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Educational orientation and employer influenced pedagogy; practice and policy insights from three higher education programmes in Europe

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Abstract

Purpose - This paper explores the relationship between educational orientation and employer influenced pedagogy and considers some implications for work-based learning (WBL) higher education (HE) policy and practice in Europe

Design/Methodology/Approach - The paper draws on purposefully selected case studies to describe the key attributes of WBL related pedagogy associated with three HE programmes in Finland, Spain and the UK.

Findings – The national regulatory environment has a key role to play in issues associated with WBL pedagogy. The case studies also demonstrate a pluralistic approach to pedagogy and the key role that employers play in both providing regular intelligence to inform curriculum design and contributing to pedagogy.

Research Limitations/Implications - The small number of case studies limits the opportunity for generalisation and the level of analysis masks subtle and interesting differentiations in pedagogy worthy of further exploration.

Practical implications – The paper highlights implications for government to provide the vision and regulatory environment to encourage WBL and for universities and academics to design and implement innovative, pluralist pedagogies.

Originality/value – The paper provides a new framework and a unique analysis of programme level case studies from three European countries

Key words Work based learning, pedagogy, curriculum, plurality, knowledge, Europe

Paper type Case Study, Research

Introduction

Reforms of Higher Education (HE) and the integration of industry and labour market interests in the curriculum are seen as a key to achieving the goals of smart, sustainable and inclusive growth outlined in the Europe 2020 strategy. Across Europe, the knowledge economy brings new challenges for higher level skills and demographic changes forecast a future European labour market which will be simultaneously confronted by an ageing population and shrinking cohorts of young people. This presents a dynamic context for HE where young people need relevant knowledge and skills to successfully enter and progress in the labour market and older workers are increasingly called upon to update and broaden their higher-level knowledge and competencies. Helyer (2011) notes that HE was originally for the young (who are increasingly demanding) but its culture of developing the whole person has led it to attracting students of all ages and backgrounds and these developments present further challenges for HE.

Public policy prescription identifies a requirement for more work relevant education, flexible modes of delivery, and new forms of validation of learning (EC 2012). The

European Commission have been encouraging the development of work-based learning (WBL) in HE for a number of years, most noticeably since the economic crisis and the development of the Europe 2020 strategy. There have been several communiqués from the European Commission calling for the use of innovative and evolving pedagogies to support workforce development and innovation. Many of the Flagship Initiatives and European Funding Instruments are actively supporting innovation in Education systems and the development of the links between HE Institutions (HEIs) and industry. WBL has been recognised as one of the best ways of smoothing the transition between education and work and there is little doubt that well designed and implemented WBL provides an opportunity to reconcile academic knowledge with practice and to reflect on different forms of knowledge (Gibbons et al 1994). However, a wide range of terms is used to refer to the concept of WBL across Europe including internships, work-integrated learning, placements, practicums, work-related learning, flexible learning and problem solving or simulations (Ferrández-Berruete et al. 2015). For the purposes of this article we use a definition of WBL adapted from Garnett (2005):

[work-based learning] is a learning process which focuses on university level thinking upon work (paid or unpaid) in order to facilitate the recognition, acquisition and application of individual and collective knowledge, skills and abilities to achieve specific accredited outcomes of significance to the learner, their employer and the university.

Whilst placements play a key role in many WBL programmes, it is important to recognize that there is considerable diversity in their duration, frequency, assessment and workplace context amongst many other characteristics. Furthermore, WBL is not solely limited to placement activity as it can draw on learners working in full time employment (as illustrated in the third case study below) or include campus-based (work-related learning) activity (Moreland, 2005).

There remain many pedagogical questions to explore and this article seeks to examine the relationship between educational orientation (Miller and Seller, 1990), types of WBL programme and different forms of pedagogy (Costley and Dikerdem, 2011). In-depth programme level case studies, drawn from an Erasmus Lifelong Learning Programme (LLP) project Work-Based Learning as an Integrated Curriculum (WBLIC), provide an empirical foundation for the analysis in this paper. The case studies demonstrate close connections with the interests of industry and reflect the pluralistic nature of curriculum development and delivery involving multiple stakeholders. The case studies draw on semi-structured interviews with students, academic tutors, company tutors, placement organisers and careers advisers to ensure that the role played by industry in the design, development, delivery and assessment of teaching and learning is a key element of our analysis.

Theoretical underpinnings and a conceptual framework

Learning theories are embedded explicitly or implicitly in all programmes, but how those theories are applied depends on the larger social, cultural, economic and political contexts within which higher education is situated. These broader socio-economic and cultural contexts privilege some theories at the expense of others, determining what knowledge, which methods of instruction, assessments and learning objectives will dominate. The contexts and pedagogies show some similarities and variations within and between institutions at both the national and European levels.

Whilst complex questions related to how learning theories translate into educational practice are not the focus of this article, we will start by very briefly outlining the major theories that have influenced and continue to influence pedagogical practice in Europe.

To do this we draw on the framework proposed by Miller and Seller (1990) that identifies three general orientations implemented by educational systems to support learning. These orientations are classified as transmission, transaction and transformation and each has implications for the pedagogical approaches that are developed and applied by Higher Education Institutions. These orientations have implications for the type of knowledge created, the roles played by students, academics and employers, the goal and focus of learning, and methods of teaching and assessment.

The primary purpose of education from the transmission perspective is to ensure that knowledge, skills and values are transmitted from academy to the student body. The learner has a largely passive role as a recipient of knowledge provided by the academy. Through this transmission lens, learning focuses on the content of the curriculum that the student must master (Fink 2003) and the educators function is to design the learning environment and pedagogy to enforce correct behaviour (Van Gyn and Grove White, 2004).

In contrast to the emphasis on acquiring necessary knowledge which lies at the heart of transmission, the transaction perspective emphasizes the development of skills needed to acquire knowledge. Integral to this perspective is an emphasis on intellectual and rational activities associated with problem solving and the development of cognitive skills to support further knowledge acquisition. Garrison and Archer (2000) suggest that this approach also relies on an assumption that learning outcomes include personal meaning and public knowledge. From this perspective, both educators and students are partners in the learning process and this reciprocal relationship means that students must become active learners and that they must understand what they do (Fink, 2003). The perspective is heavily influenced by the pragmatic philosophy of Dewey (2009), first published in the early 1900s, which supports a collaborative rational problem solving approach as a critical education methodology. Through this lens, the educator remains responsible for structuring the learning environment although the associated pedagogy differs radically from that envisaged by the transmission models. Collaborative learning with other students and group processes are encouraged, teachers remain the content experts but they also model the cognitive problem-solving skills their students are expected to develop by addressing with them the ambiguities and dilemmas inherent in the subject matter as a means of teaching students how to construct knowledge for themselves.

The transformation perspective in education is a rich intersection of views and traditions drawn from humanistic psychology, philosophy and from post-modern and post-colonial theory (Van Gyn and Grove White, 2004). Mezirow (1991) argues that the role of the transformational educator is to assist the learner in identifying and examining assumptions that underlie his or her feelings, beliefs and actions while remaining at all times conscious of how their teaching practice aligns with their learner's personal and social location. The educator acts as an 'empathetic provocateur, gently creating dilemmas by encouraging learners to face up to contradictions between what they believe and what they do' (p366).

Higher education systems in Europe are often philosophically grounded in the transmission orientation but show clear evidence of both transaction and to a lesser extent transformation approaches in their policies and practices. In his influential examination of the integration of knowledge, interests and beliefs in the learning process Habermas (1984), provides a persuasive assessment of the continuing and cumulative value of these various perspectives. He suggests that no one methodology or source is adequate to account for the various forms of human learning and he outlines three cognitive vectors that constitute knowledge that he describes as technical, practical and emancipatory. Each vector invokes and builds upon different

forms of inquiry for learning and the three parallel the transmission, transaction and transformation perspectives outlined above. This is a timely reminder of the complexity of learning and of the challenges facing educators in interpreting and applying learning theories to everyday educational practice.

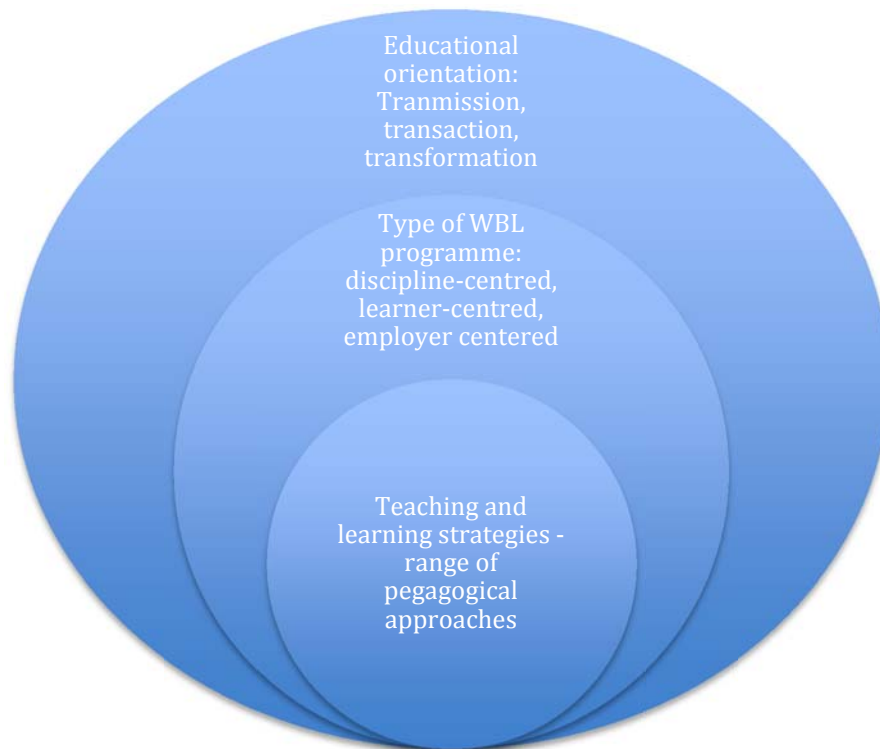
When we consider where WBL pedagogies fit within Miller and Seller's framework we have to take into account that WBL can occur in a variety of forms and many contexts. Amongst EU countries, the UK has a long history of WBL in Higher Education and has the largest number and most elaborate arrangements for WBL, whilst in many European countries examples of WBL in HE tend to be quite rare (Ferrández-Berruero et al. 2015). In a review of the literature and professional practice in the United Kingdom, Costley and Dikerdem (2011) use a typology outlining three WBL learning perspectives to discuss pedagogical inflections and differences in the delivery of WBL programmes. The typology includes firstly, discipline centred programmes delivered as part of a subject-based approach to be found in areas such as health, engineering and education. Secondly a learner-centred approach where the programme is not specifically located in an academic discipline but which uses the workplace as the principal context for learning as a value for life experience (Zabalza, 2011). Thirdly an employer-centred approach where disciplinary knowledge is combined with more business-oriented approaches and an emphasis on capability based learning.

Educational orientation influences the WBL curriculum and the learning and teaching strategies adopted to underpin it. In the transmission orientation, discipline centred curriculum content defines the knowledge that the student must acquire and educators can articulate very specific learning outcomes and predetermine and standardise pedagogy based on instructional strategies that will lead to these outcomes. Assessment mainly requires reproduction of the prescribed curriculum content with a low level of application (Fink, 2003). Whilst in some contexts this may appear to be outdated, pedagogies most closely associated with this perspective such as rote learning, direct instruction and programmed learning continue to influence mainstream HE practice in the 21st Century in many European countries.

By way of contrast, a transaction-oriented curriculum is often based on resolving authentic problems in a discipline- or multi-disciplinary field of study with academics performing roles as facilitators, advisors or expert resource as opposed to working in a more traditional academic role (Boud, 2001). This learning centred orientation addresses students' ability to demonstrate higher-order thinking skills including their ability to assess a problem, their capacity to draw upon resources including the knowledge they have constructed over the course of their learning, their creativity in providing solutions and their ability to make informed choices among various possible options. This perspective emphasises learning rather than teaching, and learner-centred outcomes such as critical thinking, self-directed learning or reflective practice are highly valued in contemporary educational systems (Boud, 2006, Workman, 2009). Pedagogical approaches associated with this perspective include the recognition of prior-learning (RPL), problem-based or inquiry-based learning, collaborative learning, reflective practice and life-long learning that are the foundation of many WBL programmes (Van Gyn and Grove White, 2004). Curriculum from the transformation perspective is integrated and interdisciplinary, allowing for significant input from learners as knowledge holders and recognising their role as agents of change with teaching, learning and workplace practice underpinned by pedagogical practices such as critical dialogue, interdisciplinary study, communities of practice and critical pedagogy and with assessment practices tending to be holistic and qualitative in nature (Miller and Seller, 1990). However, as we illustrate through the three case studies below, distinctions between educational orientation, type of WBL programme and pedagogical approach become blurred in practice.

Further exploration of pedagogical approaches within the context of the educational orientation and the type of WBL programme provide the focus for our analysis of the case studies from Spain, Finland and the United Kingdom (UK) that follow. Our analytical framework is summarised in Figure 1.

Figure 1: A framework for case study analysis



Applying this lens to the case studies enables us to explore the mix of teaching and learning strategies and pedagogical approaches underpinning WBL and to analyse how the role of the employer influence in the curriculum can affect/change the traditional academic focus (Whittington and Ferrández-Berruero, 2007).

The Case Studies

The case study is an established method of empirical investigation of a prevailing situation or phenomenon within its actual context (Yin, 2014, Saunders et al, 2009). The case studies in this paper are ideally suited to describe and explore WBL pedagogical practice, to generate new insights and to consider transferability to different national contexts. Three case studies of higher education programmes underpin our empirical analysis in this paper. The cases were purposefully selected in order to explore the orientation, type of WBL and teaching and learning strategies adopted at different levels (under and post graduate) in various sectors (technical and social) and different national contexts (United Kingdom, Finland and Spain). They draw on data collected through semi-structured interviews with students, employers, teaching staff, programme leaders, administrators, HE strategic planners and labour market intermediary organisations. The individual case studies provide illustrations of the role that employers and industry play in programme development and delivery

which provides a basis for the discussion of the educational orientation underpinning each of the programmes and the employer influence on various aspects of WBL pedagogy.

Case 1: Innovation engineering in processes and products (Undergraduate Diploma/Bachelor, Spain)

This case study is interesting from a number of perspectives including the role that the national regulatory environment plays in enabling WBL and the degree to which industry and individual companies influence the design and implementation of teaching and learning strategies.

This case is based on a programme at undergraduate level that results in a Bachelor in Industrial Engineering. The catalyst for programme development came from a business led Engineering Foundation (Instituto de MaquinaHerramienta (IMH)) in the Basque area of Spain which identified a need for higher level skills training of engineers. IMH first identified this need in 1995 and the programme initially drew on the French model of 'dual education' through alternating placements in industry with campus-based provision that was recognised by the French Educational System. After a considerable period of negotiation with the National Agency responsible for the quality assurance of HE programmes in Spain, the programme was recognised in 2012.

The current programme reflects the ability of HE to respond to the requirements of industry on a regular basis. A cornerstone of this approach is the collection and analysis of labour market and industry needs to inform the development of the programme each year. This is achieved by a representative of the university personally contacting individual members of IMH to ascertain their skills needs and this intelligence is used to identify potential work opportunities for students. In this way the curriculum is flexed in terms of content to support the current needs of companies. The programme attracts about 40 students a year with some learners being existing employees of IMH affiliated companies. However, in most instances they are young undergraduates recruited straight from education onto the course.

A key element of the delivery of the programme, not part of the teaching and learning strategy in many forms of more traditional HE programmes, is the role of a company tutor. This tutor is an employee of the company and is provided with special training in order to understand the academic programme and the learning activities that students have to carry out in the company. Students also take part in this process to ensure that expectations are shared between the academic, student and company tutor. A learning contract is negotiated between the university, the company and the student and key competencies to be developed are identified at the beginning of each module. In addition a pedagogic tutor works closely with the company tutor to coordinate content and to assess the course. They will decide how much time is to be spent on specific competencies and how this is to be delivered and assessed. Once a term, the pedagogic tutor will interview the student to assess their activity and performance and the student will write a reflection and record it in a notebook which becomes a key source of evidence and a basis for assessment of student learning.

The curriculum consists of three main blocks that adopt a variety of pedagogical approaches and reflect the transmission, transaction and to a lesser extent transformational approaches. The first block contains conventional classroom modules where the student acquires all the contents required by the National Regulations in terms of Basic Science and Technology. However it also includes simulations or joint activities with companies so that the connection between academic knowledge and practical knowledge is established at an early stage in the programme. The second

block is based on work carried out in a company alternated with some periods in the classroom. An academic tutor is in charge of the student cohort and coordinates the placements and liaises with the companies (establishes and manages the learning contract). The student is employed on a part-time basis by the company to reflect the balance of the hours that they work and learn. Typically this will include three days in the company and two days in the classroom. Once per month the student spends three days in the classroom and two days in the company to reflect a shift in emphasis towards theory.

A curriculum framework provides the guidelines to support teaching and learning strategies in each of the years of study. For example a 1st year student will be expected to demonstrate an understanding of the company's key features and to identify specific technical opportunities to be considered. A written report and presentation includes an assessment by company representatives and academic tutors. A 2nd year student is expected to undertake a structured research project to address a specific problem (assessed by two external experts with accredited competency in the issue and a member of faculty). A 3rd year student undertakes a substantial project to conform to student competences associated with leading a project and analysing and solving a problem. To achieve a balance between the assessment of academic and practical knowledge, a panel is convened including two engineers and an external professional with an academic as Chair. The final year of the programme includes a 12-week work placement in a company outside Spain and the completion of an Individual Training Project. The placement is usually in companies that are subsidiaries of the learners placement company or a member of their supply chain. These companies pay students' accommodation, subsistence and travel costs. If the company does not provide access to such learning opportunities the onus falls on IMH and the student to find an appropriate placement opportunity. This part of the programme is assessed by the student producing a written report and a presentation (both in English) to their peers and an assessment panel comprising representatives from the placement companies and the academy. Transaction and transformation orientations are apparent through the demonstration of English language skills and the production of a reflective report that includes the experience of living and working in another country. The Individual Training project encourages students to self-assess their progress and learning and the extent to which their knowledge and competencies have been enhanced.

Case 2. Company Clinic (Undergraduate/Finland)

This case study reflects a very different regulatory environment and, whilst there are some similarities in the learning and teaching strategies employed in the previous case, there are also some differences. One of the key differences is that the 'Company Clinic' model is applied to several different programmes offered by the university. Its pedagogical foundation is based on the principle of learning by developing which is found to underpin many WBL programmes in HE in Finland.

In Finnish Universities of Applied Science (UAS), learning must (by law) consist of both theory and worklife practice. In this case, the Company Clinic approach was developed as an opportunity to connect academic and workplace knowledge and practice and to satisfy the regulatory requirements for WBL across a range of UAS programmes. Through the Company Clinic, students have the opportunity to relate theory to the real life problems and challenges that companies face with a particular emphasis on supporting the sustainability and development of small and medium sized enterprises (SMEs).

The development of the Company Clinic started in 2006 and was completed in 2011. The programme academics identified key topics that must be taught, and then

allocated teachers (academics) to each block, empowering the teacher to decide what the learning and teaching strategy would be. During the 5-year curriculum development process, the curricula were divided into half-year long blocks and an academic team (typically 3-5 teachers) planned and described the scope and teaching/learning activity associated with each block to ensure topics interacted and complemented each other and so that each module included an element of WBL.

In order to manage the connections between the University and the SMEs, a full time coordinator was required to liaise with the companies, to collect work-related tasks and to evaluate and accept them as appropriate learning opportunities for the students. In each instance, the coordinator draws up a learning agreement between the company and the university and following this, the academics gather more information and hold further discussions about the task to be completed with the company.

The nature of the tasks that are identified through the contacts of the coordinator are twofold: smaller specific tasks that can be integrated into modules, and larger tasks that are suitable for a whole module project (thesis) that students are required to complete at the end of a 4-year programme. Currently, the company clinic is included in numerous programmes, and the teachers' descriptions of what kind of practical tasks would align with the focus of the course are formulated into "product cards" that the coordinator gives to companies during visits, so that companies know what (and when during the academic year) kind of tasks they can suggest. When the company sees that they have a task that suits a programme, and after the teacher has accepted the task as suitable for the theory dimension of the programme, the company and the Company Clinic coordinator (on behalf of the UAS) sign an agreement on when and how (research methodologies) the task should be completed and, eventually, how much the company must pay for the solution.

The annual planning process of the curriculum starts with a discussion with the employers. Every department has a discussion forum where the department staff meet a selection of company representatives from the region and discuss their needs and future plans. Currently, any teacher can decide on how much such company problem-solving they want to include in any given course (up to 50 % of credits).

The learning and teaching strategy includes an additional dimension to the traditional role of the academic in that s/he ensures that the company and the student group understand the link between theory and practice. Thus, the programme combines a transmission orientation associated with learning theory and discipline related to knowledge transfer and a transaction orientation where the learning goal is based on understanding the practical problems and the role of theory in addressing them. Traditional pedagogical challenges associated with teaching in HE are extended to involve reconciling the interests of students, companies and universities and determining and evaluating appropriate learning goals that reflect these interests.

Whilst embedding the student in the workplace is a preferred mode of WBL, some of the problem-solving and project work takes place in the learning laboratories at UAS. This is the case especially when working with some SMEs where resources such as rooms and appropriate hardware and software may not be available. Wherever the learning takes place, there is frequent tri-partite communication between the teacher, the student and the company to reflect on progress. Most forms of WBL undertaken through the Company Clinic are assessed through reflective assignment, written report and oral feedback where the teacher and department head along with the company representative assess the project.

Case 3: Post Graduate Diploma/Masters in Strategic Communication (UK)

This case study from the UK provides an example of a responsive, innovative discipline centred Masters programme with content negotiated by the employer, learners and academic representatives. The programme was designed in response to a request from the largest employer in the UK, the National Health Service (NHS) to provide a series of short courses to develop the capability of professionals involved in a variety of strategic communications roles in the organisation. During initial discussions with the NHS, it became apparent that the executive education required was suitable for a programme at Masters level which met the interests of both the professionals recruited onto the programme as students and the employer who required a more proactive and strategic response to the range of initiatives and challenges facing the organisation. In this way it reflected both a learner- and an employer-centred approach. One aspect of the employer-emphasis of the programme was articulated through an imperative for assessment to support work activity as well as academic requirements to be integrated into the programme.

The overall structure of the programme was agreed between the University and the NHS based on three stages lasting eighteen months in total. A contained award (PG Dip) was designed into the programme for those students who completed stages one and two but for some reason may not be able to complete the full Masters programme (all three stages). The programme was only available to students employed by the NHS. The students were expected to have a first degree in any subject plus a minimum of one year's Communications/ Public Relations Experience. Students able to demonstrate the relevant level of knowledge and satisfy the recognition of prior learning (RPL) requirements of the Institution were also admitted.

Stage one exhibited some elements of the transmission perspective and was content-oriented and covered what was identified as core knowledge (for example Strategic Communication Planning, Brand Management, Strategic Leadership). However, time was also allocated for student-requested sessions to address specific issues arising from the core content. This stage of the programme was taught in three one-day blocks using fairly traditional methods including lectures. However, it was supplemented by facilitated workshops and action learning pedagogies more closely aligned with the transactional orientation. Students were encouraged to use their own organisations as examples and case studies for discussion and reflection. Assessments were undertaken using reflective assignment that provided an opportunity for the students to contextualise the knowledge they had gained and apply it in the workplace. The assessment was built on the student's experiential knowledge and also demanded the incorporation of theory that had been introduced in the lectures or indicated in extensive reading lists. Assessment methods included reflective learning journals, assignments and presentations. In addition, a session was allocated in each teaching block for students to share how they applied their learning. This proved to be particularly valuable in helping to reinforce shared and individual learning and to surface issues linked to the practical relevance and impact of the programme's content.

An innovative part of the learning and teaching strategy at the end of stage one informed the co-creation element of the programme. This consisted of a one-day session where students were asked to consider their learning so far and to review this in the light of the current and future challenges facing their organisations. This provided an opportunity to identify key areas to be considered in stage two of the programme. The students, in groups of three, then chose one of these topics and became responsible for the delivery of a day long 'master-class' on the issue. The criteria applied to guide this master-class included the need to meet postgraduate standards of scholarship, to be contextualised for their own organisations and to be relevant to their peers. A presentation was delivered to tutors and the rest of the cohort and an

associated workbook produced with a supporting wiki that featured material for sharing with other public relations practitioners. These workbooks were structured in a format that allowed them to become working reference documents within the NHS system.

Stage three involved a comprehensive work-based project equivalent to a Masters dissertation in complexity, length and rigour. The project concept had to be negotiated with course tutors, directly relevant to the student and their work context and assessed as a research proposal before being approved. Where this differed from other less employer-centred forms of WBL was encapsulated in the work-based project proposal approval process where assessment was undertaken by the academic tutor and the student's Chief Executive in the workplace and in the regular points of reflection which provided opportunities for students, the academic team and the senior manager in the workplace to discuss issues and share ideas and solutions.

The programme pedagogy reflected the learning into action orientation of the programme. Co-production of the curriculum ensured that it was relevant to the individual student and their working context. The mature, professional nature of the students and their multi-faceted lives influenced the learning and teaching support throughout the programme. As the students moved towards a greater emphasis on the workplace as the location for learning, the need for academic and pastoral support reflected this and whilst virtual learning environments played a key role, the availability of tutors 'outside office hours' and personal contact, coaching, counselling and mentoring was a key element of the academic and pastoral support provided through the programme. This support was not limited to the students alone and strategies to engage and communicate with the representative of the employer interests frequently influenced the overall learning pedagogy through effective account management based on an understanding of evolving employer needs and a responsive HE offering developed through co-creation of the curriculum.

Discussion

Issues of WBL pedagogy and educational orientation are intertwined with the social and historic contexts of universities and the wider world in which they are situated. Government reports, leaders in industry and others in wider society urge that the world is one of change. Often the observation is a preliminary remark to the suggestion that students should be better prepared for the world that they are going to encounter and that success for the student should be measured in terms of their progress in the labour market and their subsequent salary and influence (Reich, 2000). The implication, and it is often asserted outright, is that HE have insufficiently taken account of the character of the wider world and need to be redesigned so that they address the challenges that it brings (Barnett and Coate, 2005). WBL and its associated pedagogies are one response to this challenge and are at the core of approaches to integrate the worlds of education and work.

The case studies suggest that rather than the three distinct educational orientations implied by the framework proposed by Miller and Seller (1990), individual learning programmes can reflect more than one orientation and this influences the development and use of a mix of pedagogies that are influenced by employers to varying degrees. These pedagogies, seeking to manage the growing complexity associated with the development and application of new knowledge, collaboration across academic disciplines and across different domains of practice require proactive engagement with external stakeholders including those from the public, private and third sectors and professional bodies (Costley and Dickerdem, 2011). For many educators, disciplines are at the core of academic activity and the main role of pedagogy is to transmit the knowledge that students are to master. However Parker (2002) argues that a discipline requires socialisation into tacit values developed through immersion in communities

that can provide intended learning outcomes. These learning outcomes are themselves increasingly determined by external policy agendas such as graduate employability and the need for innovation in industry.

When considering WBL from a European perspective, an important point to note is the national context and the regulatory framework for HE and WBL. For example the Finnish case illustrates that Universities of Applied Science (UAS) are required by law to provide WBL experiences as part of the curriculum for all learning programmes. The Company Clinic is a variable part of wider programme curriculum that is influenced by the traditional transmission orientation to varying degrees, contingent upon a disciplinary (or multi disciplinary) focus and the pure or applied nature of the course (amongst other factors). The Spanish and English programmes contain pedagogical elements influenced by the transmission orientation although one way in which they differ from a more traditional approach is through the use of professionals from industry to play the role of the expert, either replacing or complementing the input of academic teachers with high-level qualifications (usually PhD). The national requirements for teaching staff to be qualified to PhD level was one of the hurdles that the case study programme had to overcome in Spain where, after a considerable time, the requirements of the regulations were flexed in order to accommodate a greater professional input to the teaching of the programme to make it more reflective of industry interests and the world of work. In the UK, universities have far greater local autonomy and there has been considerable scope to employ professionals in a teaching capacity providing they can demonstrate a commensurate level of practical knowledge. However a trend in the UK towards the professionalization of the workforce in higher education has seen an increased emphasis on the requirement for teachers to possess a PhD and there is a balance to be optimised in terms of the use of academic and professional experts in the case of all programmes seeking to connect to the labour market.

The case studies also reveal a blurring of the boundaries of the analytical construct associated with a typology of WBL that views it as discipline centred, learner centred or employer centred (Costley and Dikerdem, 2011). The case studies suggest that in practice, programme designers and developers seek to integrate the elements to varying degrees. For example, the Company Clinic (Finland) is appropriate to both 'pure' and 'applied' disciplines and flexed to accommodate the interests of the academy, student and employer to varying degrees contingent upon the requirements of each learning programme within which the WBL element exists. On the other hand, the UK case reveals a programme based on a specific discipline with content influenced by the learner and the employer that is subject to negotiation as the programme progresses. This results in a dynamic curriculum to accommodate new or emerging workplace priorities generated by the employer and their operating context and reflects both learner- and employer centred dimensions. At the same time, space is afforded in the curriculum to reflect on the application of learning in the workplace which provides an opportunity to share individual learning and to surface issues related to the practical relevance and impact of the learning on the individual's performance in the workplace. A key characteristic of each of the case studies is the programme development cycle that contains space for external stakeholders to contribute to the further development of pedagogy and curriculum on a regular basis.

The transaction orientation generally exerts a powerful influence on WBL research methodologies underpinned by constructivist concepts of knowledge generation. The methodologies used in WBL programmes are not specifically different to those that might be used in conventional academic research in similar contexts although there is an understandable tendency to use action based methods. These include problem-based learning, action research, action learning, inquiry-based learning, case study,

ethnography, cooperative learning, critical thinking and reflective practice (Van Gyn and Grove White 2004; Costley and Armsby, 2007). These are variously apparent in each of the case studies where students are expected to play a more active role in their learning experience, often addressing 'real world' problems and contributing to 'solutions' to be applied in the workplace. In Finland UAS, Learning by Developing is a dominant characteristic of pedagogy where the opportunities for learning are systematically co-created and centred on a new innovation or a specific development objective defined by students, teachers and working life partners. This approach lies at the heart of the Company Clinic and also features in a different guise in the Spanish and UK case studies where co-creation and innovation are central to the programmes in different ways and to different degrees. In each case the student is expected to deal with practical problems often set by the employer or work context and to apply high-level skills such as problem-solving and critical reflection to demonstrate relevant academic learning. Each of the case studies reveals pedagogical issues associated with a tri-partite where the teacher, student and employer play various and complementary roles in the development, delivery and evaluation of the programme.

The Finnish and Spanish cases are illustrative of the increasingly prevalent role that placement projects play in many higher education programmes in Europe (IES/IRS/BIBB, 2012). However, it is important to recognise that placements are not homogenous and there is considerable diversity in their duration, repetition, assessment, degree of employer/student influence and workplace context amongst many other characteristics. The scale of the placement projects underpinning WBL programmes can range from relatively small investigations mainly influenced by a transactional orientation to major pieces of work that form the basis of doctorates/PhD's and result in significant organisational or professional change which are more reflective of a transformational orientation. The case studies illustrate examples of a version of the flipped classroom (Lage et al, 2000) where the majority of the programme curriculum is delivered in the workplace with students problem solving whilst in work and the university campus playing a relatively small role as a site of learning. Each case study programme was designed in a way that acknowledged that work-based learners had limited access to campus based learning opportunities but still needed a space to discuss and explore ideas with peers and teachers. For example, the UK case highlights the importance of on-line learning support to explore ideas and obtain pastoral support that are often key elements of effective WBL pedagogy (Naish, 2010; McClenaghan and Young 2010).

Reflection and reflexivity are central to WBL pedagogy and feature strongly in all three case studies. The literature has grown around Schön's (1983) formulations that argue that what is embodied as knowledge is revealed through reflection and deliberation either in action or after action. Much of the feedback from students contributing to the case study research centred on the value of being able to observe and experiment with tacit understandings in practice. This form of reflection in action, which attempts to discover how and what contributed to an expected or unexpected outcome, taking into account the interplay between theory and practice lies at the heart of the WBL pedagogy in each of the case studies. However, whilst critical reflection formalised into reports, essays, journals, logs, diaries or professional artefacts is often a valuable and central part of WBL (Nottingham and Akinleye, 2014; Eastman, 2013, Helyer, 2010), it should be recognised that challenges associated with grading and evaluation of such artefacts remain (Crème, 2008).

Learning agreements are a key element of WBL pedagogy and these have traditionally been formal written agreements between a learner and a supervisor usually detailing what is to be learnt, the resources and strategies available to assist it, what will be produced as evidence of the learning having occurred and how that output will be

assessed (Anderson et al 1998). The case studies highlight a further dimension as a tripartite agreement with the inclusion of the employer in the development and implementation of these agreements. Each of the case studies illustrates various aspects of an often-complex negotiation process between the employer, student and university. The development and implementation of pedagogical approaches are often led by university academics with the expectations of employers and students exerting a powerful influence on learning outcomes and how they are to be delivered and assessed.

A final point to emphasise is the important role that the external stakeholder plays in the development of WBL programmes and the challenges that this provides for HE identified by a range of authors including Boud (2001), Garnett et al. (2009) and Zabalza-Beraza (2011). The case studies provide an indication of different pedagogies that incorporate an enhanced role for the employer in setting the context for the learning, supporting the learning and assessing the learning. As a consequence, the academic teacher role changes from transmitting academic knowledge to helping to formulate learning outcomes, provide relevant knowledge and facilitate learning. In addition, there is often a need for a multi-disciplinary approach that challenges some academics with a strong single disciplinary orientation. The teacher is also required to specify the assessment criteria and negotiate a pluralistic assessment process in collaboration with the employer and the student. These developments pose some awkward questions in that there are no definitive answers – which academic topics should be included in the curriculum? What is the balance between theory and practice? What credit weightings and assessment processes are to be used? What are the relative pedagogical responsibilities of academic tutors, workplace tutors, lecturers, employers and others involved in the student experience? Where do they begin and end? What does it mean to be critical and what is the relative value of practical and academic knowledge? Which pedagogies have the greatest impact on firm productivity? How can we measure this? How much influence over the curriculum and pedagogy should be ceded to learners and employers? For many academics this presents a challenging environment and raises questions associated with whether and how universities acquire the new capabilities and skill sets to develop and deliver WBL pedagogies effectively in HE systems across Europe (see for example Carswell et al 2013 in the UK).

Conclusion

This article has explored the relationship between educational orientation, different types of WBL and forms of pedagogy in three European countries. Providing what the world wants is a relatively new and dramatic reshaping of academic knowledge that remains contested to varying degrees in the education systems of each European country. Demands for specialist knowledge and skills emerge from policy makers and industry and universities are increasingly expected to respond with new modules, new areas of specialism and new programmes that connect with the interests of industry and the labour market. Whilst we are reluctant to generalise from just three case studies at the programme level, the case studies demonstrate the ability of HE to respond to this challenge in each country and provide an insight into the rich and complex pedagogies that underpin this response.

The cases illustrate learning and teaching strategies that join the worlds of academia and work and the different levels of influence that the two worlds exert on WBL pedagogy. The influences provoke deeper transformations in curriculum, as academics implement more active methods of teaching, research, learning and assessment to integrate student, employer and policy interests. The findings have implications for pedagogic practitioners most notably in terms of the relationships

established between the employer, university and learner and the application of knowledge and skills in the workplace. Firstly, the tri-partite relationships become a key element of a pluralist pedagogy that makes dynamic learning and the integration of the worlds of work and education possible. This requires all the stakeholders engaged in the process; learners, company tutors, academic staff and those providing administrative or pastoral support to share the beliefs and behaviours that contribute towards successful WBL development and delivery. Secondly, whilst knowledge and skills such as critical thinking are a central element of HE learning, it is their application in the workplace that assumes greater importance as WBL seeks to support in-company innovation and improved organisational performance. This requires pedagogical innovation to ensure that learners not only use the right skill in an appropriate context but also recognise when knowledge is needed and that mental effort is required to apply it (Halpern, 1999).

At a European level, the Bologna Process has provided a framework for common efforts to reform and modernise HE systems but challenges remain associated with the need to strive for continued improvements in quality, mobility and relevance for labour markets (EC, 2012). Development of a global perspective is increasingly a key element of graduate employability and whilst the UK and Finish case studies focus on national and regional labour market needs, the Spanish case provides insights into WBL opportunities for learner mobility and international curriculum by tapping into trans-national company networks and international supply chains which may bring profound pedagogical challenges worthy of further exploration.

Whilst there are many opportunities to collaborate with large and small, local and multinational employers, the case studies also imply a number of risks for WBL pedagogies. To design, develop and deliver the learning and teaching strategies underpinning WBL requires considerable investment on behalf of HE. However demand can be uncertain and threaten the sustainability of such programmes. For example, large employers may fall into difficulties that result in job losses or cutting back investment in human capital or SME human resource requirements may be difficult to predict and satisfy. In more prosperous times, demand for WBL may increase dramatically as organisations face skills gaps and shortages as product-markets expand and HEIs are expected to respond to these industry needs in a timely manner. The development of learning and teaching strategies need to take these factors into account with good labour market intelligence, flexible and robust quality assurance systems and suitably trained academic staff lying at the core of successful approaches that are able to adapt to changes in demand in a timely and innovative manner.

The findings have some implications for policy makers at the National and European levels. Not least the need for national support and incentives to encourage the development of innovative WBL pedagogy including co-creation and collaborative delivery, assessment and evaluation to reflect a shift in emphasis towards transaction and transformational educational orientations that actively engage industry and employers in higher level learning. European HE policy is devolved to member states and the case studies illustrate the key role that a national regulatory framework plays in the development of WBL pedagogies. In each of the nations, there is considerable in-country variation where the policies and practices of individual universities or the national regulatory framework inhibit and enable the development and delivery of WBL related pedagogies to varying degrees. In the UK, the development of WBL has been supported by a regulatory framework that enables individual universities to accredit programmes and to develop pedagogical approaches within the quality parameters established by national guidelines. In Spain, where WBL is largely an emergent form of HE and a more centralised system of governance exists, Individual HEI's have less

flexibility to respond to the interests of industry. By way of contrast in Finland, a country that regularly features amongst lists of the most innovative countries in the world, actively promotes the WBL pedagogy adopted by the UAS through three Government Ministries and exports it internationally through Future Learning Finland.

The case studies disclose similarities and variations in WBL pedagogies associated with for example, the use of professionals as experts, action oriented research methodologies, the heterogeneity of placements, reflection and reflexivity. They also highlight the pluralistic nature of WBL pedagogy and the roles that the employer/labour market plays in the design and importantly, the on-going development, delivery and assessment of learning programmes. However, the level of analysis in this paper may mask subtle and interesting differentiation in pedagogical approaches that contribute to the unique integration of employer-learner-university interests in each programme. This provides fertile ground for further research.

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