12 May, on restructuring the Catalan Employment Service]. Retrieved from <http://portaldogc.gencat.cat/utillsEADOP/PDF/6899/1431636.pdf>
- Catalonia (2015b). *Llei 10/2015, del 19 de juny, de formació i qualificació professionals*. [Law 12/2009, of 10 July, on training and profesional qualifications]. Retrieved from <http://portaldogc.gencat.cat/utillsEADOP/PDF/5422/950599.pdf>
- Cedefop (2014). *Terminology of European education and training policy*. Retrieved from <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4117>
- Cedefop (2017). *Spain - European inventory on NQF 2016*. Retrieved from

<http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/spain-european-inventory-nqf-2016>

Celaya, C. (2017, June). Dels “*cursillos*” per a aturats a la qualificació de les persones. [From the little "courses" for unemployed to the qualification of the people]. *Informa't*, 3, 10-12.

Clain, A. (2016). Challenges in evaluating the EU's lifelong learning policies. *International Journal of Lifelong Education*, 35(1), 18-35. DOI: 10.1080/02601370.2015.1125395

European Council (EC). (2009). *Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020')*. European Council: Brussels. Retrieved from [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528(01)&from=EN)

European Commission (2000). *Commission Memorandum of 30 October 2000 on lifelong learning*. [SEC(2000) 1832 final - Not published in the Official Journal]. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=LEGISSUM:c11047&from=RO>

European Union (2006). *DECISION No 1720/2006/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 November 2006 establishing an action programme in the field of lifelong learning*. Strasbourg: European Parliament, Council. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006D1720&from=EN>

- Eurostat (2017). *European Union Labour Force Survey*. Retrieved from <http://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>
- Garau, M. (2016, October). Sense formació no hi ha futur ni per a les empreses ni per a les persones. [Without training there is no future for companies or people]. *Informa't*, 0, 17-19.
- Greenfield, D., & Braithwaite, J. (2008). Health sector accreditation research: a systematic review. *International journal for quality in health care*, 20(3), 172-183. DOI: 10.1093/intqhc/mzn005
- Gutiérrez, M. I. (2017, March). *La posada en valor dels Certificats de Professionalitat*. [The value of Professional Certificates]. *Informa't*, 2, 8-9.
- Hamer, J. (2010). *Recognition of prior learning-Normative assessment or co-construction of preferred identities?*. *Australian Journal of Adult Learning*, 50(1), 100-115.
- Hamer, J. (2011). *Recognition of prior learning (RPL): can intersubjectivity and philosophy of recognition support better equity outcomes?*. *Australian Journal of Adult Learning*, 51(50th Anniversary Special Edition), 90-109.
- Hamer, J. (2013). *Love, rights and solidarity in the recognition of prior learning (RPL)*. *International journal of lifelong education*, 32(4), 481-500. DOI: 10.1080/02601370.2013.778074
- INE (2017). *Encuesta de Población Activa [Economically Active Population Survey]*. Retrieved from <http://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadi>

stica_C&cid=1254736176918&menu=ultiDatos&idp=125473
5976595

- Iñiguez, T., & Marcaletti, F. (2016). “We Are Not a Small Island, We Are the Ocean”. *Becoming a Student in Mature Age. An Exploratory Analysis on Italy and Spain. Research on Ageing and Social Policy*, 4(2), 56-95. DOI: 10.17583/rasp.2016.2080
- Jauhiainen, A., & Alho-Malmelin, M. (2004). Education as a religion in the learning society. *International Journal of Lifelong Education*, 23(5), 459-474. DOI: 10.1080/026037042000293425
- Kisor, D. F., Bright, D. R., Chen, J., & Smith, T. R. (2015). Academic and professional pharmacy education: a pharmacogenomics certificate training program. *Personalized Medicine*, 12(6), 563-573. DOI: 10.2217/pme.15.31
- Kleibrink, A. (2011). The EU as a Norm Entrepreneur: the case of lifelong learning. *European Journal of Education*, 46(1), 70-84. DOI: 10.1111/j.1465-3435.2010.01461.x
- La certificación profesional. Nuevos métodos para nuevos tiempos. [Professional certification. New methods for new times]. (2012). *Dyna*, 87(1), 7.
- La certificación profesional como garantía para la sociedad. [Professional certification as a guarantee for society]. (2015). *Dyna*, 90(2), 119.
- Lam, R., Lee, L., Tazkarji, B., Lee, J., Freedman, A., & Meiyappan, S. (2015). Five-Weekend Care of the Elderly Certificate Course. *Canadian Family Physician*, 61(3), e135-e141.

- Lobaco, A. (2017, September). El reconeixement de l'experiència professional en el cicle de l'aigua. [The recognition of the professional experience in the water cycle]. *Informa't*, 4, 12-13.
- Lucio-Villegas, E. (2012). What's going on? An overview of adult education policies in Spain. *Journal of Adult and Continuing Education*, 18(1), 77-89. <https://doi.org/10.7227/JACE.18.1.7>
- Luengo, A. (2016, October). Tenemos un problema. [We have a problem]. *Informa't*, 0, 13-16.
- Masi, D. A., & Carlson, K. (2015). Response to the Challenge of Training International EAP Professionals: An Online Certificate Program. *Journal of Workplace Behavioral Health*, 30(1-2), 191-208.
- Miguel, M. C., Ornelas, J. H., & Maroco, J. P. (2016). Recognition of prior learning: the participants' perspective. *Studies in Continuing Education*, 38(2), 179-194. DOI: 10.1080/0158037X.2015.1061491
- Mitchell, S., Riha, R. L., Rohde, G., & Simonds, A. K. (2017). Continuing professional development: introducing the ERS International Certificate in Respiratory Sleep Medicine. *Breathe*, 13(1), 11-14. DOI: 10.1183/20734735.001617
- Nasca, T. J., Philibert, I., Brigham, T., & Flynn, T. C. (2012). The next GME accreditation system—rationale and benefits. *New England Journal of Medicine*, 366(11), 1051-1056.
- Regmi, K. (2015). Lifelong learning: Foundational models, underlying assumptions and critiques. *International Review of Education*, 61(2), 133-151. DOI: 10.1007/s11159-015-9480-2

- Rodríguez, E. (2017a, March). La formació professional per a l'ocupació: una aproximació a la formació adreçada prioritàriament a persones ocupades. [CVET: an approach to training addressed prior to employed people]. *Informa't*, 2, 4-5.
- Rodríguez, E. (2017b, June). L'acreditació de competències professionals. [The accreditation of professional competencies]. *Informa't*, 3, 8-9.
- Rosado, D. G., Sánchez, L. E., Mellado, D., & Medina, E. F. (2015). Content related to computing security on computer engineering degree according to international professional certificates. *IEEE Latin America Transactions*, 13(6), 1951-1960.
- Sandberg, F. (2012). A Habermasian analysis of a process of recognition of prior learning for health care assistants. *Adult Education Quarterly*, 62(4), 351-370. DOI: 10.1177/0741713611415835
- Sandberg, F., & Kubiak, C. (2013). Recognition of prior learning, self-realisation and identity within Axel Honneth's theory of recognition. *Studies in Continuing Education*, 35(3), 351-365. DOI: 10.1080/0158037X.2013.768230
- Siivonen, P. (2016). Becoming an educable lifelong learning subject: adult graduates' transitions in education and working life. *International Journal of Lifelong Education*, 35(1), 36-50. DOI: 10.1080/02601370.2015.1129365
- Spain (1980). *Ley 51/1980, de 8 de octubre, Básica de Empleo*. [Law 51/1980, of 8 October, Basic Employment Act]. Retrieved from <https://www.boe.es/boe/dias/1980/10/17/pdfs/A23133-23138.pdf>

- Spain (1991). *Real Decreto 1577/1991, de 18 de octubre. de traspaso de la gestión de la formación profesional ocupacional a la Generalidad de Cataluña*. [Royal Decree 1577/1991, of 18 of October, of transfer of the management of occupational vocational training to the Generalitat de Catalunya]. Retrieved from <https://www.boe.es/boe/dias/1991/11/08/pdfs/A36096-36104.pdf>
- Spain (2002). *Ley Orgánica 5/2002, de 19 de junio, de las Cualificaciones y de la Formación Profesional*. [Organic Law 5/2002 of 19 June, on Qualifications and Vocational Education and Training]. Retrieved from <https://www.boe.es/boe/dias/2002/06/20/pdfs/A22437-22442.pdf>
- Spain (2007). *Real Decreto 395/2007, de 23 de marzo, por el que se regula el subsistema de formación profesional para el empleo*. [Royal Decree 395/2007, of 23 March, regulating the subsystem of vocational training for employment]. Retrieved from <https://www.boe.es/boe/dias/2007/04/11/pdfs/A15582-15598.pdf>
- Spain (2008a). *Real Decreto 229/2008, de 15 de febrero, por el que se regulan los Centros de Referencia Nacional en el ámbito de la formación profesional*. [Royal Decree 229/2008, of 15 February, which regulates the National Reference Centres in the field of vocational education and training]. Retrieved from <https://www.boe.es/boe/dias/2008/02/25/pdfs/A11069-11072.pdf>
- Spain (2008b). *Real Decreto 34/2008, de 18 de enero, por el que se regulan los certificados de profesionalidad*. [Royal Decree 34/2008, of January 18, which regulates the professional

certificates]. Retrieved from
[https://www.boe.es/buscar/pdf/2008/BOE-A-2008-1628-
consolidado.pdf](https://www.boe.es/buscar/pdf/2008/BOE-A-2008-1628-consolidado.pdf)

Spain (2009). *Real Decreto 1224/2009, de 17 de julio, de reconocimiento de las competencias profesionales adquiridas por experiencia laboral*. [Royal Decree 1224/2009, of July 17, of recognition of the professional competences acquired by work experience]. Retrieved from
[https://www.boe.es/buscar/pdf/2009/BOE-A-2009-13781-
consolidado.pdf](https://www.boe.es/buscar/pdf/2009/BOE-A-2009-13781-consolidado.pdf)

Tan, C. (2017). Lifelong learning through the SkillsFuture movement in Singapore: challenges and prospects. *International Journal of Lifelong Education*, 36(3), 278-291. DOI: 10.1080/02601370.2016.1241833

ten Cate, O., & Scheele, F. (2007). Competency-based postgraduate training: can we bridge the gap between theory and clinical practice?. *Academic Medicine*, 82(6), 542-547.

UNESCO (2015). *Rethinking education – Towards a global common good*. Paris: UNESCO.

Wihak, C. (2011). Prior learning assessment and recognition: emergence of a Canadian community of scholars. *The International Review of Research in Open and Distributed Learning*, 12(1), 144-150.

Chapter 3 - CIFO perspective on innovation

3.1. Innovation in the government-run Continuing Vocational Education and Training programme for unemployed in Catalonia (Spain): challenges and opportunities

Purpose: This paper offers relevant insights from the activity of the network of Centres d'Innovació i Formació Ocupacional (CIFO), analysing the development of innovation in a continuing education and training (CVET) programme for unemployed, in Catalonia (Spain).

Design/methodology/approach: This is a qualitative study, carried out using the communicative methodology approach and co-constructing knowledge with the heads of the centres. The data was collected through the realization of eight interviews with the heads of seven of the eight CIFO that compose the CIFO network in Catalonia plus the Coordinator of the network, who had been head of the other CIFO, and it consisted in identifying the barriers to innovation and the elements that help to overcome them within different dimensions of this programme, through the exclusionary and transformative dimensions, specific to the communicative methodology.

Findings: Innovation at the CIFO has three main strands where we have identified many opportunities for the CIFO: methodological, pedagogical and technological. The methodological has to do with the actions derived from the ISO 9001 certification, which gives the centres the mission of continuous improvement and satisfying the needs of the people and enterprises in the territories they serve.

Pedagogical innovation is related to the detection of the innovation and including it in the curriculum of the centre, organizing experimental training courses, using the project methodology, enhancing entrepreneurship, or introducing digital technologies in the classroom. Technological innovation is related to the use of the latest technologies and equipment in the market.

Social Implications: This study opens new venues for research in the area of VET, CVET and lifelong learning because of its implications in adjusting education and training to the requirements of the labour market and improving students' employability and helping them develop or design their personal projects and professional trajectory. The processes described in this article could be transferred to other contexts and in all types of activities or initiatives in lifelong learning.

Originality/value: This study contributes to fill a gap in the scientific literature, because innovation in the area of continuing vocational and education training and even in lifelong learning is scarce. Another contribution of this article is the focus on innovation, which is one of the main priorities for the EU in the area of Education and Training, and also in the US, because of its contribution to economic growth and competitiveness.

Keywords: Innovation, CIFO, CVET, lifelong learning, Communicative Methodology

JEL codes: O3, O31, Q55

1. Introduction

The pressing demands for a more educated workforce caused by the global economy in the United States (Kallison, 2017) exist also in the European Union (EU) (Lundvall & Rasmussen, 2016). At the same time, the literature observes that in the area of Adult Learning and Education there is a trend consisting in favouring educational initiatives related to VET, due to its incidence in economic growth and competitiveness (Boeren & Holford, 2016), a similar phenomenon also observed in Spain (Lucio-Villegas, 2012). As a response to these phenomena, the EU established four objectives for education and training systems within the lifelong learning perspective, that the Member States (including Catalonia as part of Spain) should implement by 2020 and one of them is ‘enhancing creativity and innovation, including entrepreneurship, at all levels of education and training’ (European Council, 2009, p. 3). So far, research has mostly focused on the innovation on the VET formal educational systems, in different national or comparative contexts. For a comprehensive review in this field see Toner and Woolley (2016); there are also significant contributions from the European Union (Cedefop, 2015) and in Spain, examples from Basque Country (Porto, Zabala-Iturriagagoitia & Larrakoetxea, 2017; Albizu, Olazaran, Lavia & Otero, 2017) or Catalonia (Brunet & Rodriguez-Soler, 2014).

What the scientific literature calls continuing professional education (CPE), ‘where trainings often build on knowledge initially developed through higher education’ (Stummann, 2014, p. 323), and the continuing vocational education and training (CVET) for unemployed (also called *occupational training*) are integrated at the legislative level in one education and training system in Catalonia, although they each have different funding channels. The focus of this study is on the CVET for unemployed, which is a part of the Adult Learning and Education (and implicitly, within the lifelong learning) concerned with the education or training of individuals

after they complete their compulsory education or enter the working life (Cedefop, 2014). The government-run CVET programme for unemployed in Catalonia analysed here seeks to increase the employability of the unemployed by offering free training courses in skills demanded in the Catalan labour market. In contrast to CPE, little research has been done on CVET for unemployed, on innovation, or how can innovation be introduced in different education and training systems, especially in the case of CVET which, as in the present case, is not part of the formal educational system, but instead it is developed under the Labour authority of the Catalan Government. Thus, the objective of this article is to contribute to the field of knowledge regarding innovation in the lifelong learning through the study of the CVET government-run programme for unemployed in Catalonia, bearing in mind that our findings can be transferred to other initiatives or activities in lifelong learning.

2. Literature Review

Lifelong learning is a contested field of research and it is beyond the scope of this article to dwell on the different perspectives and conceptualizations of it. Suffice it to say that the CVET programme for unemployed that we study here is a non-formal education programme, part of the lifelong learning, and that the EU, co-founder of this programme in Catalonia, defines lifelong learning as ‘all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective’ (European Commission, 2001, p. 9). EU is among the most important advocates of innovation, and it does so through its lifelong learning policies, such as the EU 2020 ERASMUS + programme (Ehlen, van der Klink & Boshuizen, 2016).

CIFO network is part of the Catalan Employment Service, within the Labour, Social Affairs and Families Department. As noted by Mulgan and Albury in 2003, and quoted by Durrani (2007, p. 190), innovation has the potential to improve the overall action of the public sector by improving performance, efficiency and meeting citizens' needs:

Innovation should be a core activity of the public sector: it helps public services to improve performance and increase public value; respond to the expectations of citizens and adapt to the needs of users; increase service efficiency and minimise costs.

Sauer (2011, p. 70) considers that innovation and learning are inseparable: 'innovation is unthinkable without lifelong learning; innovation and lifelong learning are two sides of the same coin'. Furthermore, this author sees work that conduces to learning as fundamental for the development of the innovative capacity and also to advance to the knowledge society. Moreover, in the context of the knowledge society there is a high demand for new qualifications in emerging or innovative economic sectors (Guimarães, 2012). The new training or new qualifications are related to improving production and innovation, and learning linked to innovation can have an impact in the motivation of individuals to participate in the lifelong learning (Janssens 2002). Sauer (2011, p. 75) also notes that 'traditional continuing education' is involved on an exceptional basis in incremental innovations while it is more involved in establishing instant innovations. Piercy (2010), claims that in order to be innovative, lifelong learning needs the government to support innovation.

Jackson (2010) argues that pedagogic challenges can be used to develop innovations in lifelong learning, if they 'develop new

cultures of learning, finding ways not only to recognise the power relations embedded in constructions of knowledge and of learning, but also in finding ways for teachers and learners to resist and reclaim them' (Jackson, 2010, p. 7). Accordingly, the innovative pedagogy for lifelong learning (Jackson, 2010) consists in shifting the learning from a 'human capital model' of lifelong learning to a 'humanistic model' (Regmi, 2015). Nonetheless, Jackson (2010, p. 8) notes that lifelong learning 'at its best' can help individuals achieve, at the same time, the goals contained by the two models. For the EU, an innovative pedagogy consists in placing the individual at the centre of the educational process: 'a shift from "knowledge" to 'competence' and from teaching to learning, placing the learner at the centre' (European Commission, 2001, p. 23), and the use of methodologies such as work-based learning, project-oriented learning or "study circles" (European Commission, 2001). Renta, Van den Bossche, Gijbels and Fandos (2017), note other elements of pedagogical innovations used in vocational education, such as simulations, visit to companies or internships.

As mentioned in the introduction, the fourth objective of the Strategic Framework for European cooperation in education and training ('ET 2020') is related to the promotion of the innovation in all type of education within the lifelong learning. The EU acknowledges innovation as a driver of sustainable economic development and an important factor for economic competitiveness internationally (European Council, 2009). The EU establishes two priority areas for this objective: the acquisition of transversal key competences (digital, learning to learn, entrepreneurship, cultural awareness); and the development and functioning of a knowledge triangle between education, research and innovation, which includes partnerships between enterprises and education and training at all levels in order to address the skills and competences needed in the labour market and foster innovation and entrepreneurship (European Council, 2009). Lastly, the EU recommends the

involvement of representatives of civil society and other stakeholders in order to create a climate favourable to creativity and meeting individual well-being, the professional and social needs (European Council, 2009).

One last contribution of the scientific literature regarding lifelong learning builds upon the use of the technology in education and training. Some of these examples are the MOOCs (Steffens, 2015) or distance learning and e-learning (Regmi, 2015). Billon, Lera-Lopez and Marco (2017), consider that the use of the digital technologies has a high potential for innovation. However, Elfert (2015) recalls the concerns manifested in the Faure report, related to the dehumanisation and standardisation of the individual behaviour as a consequence of the technical change and emphasises the role of imagination and creativity in order to preserve human freedom. Finally, political action is called to a continuous update of the education in order to include the new features and developments of society and democracy:

the aim and content of education must be re-created, to allow both for the new features of society and the new features of democracy. For these reasons, the commission stressed the fact that education must be regarded as a domain where political action is of especially decisive importance (Faure et al. 1972, xxvi).

3. Communicative Methodology

Communicative Methodology is well established both at the European Union and international scientific levels. It draws on the contrast between the knowledge, reflections and the interpretations

of the people who are involved in the phenomenon that is being studied, with the knowledge, reflections and interpretations of the academic community, in order to enable social change (Gómez, Puigvert & Flecha, 2011). The product of the egalitarian dialogue between these two types of knowledge is a new scientific knowledge adapted to the specific problems that the individuals are dealing with and it includes proposals to address these problems (Gómez, Puigvert & Flecha, 2011). In our study of the relationship between CVET and innovation, the use of the communicative methodology is necessary because the huge gaps in the scientific knowledge in this area demands for the co-construction of knowledge with the stakeholders who have experience in this activity. Besides, the data analysis was carried out using the perspective of the communicative methodology, which means identifying the exclusory and the transformative dimensions in the discourse of the participants. With this qualitative study we intend to analyse the challenges and opportunities to innovate in the CVET in Catalonia, being aware that the proposals identified here can also be applied in other contexts.

3.1. Data collection

This study has been carried out in 2016, within the framework of a competitive research project on the VET system (formal education) and innovation. The data was collected through the realization of eight interviews with the heads of seven of the eight CIFO that compose the CIFO network in Catalonia plus the Coordinator of the network, who had been head of the other CIFO (Table 1). Seven of the interviews were audio recorded and notes have been taken from one interview, respecting the request of the interviewee. The fieldwork coincided with a period of transition, because all the CIFO were going through a process of change, including at the leadership level, due to legal modifications started in 2015 in

Catalonia. Even the coordinator of the network was in the middle of the power transfer to the new head of one of the CIFO at the moment of the interview, so she could talk both about the CIFO and the network coordination; furthermore, at one of the centres, both the current and the former head of the centre participated at the interview. The interviews were realised following a communicative approach, using dialogue in order to reflect and understand aspects of the present and of the future, and how the person resolves specific situations in the daily life of the centre, in relation to innovation (Gómez, Latorre, Sánchez & Flecha, 2006).

Code	Date
CF16ACUP01	February 2016
CF16ACUP02	February 2016
CF16ACUP03	March 2016
CF16ACUP04	March 2016
CF16ACUP05	April 2016
CF16ACUP06	April 2016
CF16ACUP07	April 2016
CF16ACUP08	April 2016

Figure 1. Interviews with the Directors of 7 CIFO and with the Coordinator of the CIFO network, in Catalonia (Own elaboration)

3.2. Data analysis

The guidelines for the interviews that we used were elaborated for the project mentioned above, in base of the literature review on innovation and VET centres. During the first interview these guidelines were adapted to the study of the CIFO, in a collaborative and dialogic approach with the interviewee, and we used the new guidelines for the rest of the interviews. In these new guidelines four categories of analysis emerged, that explain the relationship between CIFO and innovation, as we can see below in the columns; in the rows, the transformative and exclusionary dimensions (Table 2). *Autonomy* refers to the organizational factors that limit or enhance CIFO capacity to innovate. *Pedagogy* refers to the elements that limit or enhance CIFO curriculum to innovate. *Innovation* refers to the obstacles and elements of direct innovation introduced or developed by the CIFO. *Collaboration* refers to obstacles and elements of collaboration between the CIFO and other stakeholders, for innovation.

Thus, we analysed the four categories related to innovation, which resulted from the script used in the interviews, using the exclusionary ('the elements that contribute to the social problem analysed') and transformative ('elements that contribute to overcome the barriers behind the problem explored') dimensions (Pulido, Elboj, Campdepadros & Cabre, 2014, p. 892), which represent one of the unique contributions of the Communicative Methodology. First, the interviews were transcribed entirely and after that the information was regrouped in base of the four categories. Second, within each category, the information was grouped as an exclusionary or transformative dimension depending if it represented an obstacle or an element that allowed to overcome an obstacle, respectively. Third and last, the information included in the article was selected following several criteria: include the voices

of as many centres as possible; relevance to the topic; richness of the information, and diversity of examples. The selection of the information was done one by one, highlighting the text of the transcripts and using numeric codes, following the postulates of the communicative methodology. Thus, the squares with numbers represent the cross between categories and dimensions, and their purpose is to classify the information when we analysed the transcriptions (Gómez, Latorre, Sánchez & Flecha, 2006, p. 102). For example, when we found an element that enhances innovation in the transcriptions, we highlighted the phrase or paragraph and put it under code “6”; thus, code “6” contains all the references to elements that enhance innovation at the CIFO.

Dimension\Category	Autonomy	Pedagogy	Innovation	Collaboration
Exclusionary dimension	1	3	5	7
Transformative dimension	2	4	6	8

Figure 2. Analysis matrix (Own elaboration)

4. Results

The CIFO have the same work methodology and thus, they operate in the same way which means that the results that we present in this article apply to all CIFO, although the quotes may come from one or two centres. There are two types of centres in the CIFO network in Catalonia: six CIFO (CIFO La Violeta, CIFO Sabadell, CIFO Santa Coloma de Gramenet, CIFO Salt, CIFO Tarragona, CIFO Lleida) and two CIFO who are also National Reference Centres (NRC) for Spain (CIFO L’Hospitalet de Llobregat, CIFO Sant Feliu

de Llobregat). NRC have more autonomy, financial resources and staff than the rest of the CIFO, but also have additional responsibilities towards Spain.

CIFO function in the same way because they are part of the public administration and because they have the ISO 9001: 2008 certification. ISO 9001 is a standard that establishes the requirements for implementing a quality management system - 'how an organization can meet the requirements of its customers and other stakeholders affected by its work' (ISO, 2015a, p. 2), and continuous improvement is its core philosophy. The CIFO are in process of adjusting to the ISO 9001:2015 version, which implies that they should open more to the society, because in a globalised context 'there are increased expectations from customers and other interested parties and, with more access to information, today's wider society has a stronger voice than ever before' (ISO, 2015b, p. 3). Innovation is a very important part in the CIFO work philosophy. As one of the interviewees put it:

Innovation, I think is good because you always get ahead of what the market demands and then the people we train in this way will always have more opportunity to find a job.
(CF16ACUP04)

4.1. Autonomy

4.1.1. Exclusionary dimensions

The first exclusionary dimension is related to the nature of the CIFO who are part of the public administration, and as such is ruled by the administrative law and the bureaucratic procedures. This fact causes disruptions in the normal functioning of the centres in terms of budgets approval (which affects the scheduling of the courses), provision of materials or improvements in infrastructure. Moreover, the public administration in Spain and in Catalonia suffered from budget cuts and political instability starting from the economic crisis in 2008 and this has also affected the CIFO.

The main barriers are those caused by the *Generalitat* itself. Because of the way it works. Because we depend on budgets [...]. Then, these budgets have to be approved and until they are approved, we cannot start courses. I would consider this to be the main problem [...] we have. (CF16ACUP07)

The second exclusionary dimension is related to the staff and the experts that work at the CIFO. The heads of the centres demand staff with the technical expertise in the respective professional fields of each CIFO, a strategic training of the staff oriented towards the activity carried by the CIFO, and more staff for the management of the centre. These issues affect less the two NRC, because they do have more staff.

[This centre] has been created with highly specialised staff and people. [...] and these people, became, in a certain moment, civil servants. And then, of course, CIFOs always

had specialists inside. What happens is that of course, they are retiring and those of us who have been coming were not of that branch anymore. The civil service has been much stricter. [...] in the CIFO we have a lot of workshops. And a workshop is a very big responsibility, and the knowledge of the machinery. For people like us, with our profile, is difficult to reach a level of understanding and expertise that have these people, you know? (CF16ACUP03)

Moreover, the process of finding the experts is often challenging for the centres because of the scarcity of candidates who meet all the requirements established by the administrative procedure.

A person who works in the town hall or who works in the county council, or who works [...] who is a good professional, well, we cannot, because he already has a contract with the administration. [...] We can only take people who form the private company. (CF16ACUP06)

4.1.2. Transformative dimensions

One transformative dimension is the importance of the students' satisfaction for the CIFO. For this reason, the CIFO introduced a supplementary satisfaction survey during the first half of their courses, in addition to the compulsory survey at the end of the courses. The purpose of this intermediate survey is to detect anomalies or improvements that can be introduced in the specific course. Thus, these surveys are a tool continuous improvement in these centres. Through these surveys, the centres can address specific course issues such as mismatch between theory and practice, delay or lack of supplies or materials, and even poor

performance of the experts (i.e. teaching staff) who, exceptionally, have been dismissed because of it.

[...] we saw that [with] this satisfaction survey at the end of the course we could not introduce elements of improvement if they were detected, if students had detected or if it was necessary on a forecast that we had made. [...] Then, it gives us much data in order to introduce those improvements that we detect, if there has been a minimum variation on the design that we have done and on that course. (CF16ACUP01)

A second transformative dimension is the selection of the experts, the term used for their teaching staff, because experts are an important asset for the centres and they can contribute to an up to date knowledge transfer from the private sector to the training in the CIFO. According to the administrative law the CIFO have no permanent teaching staff, so they initiate a new process for hiring each year. There are many requirements that the successful candidates have to meet in order to be selected and among these criteria, they are valued for their work experience in the private sector.

Of course, not having them implies that the development work that someone could do is not there, but it also means that everyone who enters new, their job in the future is at stake depending on how the course ends. According to the evaluation that we have in place, people put the enthusiasm and we can incorporate new technologies because we do not depend on training the expert so that s/he can teach it after. (CF16ACUP02)

If they see that a professional certificate is already outdated, [...] it's a matter of making a proposal, make the corresponding reports and restructure the 'X' certificate so that it can be adapted to the labour policies of [...] because they evolve a lot. (CF16ACUP05)

There are two possible ways of hiring staff: publishing a public offer, through the Employment Offices of the Catalan Employment Service, or looking up for experts (for example, using LinkedIn) or hiring a company that can provide this training. In both cases, the experts have to meet the criteria established by law. When they hire companies to do the training, CIFO can also hire materials or technology and this is another transformative dimension.

for example, in the CIFO that does multimedia they do it a lot. Because of course, being up to date with all the multimedia material would be impossible. Because what you use this year by the next it would be something else. Then they do it a lot. They do courses; they hire the company plus material. (CF16ACUP07)

Some of the interviewees expressed their hopes that the changes the CVET system in Catalonia is experiencing will be positive for the CIFO, because it may streamline administrative procedures, give CIFO more economic and autonomy, such as the possibility of offering services to the enterprises and charge money or equipment for that, or hiring more staff. If these changes will take place it would be another transformative dimension for the CIFO.

4.2. Pedagogy

4.2.1. Exclusionary dimensions

As an exclusionary dimension, some of the interviewees highlight that the low educational level of the students is a problem for the implementation of the curriculum. The courses that lead to professional certificates require entry levels that correspond to the level of formal education attained. Those who do not meet these formal education entry levels have the possibility to take an exam at the CIFO, which consists of language and mathematics tests. The problem with these tests is that the users do not receive the contents that will be tested, thus they cannot prepare it and many of them fail. However, for these people there is the option to take other courses that are more suited and present to these exams as many times as they want. There is also a problem with the foreign language competences, which is one of the obstacles to their participation in internship programmes such as Erasmus.

The problem in this country is that there are many people at the top, with a university education, few people in the middle, technical specialists, and many people without qualifications. It is very different from what happens in Germany. That the intermediate part is greatly enhanced, the part of low qualification is not enhanced so much. (CF16ACUP06)

One of the interviewees mentioned the ‘19th century’ mentality, another exclusionary dimension, that approximately half of the

students have in the audiovisual field; these students focus on acquiring diplomas and wait to be offered the perfect job.

Then there is another 50% that continue in the 19th century, I would say. These people are waiting for an opportunity. [...] Of course, these people are the people who have many problems, because they do not understand where they are. It is not a matter of doing more Master degrees, or more courses, or that you show that you master many more programmes. You are the problem! The fact that you do not see is you who has to move and not wait for someone to arrive some day and make you the offer of your life. Because that offer will never come to you. (CF16ACUP02)

In some cases, these internships raise barriers both to the centres and the students. Interviewees explain that sometimes is hard to convince companies of the utility of receiving students in internships; as for the students, they do not receive an economic retribution for their work and, sometimes, it can imply changes of attitude, like learning or returning to the discipline that exists within a company, and this is an exclusionary dimension.

It is difficult for the company also, because to make the company see that it is an investment in the long run, that providing the company with trainees is not a waste of time, it is not that you have to be on top of this person and you have to "teach him" [...] but these are people who come to you with some competences, that come to you with a [working] methodology, perhaps not that of the company, loaded with vices throughout the years, but ours already come with a methodology of professional certificate. Of course, to the student you also have to explain that these are internships [...] that is not a work relationship. That these are not paid internships. And there are sometimes attitudinal issues that need to be modified. (CF16ACUP01)

A final exclusionary dimension is that the flexibility of the scheduling is not absolute. The equipment that some CIFO have is very expensive and thus it limits the possibility of change of the curriculum.

I have an equipment, therefore, I will have to maintain that equipment, but I have it there. I cannot transform a workshop and say: now I am going to do photovoltaic. Ok, now what do I do with all this? We have to think about the equipment that we have, the spaces we have. And, within that, we can move in the business world within our possibilities. (CF16ACUP06)

4.2.2. Transformative dimensions

The choice of the curriculum is mainly oriented towards the unemployed and it uses a set of tools in order to improve the employability of students. These tools, are a transformative dimension because it maximises the use of the resources, and it includes: data and tools of the Catalan Employment Service (Labour Market Observatory; *Feina Activa*, an internet website for job seeking; demands they receive from the companies; data from their Employment Offices, citizen demands), prospective studies and data of the labour market facilitated by the Spanish Ministry of Labour and Social Security, students, local roundtables with economic agents from the region where the CIFO can participate, InfoJobs portal.

Why [from the students]? Because they are qualified people that come from the sector. Because these are people who

move; they have a clear idea about what is needed; who have to do a course and want to do this 3D stuff, or because they have a project. [...] Moreover, we try to follow the technological market, how is evolving. (CF16ACUP02)

CIFO have an advantage because their training is practical and sometimes they work with the latest technologies or equipment in the market and they create an enterprise environment to help students acquire working discipline.

People who are engineers, who have done engineering in the polytechnic or in any other university, and the equipment that we have here they do not have it polytechnic. Besides there have been people who had done engineering or Upper Grade Vocational Education and Training Cycles [the highest instance in the Spanish formal VET system], they come or request here the ... or maybe they say 'I just want to do the CATIA module, or NX, which is also in design'. Why? Because they did not study it at the [university]. (CF16ACUP05)

Of course, the environment we have here is an that of an enterprise. That is, discipline in schedules, discipline in materials, discipline in the machines, trying to use them correctly, facilities are part of the same. (CF16ACUP07)

Another transformative dimension is the use of the project methodology. Students have to complete a project by the end of the course in order to complete their training, and this stimulates their creativity and problem solving skills, because they face real life

situations. At one CIFO they have noticed that many students would not show up the last day of the course when they had to present the project. In order to solve the problem they have included in the courses sessions where they encourage students to make a public presentation to the rest of the class, where they have to explain their project, and they have also made the evaluation criteria more transparent to the students.

They will not explain to you how an illustration is made, no, you are going to illustrate a [...] book. This book you will illustrate it. Use the technique you want, but think about it, do a briefing, explain, and then you will explain it to all your colleagues and the people who have come to see the exhibition. You are going to take something that you have done [from the course]. Here we do not do written exams [...] here you make your product, you are evaluated, you take it and goodbye. (CF16ACUP02)

CIFO have some degree of flexibility and this is a transformative dimension because, on occasions, they are able to change the professional field.

Naturally, when the construction falls, it has a very sudden fall, logically, us where we turn to our programming [curriculum]? To sectors that emerge, sectors that need it. [...] We could not be forming more personnel in construction and public works because it would create more unemployment, and not to provide skills to people that the market required. [...] we strengthened more everything that is the area of sustainability and environmental management, with everything that was waste treatment, biocides treatment, harmful organisms ... why? Because even the

norms, European directives required that all personnel working in biocides have to be accredited. Naturally, if they have to be accredited you have to give them training; you have to provide them with training. We are the only [CVET] centre that conducts courses on the management of harmful organisms or the application of biocides. (CF16ACUP01)

Regarding internships, a transformative dimension is that at one of the CIFO they encourage students to find their own arrangements according to their own interest and field that they would like to work. If they have a clear idea, about what they would like to work, they can be offered a list of companies and they are encouraged to contact and present themselves to these companies, and many students do that. However, this differs from one professional field to another. The innovation opportunity during the internship also depends on the professional field or type of enterprises.

students who have gave us feedback afterwards, tell us that yes, 'I go to that company and the method of work was still this and I explained that here at the CIFO I learned this way, and also the professional certificate includes it. [...] Yes, they liked it [...] There are companies that are more open, and that give student more autonomy. There are professional qualifications that also admit it more. Others do not. [...] Where there is a UNE norm or ISO norm, there you cannot ... It is not that you cannot innovate, it is just that the procedure is established in one way and you cannot introduce any type of modification. (CF16ACUP01)

4.3. Innovation

4.3.1. Exclusionary dimensions

The main obstacles for innovation in training at CIFO are the lack of equipment and of staff (less in the case of the NRC) and a lack of coordination between the providers of VET and CVET.

If you create it [innovation], it would be fantastic. It would be fantastic but we do not have the means for creation, we do not have enough methods or means or enough staff and we would have to do a huge research study here. And we do not have it. Because the staff is very scarce. The reality is that it is very scarce. (CF16ACUP01)

We work pure and core innovation aspects in our field. On training and innovation is more complicated. [...] one thing that is missing in this country is to clarify the map of resources. Who does what? Because in the end everyone does everything. And that means that nobody is doing anything. (CF16ACUP02)

4.3.2. Transformative dimensions

One transformative dimension is the detection of the innovation in the market, and introducing it in the specific professional trajectory by setting up experimental courses, in the curriculum they offer at the CIFO.

Experimental means that you experiment for two years. [...] it is not a [professional] certificate, obviously. It is our course. [We look] if the citizenship is interested in it and see the level of satisfaction of those students. We also look at the level of job insertion. (CF16ACUP03)

The use of technical sessions or professional visits are another transformative dimension because they constitute a transfer of innovation in a completely altruistic and free way, and is also a tool to detect innovation.

complementary activities, it means that companies come here to do an activity and that activity is based on the demonstration of their products so that we are at the latest in products and our students see the latest, what the company uses, the latest that is in the market, as well as that a company comes and exposes us in a concrete course a new method or a new methodology of work or application of its product. This is very important because the company, at the same time, diffuses its products and we, at the same time, know them. (CF16ACUP01)

Another transformative dimension at one of the CIFO is the commitment to introduce the technology as a pedagogical tool. On the one hand, they are planning to introduce online distance training (i.e. MOOC), so that people from all over Catalonia can enrol in their courses. On the other hand, they want to introduce technology for the online distance training, using computer software.

Training of mechanics, printers, welders, in any field. [...] We will have to create training interfaces and create simulators ... of course, a simulator also requires an interface and flexibility, and to be accessible to people and that this whole world is going to start opening. It is already open but

it will open much more. The issue is [...] using the audiovisual technology that already exists: with an *After Effects* you can make *The Lord of the Rings* and you can do the disassemble of a machine marking with colours the different phases and how to make the disassemble and how they enter and how they stop entering. The tool is the same. (CF16ACUP02)

At another CIFO they are using webcam technology to create mixed teams with students from Quebec, for working on a project, for their transportation course.

We have an agreement with Quebec and our students will work with students of a Quebec institute to do a project. Yes, to do a joint project [...] we decided to do it then, via internet. With webcams, [...] try to relate two plus two or one plus one teams. [...] A final project [...] to set up a transport network, to carry merchandise. (CF16ACUP03)

Finally, some CIFO offer entrepreneurship or business creation courses. For these courses students are required to have already prepared a business idea or a project and during this course they get the help to advance or start with it. Moreover, at one of the CIFO specialised in audiovisual they have one transformative practice that consists in allowing students to borrow material and use the facilities for their own projects a year after they have finished a course.

Here, for example, to everyone who finishes a course, we leave them material for a year. We leave them cameras, tripods, the set ... that is, they can come here to do a project and they can come without problem. As long as it does not affect the formative terrain [CIFO courses], we leave it to them to do their projects. (CF16ACUP02)

One interviewee considers that the local administration should get involved and create a network, at least at an informal level, where they can bring together the heads of the centres that offer VET and CVET and getting to know each other and what are they working, and establish the ground for collaboration between them. He gives the example of creating a platform for debate with the purpose of rationalizing investments and sharing resources between the VET and the CVET centres, which would be a transformative dimension.

At least know what the other does. [...] and at least we get together and at least look at rationalizing investments. Because this is expensive as hell. Because of course, in the end, we all end up buying the same thing [...] material, simply material [...] a 4K camera can cost you €150,000, okay? [...] well it can be bought and start to rent or borrow, and keep it circulating. Things like that. Not to buy all the same and have all the same gaps. At least, set up a discussion forum and then, everyone can buy what they want. But, at least, let everyone know. Because, depending on the area we are all super equipped, we have material that is left over and then there are areas that no one enters. (CF16ACUP02)

4.4. Collaboration

4.4.1. Exclusionary dimensions:

The main obstacles to the collaboration with enterprises are the legal obstacles. Due to the fact that CIFO are part of the public administration there are many limitations regarding their

collaboration with private enterprises and other stakeholders. This situation could change when the new legislation regarding CVET will be effective. For example, the VET centres in Catalonia belong to the Education Department and have more autonomy than the CIFO centres who are under the Labour Department, as one of the directors says it:

We do not ... if we were a centre with economic or financial autonomy ... an IES [high school, in Spain] has financial autonomy or economic autonomy. We do not have any kind of economic or financial autonomy. We cannot agree directly to the assignment or consideration of something, we cannot do it directly. (CF16ACUP01)

4.4.2. Transformative dimensions:

A transformative dimension is establishing a direct collaboration with enterprises and other stakeholders for training and innovation, which is a competence that only the CIFO who are also NRC have. One example is of one of these centres setting up an up-to-date training process with the material provided by one company and then this company could train its workers into this new process and the equipment remained at the CIFO. The CIFO that are also NRC also collaborate with professional associations, university experts and other stakeholders in the field (specialised centres, foundations), for the elaboration and revision of the professional certificates, or the impartation of training courses.

Now, for example, I want to set up this year a course that is devoted to the production of audiovisuals, which is also a lack, that people need to know how to make a production [...] and for this we want it to be taught by the Producers

Association of Catalonia. We are going to contact them. They are people who can teach this course, well we look for resources, we hire and you set it up. (CF16ACUP02)

One of the interviewees was talking about a new model of CIFO that the Catalan Employment Service wants to implement, a CIFO more open that instils more confidence in civil, business and professional institutions so that there would be a little more correspondence and collaboration with the society.

5. Discussion

The results show that many of the elements identified in the literature are implemented at the CIFO. Thus, we have seen how the ISO 9001 enhances innovation that improves the overall action of the public sector (CIFO) by improving performance, efficiency and meeting citizens' needs, pointed out by Mulgan and Albury. We have also seen how CIFO seek for emerging or innovative economic sectors mentioned by Guimarães (2012), in order to improve the employability of its students. Furthermore, as Sauer (2011) noted, CVET do not produce but it detects and establishes innovations, and as argued by Piercy (2010), the innovative training is supported by the Catalan government and by the EU. The innovative pedagogy developed at the CIFO do not respond exactly to what Jackson (2010) model, although VET can arguably develop transformative learning (Kilminster 1997).

In the EU, innovation is important in formal or non-formal education from the lifelong learning approach. The innovative

pedagogy developed at the CIFO corresponds more to the model promoted by the EU: placing the learner at the centre, using work-based learning, project methodology, working transversal competences, such as entrepreneurship, doing research and collaborating with the university and other stakeholders (European Commission 2001; European Council 2009), creating environments and simulating real work situations, organizing visits to companies and internships (Renta, Van den Bossche, Gijbels and Fandos 2017). Finally, it also incorporates technology in the classroom (Regmi 2015; Steffens 2015).

Innovation at the CIFO has three main strands where we have identified many opportunities for the CIFO: methodological, pedagogical and technological. The methodological has to do with the actions derived from the ISO 9001 certification, which gives the centres the mission of continuous improvement and satisfying the needs of the people and enterprises in the territories they serve. Pedagogical innovation is related to the detection of the innovation and including it in the curriculum of the centre, organizing experimental training courses, using the project methodology, enhancing entrepreneurship, or introducing digital technologies in the classroom. Technological innovation is related to the use of the latest technologies and equipment in the market.

At the same time, we have also identified the most important challenges that CIFO face: legal limitations as a part of the public administration, bureaucratic procedures, budget cuts, staff shortage, low-educational level of part of the population, individual and company mentality, lack of collaboration between the CVET and the VET and reduced collaboration with enterprises.

6. Conclusion

The objective of this article was to fill a gap that we identified in the scientific literature, namely the relationship between innovation and CVET, as a part of lifelong learning. We have done so by examining a CVET programme for unemployed in Catalonia in two ways: interviewing the heads of the CIFO, who implement this CVET programme, and analysing the data using the transformative and exclusionary dimensions in order to highlight the opportunities and the challenges that these centres face in order to innovate.

One of the interviewees was saying that the innovative philosophy is one strength of the CIFO and its application is enhanced because all centres apply the same working methodology inspired by the ISO 9001 norms, which has continuous improvement, stakeholders' satisfaction and participation as key elements. Thus, the opportunities that CIFO have for innovation stem from this core philosophy which connects to their mission to tackle unemployment, by detecting or foreseeing the economic needs in their territory and offering relevant courses to match these needs. For this purpose, the relationship and collaboration of CIFO with the educational, social and economic actors in their respective territory is key and it should be enhanced further.

CIFO centres are part of the public administration and, as all interviewees point out, many of the challenges that the CIFO face could be overcome if the legal changes that are taking place in the CVET system will give them more autonomy, or at least bring them at the same level with the NRC. CIFO face challenges that are specific to the public administration. For example, CIFO depend on the yearly approval of the budgets of the *Generalitat* (the Catalan Government), they have suffered the cuts in the public sector or their collaboration with the private sector is very limited. The

interviewee note that there is a will from the public administration to change this situation but the process is very slow and complex, and highly depended on the political arena. One of the interviewee mentioned one achievement in this aspect: the CIFO were not able to start their activity before the budget was approved and this was causing big delays and loss of potential for the centres; starting from 2016 the CIFO will start introducing biannual programming of their courses (note from the interview CF16ACUP08), therefore they will be able to maintain their activities and leverage their potential.

This study opens new venues for research in the area of VET, CVET and lifelong learning because of its implications in adjusting education and training to the requirements of the labour market and improving students' employability and helping them develop or design their personal projects and professional trajectory. It is also necessary to analyse the impact of these types of programmes and their transferability to other contexts.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

This study has received support from the Associació Catalana d'Universitats Públiques (ACUP) and Obra Social La Caixa 'RecerCaixa', grant 2014ACUP0077.

References

- Albizu, E., Olazaran, M., Lavia, C., & Otero, B. (2017). Making visible the role of vocational education and training in firm innovation: evidence from Spanish SMEs. *European Planning Studies*, 1-19.
- Billon, M., Lera-Lopez, F., & Marco, R. (2017). Patterns of Combined ICT Use and Innovation in the European Regions. *Journal of Global Information Technology Management*, 20(1), 28-42.
- Boeren, E., & Holford, J. (2016). Vocationalism varies (a lot). A 12-country multivariate analysis of participation in formal adult learning. *Adult Education Quarterly*, 66(2), 120-142.
- Brunet, I., & Rodriguez-Soler, J. (2014). Vocational Training and innovation: Research on Innovation Transfer between VET Schools and Enterprises. *Revista de Educació*, 365, 177-201.
- Cedefop (2014). Terminology of European education and training policy. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4117> [consulted: March, 2018].

Cedefop (2015). Stronger VET for better lives. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/3067> [consulted: March, 2018].

Durrani, S. (2007). Learning by doing: Lifelong learning through innovations projects at DASS". *Aslib Proceedings*, 59(2), 187-200.

Ehlen, C.G.J.M., van der Klink, M.R., & Boshuizen, H.P.A. (2016). Unravelling the social dynamics of an industry–school partnership: social capital as perspective for co-creation. *Studies in Continuing Education*, 38(1), 61-85.

Elfert, M. (2015). UNESCO, the faure report, the delors report, and the political utopia of lifelong learning. *European Journal of Education*, 50(1), 88-100.

European Commission (2001). Making a European Area of Lifelong Learning a Reality. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0678:FIN:EN:PDF> [consulted: March, 2018].

European Council (2009). Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'). [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528(01)&from=EN) [consulted: March, 2018].

Faure, E., Herrera, F., Kaddoura, A.-R., Lopes, H., Petrovsky, A., Rahnema, M., & Ward, F. (1972). *Learning to be*. UNESCO: Paris.

Gómez, A., Puigvert, L., & Flecha, R. (2011). Critical communicative methodology: Informing real social transformation through research. *Qualitative Inquiry*, 17(3), 235-245.

Gómez, J., Latorre, A., Sánchez, M., & Flecha, R. (2006). *Metodología comunicativa crítica*. [Critical Communicative Methodology]. Barcelona: El Roure.

Guimarães, P. (2012). Critical links between recognition of prior learning, economic changes and social justice in Portugal. *Journal of Adult and Continuing Education*, 18(1), 61-76.

ISO (2015a). Reaping the benefits of ISO 9001. https://www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/reaping_the_benefits_of_iso_9001.pdf [consulted: March, 2018].

ISO (2015b). Moving from ISO 9001:2008 to ISO 9001:2015. https://www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/iso_9001_-_moving_from_2008_to_2015.pdf [consulted: March, 2018].

- Jackson, S. (2010). Innovations in lifelong learning: politics, power and pedagogic practices. In S. Jackson (ed.). *Innovations in Lifelong Learning* (pp. 1-9). London: Routledge.
- Janssens, J. (2002). Innovations in lifelong learning. Capitalising on ADAPT. *Cedefop Panorama series, Nr. 25*. Luxembourg: Office for Official Publications of the European Communities.
- Kallison, J.M. (2017). The Effects of an Intensive Postsecondary Transition Program on College Readiness for Adult Learners. *Adult Education Quarterly*, 67(4), 302-321.
- Kilminster, S. (1997). Vocational Education and Really Useful Knowledge. In *27th Annual SCUTREA conference*. <http://www.leeds.ac.uk/educol/documents/000000252.htm> [consulted: March, 2018].
- Lucio-Villegas, E. (2012). What's going on? An overview of adult education policies in Spain. *Journal of Adult and Continuing Education*, 18(1), 77-89.
- Lundvall, B.Å., & Rasmussen, P. (2016). Challenges for adult skill formation in the globalising learning economy—a European perspective. *International Journal of Lifelong Education*, 35(4), 448-464.

- Piercy, G. (2010). Access and equity in Aotearoa/New Zealand: Increasing participation via policy and practice. In S. Jackson (ed.). *Innovations in Lifelong Learning* (pp. 167-187). London: Routledge.
- Porto, I., Zabala-Iturriagagoitia, J.M., & Larrakoetxea, U.A. (2017). Old wine in old bottles: The neglected role of vocational training centres in innovation. *Vocations and Learning*, doi:10.1007/s12186-017-9187-6.
- Pulido, C., Elboj, C., Campdepadrós, R., & Cabré, J. (2014). Exclusionary and transformative dimensions: Communicative analysis enhancing solidarity among women to overcome gender violence. *Qualitative Inquiry*, 20(7), 889-894.
- Regmi, K.D. (2015). Lifelong learning: Foundational models, underlying assumptions and critiques. *International Review of Education*, 61(2), 133-151.
- Renta, A.I., Van den Bossche, P., Gijbels, D., & Fandos, M. (2017). The Impact of Individual, Educational, and Workplace Factors on the Transfer of School-Based Learning into the Workplace. *Vocations and Learning*, 10(3), 275-306.
- Sauer J. (2011). Innovation and Learning – For a Future of Lifelong Learning. In: S. Jeschke, I. Isenhardt, F. Hees and S. Trantow (eds.). *Enabling Innovation* (pp. 69-79). Berlin, Heidelberg: Springer.

- Steffens, K. (2015). Competences, learning theories and MOOCs: recent developments in lifelong learning. *European Journal of Education*, 50(1), 41-59.
- Stummann, C.B. (2014). Practice stories in natural resource management continuing professional education: springboards for learning. *Studies in Continuing Education*, 36(3), 322-341.
- Toner, P., & Woolley, R. (2016). Perspectives and debates on Vocational Education and Training, skills and the prospects for innovation. *Revista Española de Sociología*, 25(3), 319-342.

3.2. ANNEX (attached to paper 3)

The interviews script

The script that was used for the interviews has been adapted for the CIFO and it originally came from the script that was used with the heads of the VET centres in Catalonia, for the research project “Formació professional i pimes: el repte de la innovació a Catalunya”, funded by RecerCaixa 2014. This is the original script, used in the research project.

2.- GUIÓN ENTREVISTA DIRECTOR CENTRO FP

Entrevista exploratoria a directores de centro o, en su defecto, responsables de las relaciones con las empresas. Se trata de recoger información sobre el funcionamiento del centro y especialmente sobre los distintos tipos de relaciones con las empresas (prácticas FCT, colocación/bolsa de trabajo de egresados, formación continua y ocupacional, otros servicios a las empresas). Seguir y aprovechar nuevas ramificaciones o puntos de interés que surjan en la entrevista.

BLOQUE 1º.- DATOS BÁSICOS

1) Datos básicos del centro.

- 1.1) Antigüedad y número de edificios.
- 1.2) Especialidades que oferta (especial énfasis en las especialidades industriales y grados superiores).

- 1.3) Número de alumnos desagregando por: número de adultos y de estudiantes en régimen de formación a distancia.
- 1.4) Restantes miembros de la plantilla (docente, administrativa y de servicios).

BLOQUE 2º.- CURRÍCULUM INNOVADOR

2) Entorno autonómico e innovación:

- 2.1) Valoración general del entorno regional y su incidencia en el desarrollo económico y tecnológico. ¿Qué aspectos del entorno regional favorecen o dificultan los procesos de innovación?
- 2.2) ¿Cree usted que se ha incrementado la necesidad de incluir competencias en innovación?.¿por qué?

3) Según Decret 284/2011, d'1 de març, d'ordenació general de la formació professional inicial,

- 3.1) Qué medidas se han adoptado en relación a las tareas de investigación e innovación para el profesorado de su centro.
- 3.2) Cómo se valora la formación que en competencias en innovación reciben los alumnos.Cuál es su presencia dentro del curriculum académico.
- 3.3) Qué medidas se han adoptado para valorar la mejora continua del nivel de innovación impartido en su centro.
- 4) Qué resultado está dando, o es previsible de, el programa "InnovaFP" en relación a la transferencia de conocimientos en innovación entre:
 - 4.1) Su centro y las empresas con las que colaboran.

- 4.2) Su centro y otras entidades de su entorno.
- 5) En relación a la formación reglada:
- 5.1) ¿Cómo se planifica el curriculum académico en lo que respecta a la formación en capacidades de innovación?.
 - 5.2) Cuáles son los Módulos Profesionales -formativos- en los que se imparten.
 - 5.3) En caso de la existencia de transversalidad innovadora, ¿cuáles son los criterios de valoración de los mismos?.
 - 5.4) La apuesta por la innovación se realiza, ¿en el primer o segundo ciclo o en ambos?

BLOQUE 3º.- RELACIONES CENTROS-EMPRESAS.

- 6) Formación para el Empleo (continua y ocupacional):
- 6.1) Qué tipo de formación (continua y/u ocupacional) son llevados a cabo en este centro.
 - 6.2) Cuáles son los criterios para establecer la oferta formativa. Describa el papel de la conserjería o del departamento de Educación o de Empleo en esta cuestión.
 - 6.3) Qué aporta este tipo de formación para su centro. Aspectos positivos y barreras que puedan existir a un mayor desarrollo de este tipo de actividad, tanto internas como externas a los centros de FP.
 - 6.4) Qué tipo de formación de demanda imparten (sistema de bonificaciones, Fundación Tripartita) y cuál sería el tanto por ciento de la formación impartida en general. Qué opinión

tienen sobre los cambios producidos en este tipo de formación.

- Cómo se realiza la DAFO por el centro de FP? (según lo que se comentó en la entrevista con Ferran Castillo)
- 7) En relación a las prácticas de Formación en Centros de Trabajo (FCT) y a la relaciones entre tutores.

7.1) Las prácticas FCT, ¿denotan que existe un buen nivel de adaptación entre la oferta educativa en innovación y las necesidades de las empresas colaboradoras?. Puntos positivos y puntos de mejora.

7.2) Qué mecanismos de consulta con las empresas existen a la hora de establecer la oferta educativa (educación inicial o reglada).

- 7.3) ¿Se realizan adaptaciones en el curriculum de la educación reglada en respuesta a las demandas de las empresas expresadas en las relaciones entre tutores?. Concretamente, cuál es la capacidad de feedback con respecto a las competencias en innovación.
- 7.4) Qué tipo de relación se produce entre los tutores de las empresas y los tutores del centro a la hora de llevar a cabo las citadas prácticas. En su opinión, resulta efectiva. Aspectos positivos y negativos de ésta.
- 7.5) Los profesores del centro que llevan a cabo este tipo de actividad, suelen hacerlo a petición de las empresas. Puntos positivos y dificultades. Se debería realizar una mayor actividad a este respecto.
- 5.6) Las relaciones entre tutores del centro y de empresa suelen dar lugar a otros tipo de relaciones centro/empresa. Si es así indique algún ejemplo.

- 7.6) ¿El profesorado realiza estancias en empresas? Aspectos positivos y dificultades que existen al respecto

8) Participación de los trabajadores técnicos en las empresas:

- 8.1) Qué tipo de relación existe entre los tutores de las empresas y los tutores del centro en dichas prácticas. En su opinión, resulta efectiva. Aspectos positivos y negativos de ésta.
- 8.2) Qué tipos de tareas realizan los trabajadores técnicos (especialmente de grado superior) en las empresas del entorno.
- 8.3) En su opinión qué aportación realizan/pueden realizar estos trabajadores -en comparación con otros empleados, por ej. los ingenieros- en los procesos de innovación en las empresas.
- En su opinión, ¿qué impide/facilita que las propuestas innovadoras que parten de estos trabajadores se tengan en cuenta o se implementen finalmente?
- 8.4) Existe algún tipo de servicio de colocación de alumnos tras la realización de sus prácticas empresariales, como, por ejemplo, bolsas de trabajo.
- Existen ejemplos de emprendeduría por parte de los alumnos una vez terminadas las prácticas/ formación?

9) Otros tipos de relaciones con la empresa:

- 9.1) ¿Existen otras formas de relación entre centros y empresas, por ejemplo: utilización de equipamiento, servicios técnicos?. Alguna jornada, evento?
- 9.2) ¿Participan las empresas colaboradoras en el patronato o en alguna otra instancia del centro? ¿Cómo es esta relación?.

- 9.3) ¿Existe algún tipo de inversión cruzada entre su centro y las empresas colaboradoras?.
- 9.4) Se guarda registro acerca de la creación de empresas por parte de alumnos de FP.
- 9.5) ¿Existe algún apoyo a la hora de fomentar este tipo de servicios o proyectos de innovación? Funcionamiento, resultados.
- 9.6) ¿Se realizan otros servicios a las empresas: servicios técnicos, utilización del equipamiento del centro por parte de las empresas, proyectos de innovación? Aspectos positivos y dificultades.
- 9.7) ¿Podrían potenciarse más estos servicios en el futuro?

BLOQUE 4º.- RELACIONES CENTROS-UNIVERSIDADES Y CENTROS TECNOLÓGICOS.

10) Relaciones con la universidad y otros agentes:

- 10.1) Número de alumnos que acceden del grado medio al superior.
- 10.2) Número de alumnos que acceden del grado superior a la universidad.
- 10.3)Cuál es su opinión acerca de las posibilidades de la continuidad de los estudios desde el ciclo medio a la universidad. Puntos positivos y dificultades al respecto
- 10.4) ¿Tienen ustedes algún tipo de relaciones con la universidad? En su opinión, cuál sería el nivel de colaboración adecuada.

- 10.5) ¿Tienen ustedes algún tipo de relación con otros con agentes técnicos, como los centros tecnológicos? ¿Qué potencialidades y barreras existen al respecto?

4.3. Other benefits from the training and assessment of the CIFO

This section of the chapter further explores the online questionnaire. First, it focuses on additional benefits perceived by the respondents, namely achieving a professional certificate and enhancing more training in the future. Second, it analyses the assessment done by the students of the quality and treatment received at the CIFO centres. Finally, it offers an overview of the most effective means of communication that the CIFO have in order to reach to the target population. As in the case of the innovation skills, here also it has to be considered the diversity of the sample, the difference in the time when the respondents have studied at the CIFO and those who were studying at the moment of the survey, and the change and recent policy developments, mentioned before that have affected and impact the CIFO centres. As a last remark, the percentage analysed here are the valid percentages, as it was done in the previous section of this chapter.

Figure 8 and Table 7 display the situation of the respondents on relation to achieving or not a professional certificate after the training received at the CIFO. As it can be seen, only a minority 21.1% claimed to have obtained a professional certificate. This situation is explained by several factors. First of all, this training oriented to obtaining professional certificate is relatively recent and some respondents do say that when they studied at the CIFO there were no professional certificates or they had no information about them. Second of all, students mention that the course was not carried out entirely (the programming of the centre only included some of the units of the professional certificate, or they could not offer the internship unit/module) or they could not finish it (because they were called for a job) themselves. Finally, there is a set of reasons that includes motivation of the students (i.e. they were not interested or did not need the professional certificate they just needed the training) or they are still doing the course, in the case of

those respondents that were students at the CIFO when the online questionnaire was implemented, or they did not pass the admission test to access the course or the course was cancelled. Nonetheless, all of those who attended the courses receive a certificate of attendance from the Catalan Employment Service, and some of the respondents confused these certificates of attendance with the professional certificates.

Figure 8. Students who achieved a professional certificate at the CIFO



Table 7. Students who achieved a professional certificate at the CIFO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	59	21.0	21.1	21.1
	no	131	46.6	46.8	67.9
	No, I needed one more module(s); it was just a part of the professional certificate. Internships problem	33	11.7	11.8	79.6
	No, there was no information about it	1	.4	.4	80.0
	I do not remember	1	.4	.4	80.4
	other	55	19.6	19.6	100.0
	Total	280	99.6	100.0	
Missing	System	1	.4		
Total		281	100.0		

Figure 9 and Table 8 display the assessment done by the respondents concerning the training and the treatment received at the CIFO centres; the question was asked in such a manner that it required the evaluation of the two dimensions to be done simultaneously. Very good (30.4%), good (23.9%) and excellent (22.9%) are the most repeated categories. Together, they account for 77.1% of the sample. Moreover, 4.6% consider that the training was better than the treatment received at the centre, while 6.1% consider that the treatment was better than the training. 1.8% think that the quality of the training and of the treatment offered by the staff of the centres can and should be improved and 3.2 found both the training and the treatment received at the CIFO as being bad or very bad. Finally, 2.1% only assessed one of the two dimensions.

Figure 9. Students' assessment of the training and treatment at the CIFO

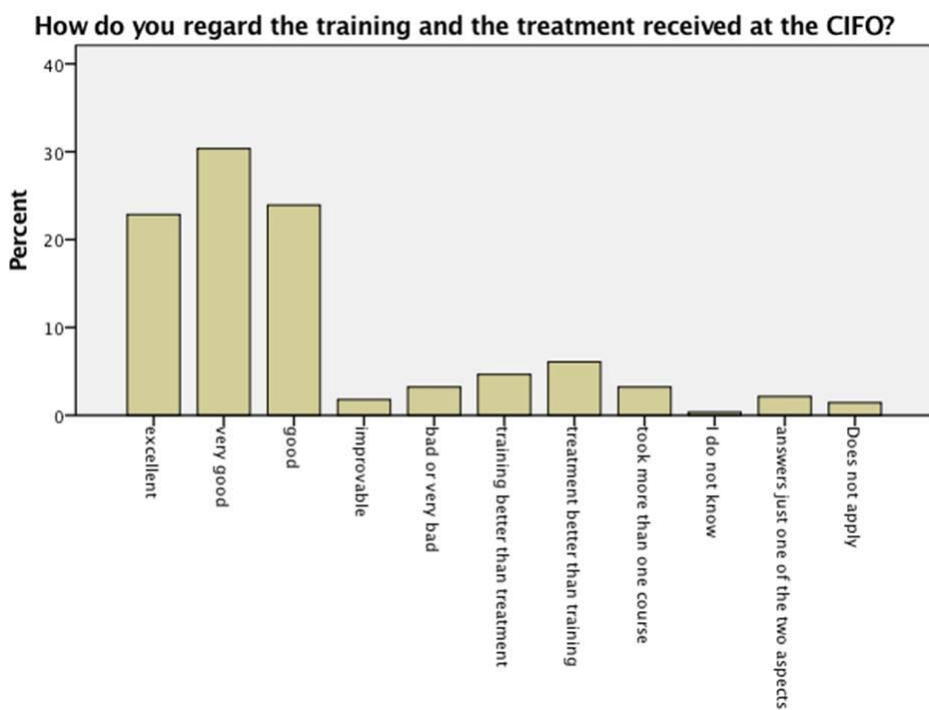


Table 8. Students' assessment of the training and treatment at the CIFO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	64	22.8	22.9	22.9
	very good	85	30.2	30.4	53.2
	Good	67	23.8	23.9	77.1
	Improvable	5	1.8	1.8	78.9
	bad or very bad	9	3.2	3.2	82.1
	training better than treatment	13	4.6	4.6	86.8
	treatment better than training	17	6.0	6.1	92.9
	took more than one course	9	3.2	3.2	96.1
	I do not know	1	.4	.4	96.4
	answers just one of the two aspects	6	2.1	2.1	98.6
	Does not apply	4	1.4	1.4	100.0
	Total	280	99.6	100.0	
Missing	System	1	.4		
Total		281	100.0		

Figure 10 and Table 9 show the intentions expressed by the respondents regarding a future participation in a training programme. 64.5% of the respondents answered affirmatively, while 16.1% responded negatively. 7.9% responded that it depends on whether they find a job, if that job will allow them to participate. 1.1% stated that they will continue self-taught training while the remaining respondents (in total 10.3% of the sample) were not very sure or they expressed doubt that they will participate in any training programme in the same area as the course they had done at the CIFO.

Figure 10. Future participation in training actions

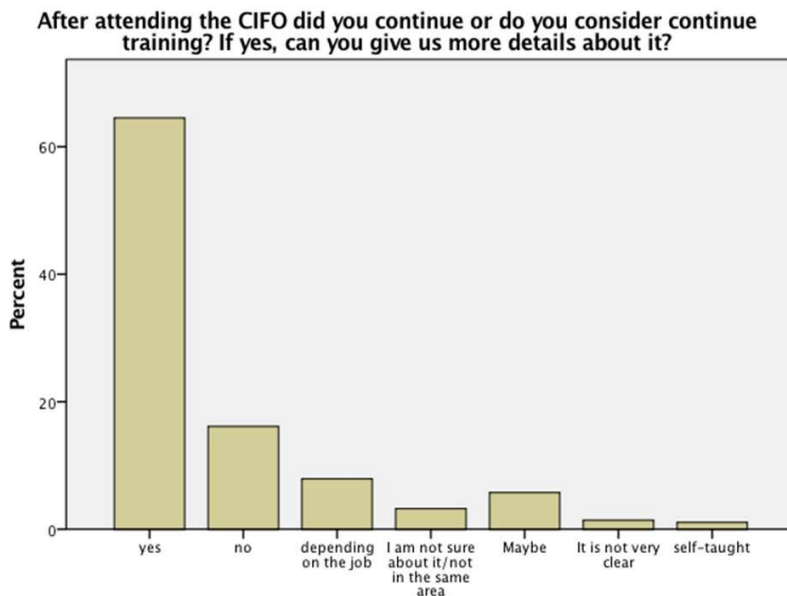


Table 9. Future participation in training actions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	180	64.1	64.5	64.5
	no	45	16.0	16.1	80.6
	depending on the job	22	7.8	7.9	88.5
	I am not sure about it/not in the same area	9	3.2	3.2	91.8
	Maybe	16	5.7	5.7	97.5
	It is not very clear	4	1.4	1.4	98.9
	self-taught	3	1.1	1.1	100.0
	Total	279	99.3	100.0	
Missing	System	2	.7		
Total		281	100.0		

Finally, Figure 11 and Table 10 illustrate the most effective means of communication that CIFO use to reach the target population, which are the unemployed people. As it can be seen the Catalan Employment Service official channels (43.6%), including its web channels (33.2%), are the two most reported means, by far Catalan Employment Service official channels include: employment office, newsletter, associated centres, presentation sessions, professional certificates, SEPE (Spanish employment service), Acredita't (Catalan programme for recognition of prior learning). Internet includes: Catalan Employment Service websites (e.g. Feina Activa), Google, Tarragona Impulsa, Domestika, Fabricación Mecánica etc. The third most effective channel is the recommendation from a friend, a family member, a work colleague or another person who has previously studied at the CIFO. Next, in order are: other means (personal interest, already knew them, coincidence) with 3.2%; from previous training courses at the CIFO (2.1%); from experts who teaches at the CIFO or is not related but he knows the CIFO (1.8%) or from other public or private entities (1.8%), newspaper advertisement (0.7%), career counselor (0.4%), in order to teach at the CIFO the candidates need to account for a number of hours of teaching or they can get this experience signing up for the professional certificate in teaching for the CVET (0.4%), or from multiple channels (0.4%).

Figure 11. CIFO communication channels

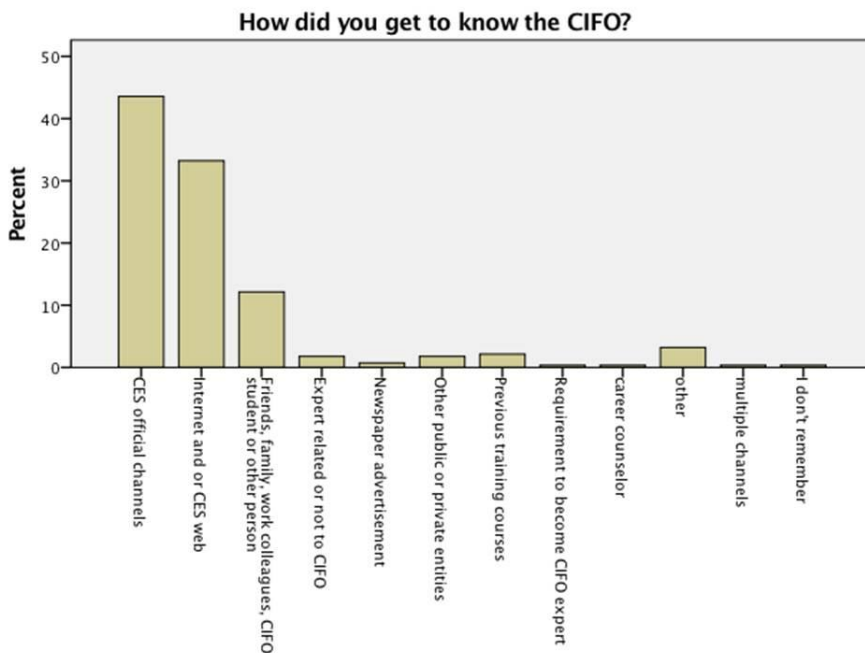


Table 10. CIFO communication channels

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CES official channels	122	43.4	43.6	43.6
	Internet and or CES web	93	33.1	33.2	76.8
	Friends, family, work colleagues, CIFO student or other person	34	12.1	12.1	88.9
	Expert related or not to CIFO	5	1.8	1.8	90.7
	Newspaper advertisement	2	.7	.7	91.4
	Other public or private entities	5	1.8	1.8	93.2
	Previous training courses	6	2.1	2.1	95.4
	Requirement to become CIFO expert	1	.4	.4	95.7
	career counselor	1	.4	.4	96.1
	other	9	3.2	3.2	99.3
	multiple channels	1	.4	.4	99.6
	I don't remember	1	.4	.4	100.0
	Total	280	99.6	100.0	
Missing	System	1	.4		
	Total	281	100.0		

4.4. ANNEXES

4.4.1. *Codification of open-ended answers into closed-ended*

1. Cómo llegaste a conocer los CIFO [How did you get to know the CIFO]?

- 1- Official channels of the Catalan Employment Service (employment office, newsletter, associated centres, presentation sessions, professional certificates, SEPE, Acredita't)
- 2- Internet and/or CES website (including Feina Activa, Google, Tarragona Impulsa, Domestika, Fabricación Mecánica)
- 3- Friends, family, work colleagues, CIFO student or other person
- 4- Expert related or not to CIFO (Barcelona Activa)
- 5- Newspaper advertisement
- 6- Other entities (Grameimpuls, employment service of the L' Hospitalet Llobregat city council, CATformació, private academy, VET centre, Aula Activa)
- 7- Previous training courses
- 8- Requirement to become CIFO expert
- 9- Career counsellor
- 10- Other (personal interest, already knew them, coincidence)
- 11- Multiple ways
- 12- I don't remember
- 99- Lost

2. Formal education: highest level attended or completed

- 1- university to PhD
- 2- pre-university (High School, VET)
- 3- compulsory school
- 4- did not attend or completed
- 5- other (not clear or answers not related to the question)
- 99- Lost

3. ¿El/los curso/s que hiciste te sirvió/eron para conseguir el/los certificados profesionales correspondientes? En caso afirmativo, ¿podrías mencionar que certificado/s profesional/es has conseguido? [Did you achieve a professional certificate due to the course you took at the CIFO?] All get a diploma at the completion, at least and respondent made the confusion with the professional certificates. Some did not get the certificate but they did benefit from the course

- 1- Yes
- 2- No
- 3- No, I needed one more module(s); it was just a part of the professional certificate. Internships problem
- 4- No, there was no information about it
- 5- I do not remember
- 6- Other (they were not giving professional certificates, did not met the requirements to take on the course, it wasn't a course leading to certificate professional-experimental-; found job and couldn't take

or finish the course, not interested, didn't need one, the course was cancelled, on-going course, didn't finish)...Some are already qualified professionals in their sector, do this courses because it helps them

99- Lost

4. Cómo valoras la formación recibida en el CIFO y el trato que recibiste en el centro? [How do you regard the training and the treatment received at the CIFO?]

1- Excellent (Muy excelente, excelente, 9, fantástica, estupendo, 10, genial, perfecta, exquisito)

2- Very good (Muy buena, muy correcta, muy positivamente, valor alto, muy satisfactoria, muy alto nivel, muy adecuada, muy profesional, alta, buenísima 8,75)

3- Good (Buena, correcta, realmente buena, bastante buena, apropiado, calidad, muy interesante, adecuada, optima, 7, 7,5)

4- Improvable (mejorable, regular, aceptable, 5)

5- Bad or very bad (bastante lamentable, inútil, malament o molt malament, peor, baja, muy insuficiente, no me gusta la distancia entre docentes y alumnado, 3, muy baja o pésima)

6- Training better than treatment (trato incluye a veces expertos otras veces la administración del centro, o las dos cosas)

7- Treatment better than training (trato ídem anterior)

8- Took more than one course (de un curso a otro, de un centro a otro)

9- I do not know

10- Answers just one of the two aspects

11- Does not apply

99- Lost (habla de políticos, no ha estado, no lo sabe porque cancelaron el curso, no pasó la selección del CIFO)

5. -¿Después de la formación en el CIFO has continuado o piensas continuar con la formación? En caso afirmativo, ¿podrías dar más detalles sobre esta formación? [After attending the CIFO did you continue or do you consider continue training? If yes, can you give us more detail about it?]

1- Yes

2- No

3- Depending on the job

4- I am not sure about it/not in the same area

5- Maybe

6- It is not very clear

7- Self-taught

99- Lost

Sexo [Sex]

1- Man

2- Woman

99- Lost

Lugar de procedencia [Place of origin]

1- Catalonia

2- Rest of Spain

3- UE

4- Rest of the world

Empleo [Employment status]

1- Employed

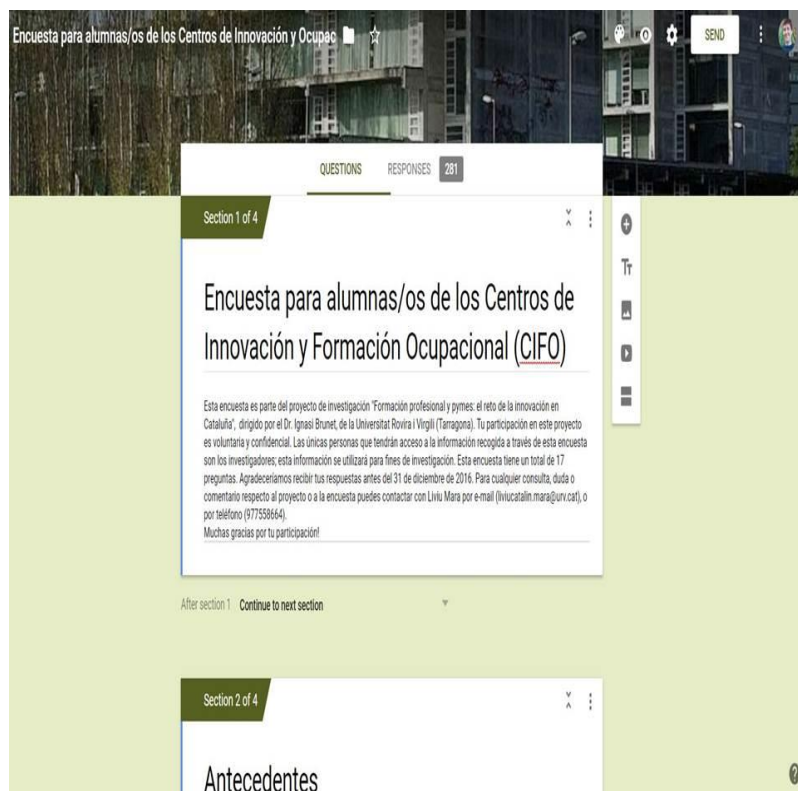
2- Unemployed

3- Freelance/self-employed

4- Student

4.4.2. Ethics and research: online questionnaire

The introductory part of the online questionnaire contained ethics related issues, such as basic information of the research, namely the RecerCaixa project (name of the project, leader of the project and the name of the university), and contact details for any inquiries (e-mail and telephone number). Participants were also informed that their participation was voluntary and confidential and that no one except for the research team would have access to the responses. Furthermore, the use of Google Forms assured the confidentiality of the personal data, since the researchers did not receive any information regarding names, e-mail addresses etc., of the participants.



4.4.3. Ethics and research: consent form

This is an example of consent form that it was proposed to the CIFO coordinator in order to interview students and former student of the CIFO centres. In the end it was not necessary to use it because this interview was transformed in the online questionnaire through Google Forms that was sent to the Coordinator, which passed it on to each centre. However, a consent form was used for the interviews with the heads of the CIFO centres and it had the same format. The first page with information regarding the research (RecerCaixa project) and the contact details (this page was for the heads of the centres to keep it). The second page requested permission for the interview, permission to audio record the interview, and it also informed the participants that they could stop the interview at any time or that they were not obliged to answer all questions. Incidentally, one of the participants did not want to be audio recorded so the researcher took notes during that interview. The participation was voluntary, confidential and informed.

Apreciada/o,

Esta carta es para informarte sobre la investigación que estamos llevando a cabo en la Facultad de Economía y Empresa de la *Universidad Rovira i Virgili* (http://www.urv.cat/en_index.html) titulada **Formación profesional y pymes: el reto de la innovación en Cataluña**. El director de este proyecto de investigación es el Dr. **Ignasi Brunet**. El objetivo general de este proyecto es estudiar, por un lado, la adecuación de la formación en innovación que los centros de FP (sobre todo a través de los centros integrados de Formación Profesional) y en los Centros de Innovación y Formación Ocupacional hacen a sus alumnos y las exigencias en innovación que tienen las empresas de sus trabajadores técnicos; y, por otra parte, a partir de esta formación recibida, qué contribución pueden tener los trabajadores técnicos con formación en FP en la innovación realizada en las pymes.

Tu participación en este proyecto es voluntaria y confidencial. Las únicas personas que tendrán acceso a la información recogida a través de esta investigación son los investigadores; esta información se utilizará para fines de investigación. Mientras es probable que resulten publicaciones de este estudio, no se usará tu nombre en ningún caso.

Con esta carta nos gustaría solicitar tu consentimiento informado para participar. Si estas dispuesta/o a dar tu consentimiento para participar, por favor responde a las preguntas de la hoja adjunta y devuélvela por e-mail a: liviuatalin.mara@urv.cat. Por favor, mantén esta carta con la información del proyecto, estamos a tu disposición para cualquier consulta o duda.

Atentamente,

Liviu Catalin Mara (liviucatalin.mara@urv.cat)

Profesor Departamento Gestión de Empresas

Universidad Rovira i Virgili

Tel.: 977558664

Av. Catalunya, 35, 43002 Tarragona

**Proyecto: Formación profesional y pymes: el reto de la
innovación en Catalunya**

Preguntas ex-alumnos

CIFO

Antecedentes

- ¿Cómo llegaste a conocer los Centros de Innovación y Formación Ocupacional (CIFO)?
- ¿Podrías explicar brevemente tu trayectoria en el sistema educativo, antes de empezar la formación en el CIFO?
- ¿Qué curso(s) has hecho en el CIFO?
- ¿El/los curso/s que hiciste te sirvió/eron para conseguir el/los certificados profesionales correspondientes? En caso afirmativo, ¿podrías mencionar que certificado/s profesional/es has conseguido?
- ¿Cómo valoras la formación recibida en el CIFO y el trato que recibiste en el centro?

- ¿Después de la formación en el CIFO has continuado o piensas continuar con la formación? En caso afirmativo, ¿podrías dar más detalles sobre esta formación?

Impacto de la formación recibida en el CIFO

- Por favor, explica algunos beneficios de las estrategias educativas y de formación recibida en el CIFO (si los hay) en relación a la obtención o mejora de un empleo.
- ¿Cómo fue tu vida profesional antes, o después del paso por el CIFO? ¿Percibes estos beneficios como grandes, moderados, pequeños?
- ¿Cuáles crees que son los factores y estrategias clave, de acuerdo a tu experiencia, para los logros en la formación que se consiguen a través del CIFO?
- ¿En qué medida consideras que la formación que has recibido en el CIFO ha desarrollado tus competencias en innovación? ¿Cómo se ha hecho? ¿Podrías dar algunos ejemplos (situaciones), donde emerge la innovación?
- ¿Y tú perspectiva de futuro? ¿Crees que vas a tener más oportunidades de participar (más autonomía, más poder de decisión) en la organización de tu trabajo dentro de la empresa como resultado de tu experiencia formativa? Y, ¿qué piensas acerca de las posibilidades de otras personas que también se han formado en el CIFO?
- De acuerdo con tu experiencia, ¿cuáles crees que son los retos de futuro? ¿Cuáles crees que son las barreras que hay que superar todavía para que la formación que se da en el CIFO

aporte más beneficios a las personas que se apuntan a este tipo de formación?

Breve cuestionario

CIFO (Poner el nombre del CIFO donde estudió)	
Género	
Edad	
Lugar de procedencia	
Empleo: - tamaño empresa - sector o actividad económica - alcance (regional/nacional/europeo/internacional)	

Para responder a las preguntas utiliza el espacio que consideres necesario, no hay ningún límite para las respuestas. Las preguntas se pueden empezar a responder en el espacio blanco (se puede utilizar cualquier tipo de tamaño y tipo de letra) debajo de cada pregunta y el cuadro se puede rellenar directamente. Cuando termines de responder a las preguntas guarda el archivo en formato Word o PDF.

Muchas gracias por responder a estas preguntas.

Chapter 5 – Conclusions, limitations and further research

5.1. Conclusions

This doctoral thesis derived from the RecerCaixa research project ‘Vocational training and SMEs: the challenge of innovation in Catalonia’ had as the main objective exploring how is the innovation trained at the CIFO centres responding to the innovation demanded by the labour market, in Catalonia. This objective has been achieved in the four articles and the essay that resulted from the research due to the design of a methodology that included the perspectives of the main actors –the communicative methodology (Gómez, Latorre, Sánchez y Flecha, 2006)- used innovative data collection techniques, and due to the innovative analysis of the innovation skills based on the concept of social impact.

Thus, the context of this research was Catalonia, which is one industrialised and rich region of Spain and the EU. As it has been shown through the thesis, the CVET programme studied here was mainly designed, for unemployed people, for people with no work skills (some of them who have not attended or dropped out from school) or those with low-skills qualifications for the labour market. However, one of the findings of the study is that a large group of the participants had high-skills qualifications (they have attended or completed higher education studies) and the biggest group had intermediate-skills qualifications. This finding confirms that in Catalonia and Spain there is a large group of youth with university degrees that are unemployed so they take this training offered by the CIFO because is free, high-quality and improves their chances of finding a job. On the other hand, it is surprising that the low-skilled workers had a small representation in the students’ sample, and one of the reasons can be that this type of training is not very appealing to them or they have difficulties to access this training

(some of the courses have a basic entry level, depending on their complexity).

This CVET programme is a part of the governments' labour policy and its objective is to match the work and production necessities of people, companies and territories. Thus, as it was seen in the thesis, the CIFO network is active and successfully contributing to these objectives, by achieving high employment rates for their students, testing the labour market, the economic agents and professional association and institutions within their territory regarding the training that is needed in a territory and hiring experts with work experience in their sector who can offer these courses. What it can be observed is that in many cases these training courses not only improve employability, but they also help people to understand better their professions or the specific sector in which they work or even solve deficiencies that students have been dragging from the formal education system.

By doing so, this programme has the objective to connect with the EU objectives and policy in the area of lifelong learning. As it was discussed in the chapters of this thesis, the EU is focused mainly on the economic objectives, and on the skills needed in the information society in order to build the knowledge-based economy and be competitive and resilient in the global market. The EU is also concerned about more social objectives of education and training, and this concern has been discussed in chapter 2 in more detail. However, for the European institutions, training and relevant labour market skills lead to the empowerment of the citizens and this can lead to active citizens, which is one of the objectives of the ET 2020. However, aspects such as 'intercultural competences, democratic values and respect for fundamental rights and the environment, as well as combat all forms of discrimination, equipping all young people to interact positively with their peers from diverse backgrounds' (EC, 2009, p. 4) are very much related to education, and the EU cannot interfere in the national education

systems of its Member States so it is a challenge how to focus these aspects in the education and training systems within the EU.

Chapter 1 of the thesis presented several introductory aspects: the rationale behind the research; it situated the object of study – the CIFO network- in the context of lifelong learning and of the CVET policy in Catalonia; it set forth the objectives of the thesis; and lastly, it described the structure of the thesis.

Chapter 2 introduced the notion of social impact, which was the general analytical framework for the innovation skills trained at the CIFO in the light of the strategy of the EU and a special mention of the UNECO's strategy in this area. This meant analysing the operation and results of the CIFO network in Catalonia in relation to the objectives established by the EU in the area of education and training and start exploring the benefits for the students as a result of the implementation of the programme under these circumstances. In this chapter the four objectives of the ET 2020 were contrasted secondary data facilitated by the Catalan Employment Service and by some of the CIFO centres and literature and legal documents desk research.

In paper 1, in the light of objectives 1, 2 and 4 of the ET 2020, the analysis of the legal documents that regulate the activity of the CIFO includes tasks related to how the centres can innovate and also real data on employment rate, levels of satisfaction and perceptions of usefulness of students regarding the CVET training were displayed. Paper 2 discussed the advances of the CIFO in objective 3 of the ET 2020, showing how CIFO are serving vulnerable groups in society like unemployed and immigrants, people with different levels of educational achievement, and offering education in aspects related to employability, gender and environment protection. Moreover, CIFO are part of the system that implements the recognition of prior learning, a process that has been found to contribute to social justice, in the scientific literature.

Chapter 3 explored the innovation process at the CIFO centres through the interviews with seven of the heads of the CIFO centres plus the Coordinator of the CIFO network in Catalonia. In paper 3 the innovation at the CIFO is analysed in its three dimensions: methodological, pedagogical and technological. The methodological has to do with the actions derived from the ISO 9001 certification, which gives the centres the mission of continuous improvement and satisfying the needs of the people and enterprises in the territories they serve. Pedagogical innovation is related to the detection of the innovation and including it in the curriculum of the centre, organizing experimental training courses, using the project methodology, enhancing entrepreneurship, or introducing digital technologies in the classroom. Technological innovation is related to the use of the latest technologies and equipment in the market.

Thus, as argued in paper 3, the opportunities that CIFO have for innovation stem from their core philosophy inspired by the ISO 9001 norms, which has continuous improvement, stakeholders' satisfaction and participation as key elements. This philosophy is connected with their mission to tackle unemployment, by detecting or foreseeing the economic needs in their territory and offering relevant courses to match these needs. In the discourse of the heads of the centres it was detected the need to further enhance the relationship and collaboration of the CIFO with the educational, social and economic actors in their respective territory.

Chapter 4 analysed the voice of the students regarding the innovation skills they had acquired during the training at the CIFO and identified some of the strategies that favoured the development of these skills. Paper 4 revealed five groups of innovation skills that the participants claimed to have acquired at the CIFO: new tools, innovative sectors, new methodologies, new work processes and ICT skills. Moreover, in all the groups there has been at least one example of a real life situation where they had to apply these respective skills. Regarding the strategies used by the experts who

teach at the CIFO centres and those that are characteristic to the centre arguably reflect the competence-based education adjusted to the labour market needs and developments in society. Finally, paper 4 identified some broader skills in innovation, which implied reflection of the respondents on the knowledge they had or on the studies they had accomplished previously. These broader skills remind of a more transformative model of learning.

In their already cited article, Zhao and Biesta (2012, p. 342-343) were asking for a moral imperative in lifelong learning that could drive the formation of self and the relation with the others in the context of the learning society:

Given that the dominant language of the learning society is dominated by questions concerning economic growth, instrumental rationality, and scientific and technological knowledge/skills, the question we wish to ask is where such a learning society will take us, not just at the level of society as a whole but also with regard to each of us individually. What, in other words, are the moral reference points for a learning society; reference points that not only can guide us in the formation of self and identity, but particularly in the way in which the formation of our self and identity is related to that of others. This evokes a call for a place for moral knowledge both at a social level and at an individual level and calls for a moral imperative in lifelong learning.

In line with Hart's already cited work (1990) who was claiming the necessity for the individuals to acquire "socially valid knowledge", this doctoral thesis asserts that the "moral imperative" of Zhao and Biesta (2012) that should guide lifelong learning in our societies is the application of the perspective of social impact (Flecha, 2014), which means to orient the lifelong learning process towards the priorities established by the elected and democratic political bodies –such as the case of the EU 2020 strategy for the EU-. These priorities would thus constitute the "socially valid knowledge" claimed by Hart (1990).

5.2. Limitations of this research

This research has faced several limitations, partly due to its innovative features. Discussing them here it can help improve future research in this area by taking into consideration the specificities of this CVET government-run programme in Catalonia. First limitation was the data availability. First, the data is not available for the general public, but after making a request to the coordinator of the CIFO network we have received the data available for the courses developed at the CIFO during 2014, and employment rate data six months after that year (July 2015). These data was very useful, however as mentioned in paper 1, the methodology used by the Catalan Employment Service is collecting aggregate data that did not allow doing more sophisticated analyses. For example, it was impossible to determine between those who were unemployed at the moment of finishing the course at the CIFO and obtained a job and those who were already working and they maintained their job. Another limitation is that the Catalan Employment Service does not collect information regarding the professional area, or the type of contract, therefore these aspects could not be analysed either.

A second limitation regarding the data collection is a consequence of the methodological innovation that it was carried out in this research, but it paid off and it was very valuable to the research: the online questionnaire to the alumni and ex-alumni of the CIFO. This strategy was suggested by the coordinator of the CIFO network because the personal data of the alumni is confidential and it was a very powerful tool. Thus, the questionnaire was sent to the Coordinator of the CIFO network, and from there it was sent to the heads of the eight CIFO centres in Catalonia who send it then to the students in their database. What happened is that one of the centre could not send e-mails because of an exceptional situation and also the research team did not have any control of the sample of students (e.g. no control over the years when they studied). This meant also that some of the participants were students at the moment of the study with all the limitations that it means, including the fact that

they could not evaluate a course that they did not finish. However, given the objective of this thesis, this limitation was not that important and sufficient answers were given in order to study the training of innovation skills at the centre. Besides, the methodological design was carefully designed to compensate this type of issues by including the voice of the heads of the centres and the legislation analyses together with giving voice to the students in this respect.

Another factor that has influenced in the research is the fact that at the moment when the fieldwork was carried out, the CIFO were involved in a process of renewal of the people responsible of the CIFO centres and the CVET system was going through political change, with new legislation approved or about to be approved. The heads of the CIFO were in stand-by, waiting for the new changes and model of CVET promoted by the public administration and some initiatives had been implemented recently or they were about to be implemented. This environment was obvious during the interviews with the heads of the CIFO, most of them just appointed or appointed a 1-2 years before. Actually there was one of the centres where we did not interview the new person responsible because there were still in the process of transfer of power, and we interview instead the Coordinator of the CIFO network, which had previously occupied that position in the respective CIFO. Another situation was at a CIFO were both the ex and the actual person responsible of the centre were present at the interview and actively participated.

5.3. Further research

This doctoral thesis has most probably opened a new research venue in the area of lifelong learning, namely the relationship between CVET and innovation. The findings of this research –innovation skills and strategies and elements that have been successful in the case of enhancing them- can be implemented in other educational

contexts as well. This transfer and the implementation process can constitute itself a new venue for research. Furthermore, this exploratory study has left throughout the thesis, many topics that deserve further research.

One issue is the relationship between social impact and research in CVET or lifelong learning. *Rethinking Education* asked ‘how can education better respond to the challenges of achieving economic, social and environmental sustainability?’ (UNESCO, 2015, p. 84). The obligation of researchers is to provide quality research in these areas for promoting a policy based on scientific evidence and on social impact, when possible. The Council of Europe also reminds to everyone that ‘high quality will only be achieved through the efficient and sustainable use of resources — both public and private, as appropriate — and through the promotion of evidence-based policy and practice in education and training’ (EC, 2009, p. 3).

The CIFO network offers an approach of the lifelong learning that has a stronger effect in improving the situation of vulnerable groups, and thus, reduce some of the risks generated by the economic crisis in Catalonia and in Spain. Further research is needed to identify elements that work in the successful democratic adult education contexts, and incorporate them in lifelong learning policy to expand its scope and impact. Moreover, one of the impacts of the CIFO network is the empowerment through education and training, and thus, research on how empowerment and skills or VET-related knowledge can lead to critical, active citizens and increase democracy it would be welcomed. Or, reflect how we can include Johnson’s (1988) concept of really useful knowledge as the knowledge that makes the individual free in the context of a globalised and ever increased interconnected world and communities.

Finally, a matter of concern and at the same time an area where further research needs to be done is participation in lifelong

learning, which is below the European target. We need to identify which elements can increase this participation of adults in lifelong learning. Another topic of research might be the relation between innovation done at these centres and the adult participation in lifelong learning, to study if innovation can motivate individuals to participate in lifelong learning. Also, there are still some avenues open for research related to the challenges presented in the objective 4 of the Education and Training 2020 strategic framework that have not been covered or just partially covered in the study (learning to learn, cultural awareness, knowledge triangle of education-research-innovation or involving representatives of civil society and other stakeholders).

5.4. References

EC (2009). *Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020')*. Retrieved from [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528(01)&from=EN)

Flecha, R. (2014, March). ¿Cómo conseguir o aumentar el Impacto de los proyectos y cómo liderar un proyecto de referencia? [How to improve the social impact of the projects?]. In *Horizonte 2020 y Patrimonio Cultural: Investigación e Innovación*, Madrid, Spain.

Gómez, J., Latorre, A., Sánchez, M., & Flecha, R. (2006). *Metodología comunicativa crítica* [Critical Communicative Methodology]. Barcelona: El Roure.

Hart, M. (1990). Liberation through consciousness raising. In J. Mezirow (Ed.), *Fostering critical reflection: a guide to transformative and emancipatory learning*. San Francisco: Jossey Bass.

Johnson, R. (1988). 'Really useful knowledge' 1790-1850: memories for education in the 1980s. In T. Lovett (Ed.), *Radical approaches to adult education: a reader*. London: Croom Helm.

UNESCO (2015). *Rethinking education – Towards a global common good*. Retrieved from <http://unesdoc.unesco.org/images/0023/002325/232555e.pdf>

Zhao, K., & Biesta, G. (2012). The moral dimension of lifelong learning: Giddens, Taylor, and the “reflexive project of the self”. *Adult Education Quarterly*, 62(4), 332-350. <https://doi.org/10.1177/0741713611411176>



UNIVERSITAT
ROVIRA i VIRGILI



Obra Social "la Caixa"