

Online Annexe.

A1. The Data Sets.

SES: The Skills and Employment Survey Series (SES) is a series of random probability surveys, which aim to investigate people and their jobs in Great Britain. The series combines seven surveys that begun in 1986 and were repeated approximately every five years in 1992, 1997, 2001, 2006, 2012 and 2017. The numbers of respondents were: 4,047 in the 1986 survey; 3,855 in 1992; 2,467 in 1997; 4,470 in 2001; 7,787 in 2006; 3,200 in 2012; and 3,306 in 2017. Continuity in questionnaire design has meant the surveys now provide a unique, national representative picture of changes in British workplaces as reported by jobholders. The main topics include skills at work, job quality, training and skills development, worker involvement, wellbeing, and employment relations. For more information, see Felstead, A, Gallie, D and Green, F (2015) (eds) *Unequal Britain at Work*, Oxford: Oxford University Press.

ESS: The Employer Skills Survey (ESS) are a series of biennial UK-wide establishment surveys. The fourth skills survey was fielded in 2017 and asked over 87,000 employers about: recruitment difficulties, skills gaps from applicants or from existing employees, underutilisation of employees' skills, needs for skill development in the near future, the nature and scale of training, and the relationship between working practices, business strategy, skill development and skill demand. The aims are to provide comprehensive intelligence on the UK labour market and the market for skills over time. For further information, consult Winterbotham et al (2018) *Employer skills survey 2017 – Research Report*, Department for Education.

UKHLS: The Institute for Social and Economic Research (ISER) at the University of Essex has conducted Understanding Society (UK Household Longitudinal Study – short: UKHLS) since its inception in 2009. It builds on and incorporates, the British Household Panel Survey, which began in 1991. Understanding Society is an annual survey of each adult member of a nationally representative household sample. The same individuals are re-interviewed in each wave approximately 12 months apart. UKHLS aims to understand short- and long-term effects of social and economic change in the UK at the household and individual levels. The study has a strong

emphasis on employment, education, financial resources, family and social ties, and health. [The Understanding Society main stage webpage](#) provides further information about the study and survey instruments. Recent research publications using UKHLS are listed on the [Understanding Society Latest Research webpage](#).

QLFS: The Quarterly Labour Force Survey (QLFS) has been the leading source of information on employment status, occupation, training, hours of work, earnings, education, health and other personal characteristics of adult household members in the United Kingdom since 1992. It is a random probability survey of private households and households in NHS accommodation and students in halls of residence. With more than interviews 200,000 per year it is the largest repeated survey study in the UK. Further background information about the QLFS may be found in the study documentation at the [UK data archive](#).

CVTS: The Continuing Vocational Training Survey (CVTS) is an enterprise survey which is part of the EU statistics on lifelong learning. The survey aims at comparable statistical information on continuing vocational training in enterprises. CVTS 5, carried out in 2015, covers enterprises with 10 or more persons employed in the business economy; it mainly omits the public sector. The detailed coverage according to NACE Rev 2 categories is: B, C10-C12, C13-C15, C17-C18, C19-C23, C24-C25, C26-C28+C33, C29-C30, C16+C31-C32, D-E, F, G45, G46, G47, H, I, J, K64-K65, K66, L+M+N+R+S. The total net sample size for the 24 countries covered is about 111 000 enterprises.

Annex A2 to the report Recent Training Trends in Britain: Volume, Quality and Barriers

Work-based learning literature review.

Compiled by Dr. Susan Cousin.

The following table summarises the findings from a search of recent literature on work-based learning and work-place learning on the ERIC and Google Scholar databases, including searches for policy documents and evaluations of apprenticeships. The search also took in the OECD website for list of publications, meta-analyses, and frequently referenced work in the field of training quality and barriers to training.

	Definition and measurements	Barriers to training	Quality of training
	<i>Critique (in italics)</i>		
DfE Select Committee Report 2018 HC344 <i>The apprenticeships ladder of opportunity: quality not quantity</i> <i>Queen's speech 2015</i> <i>Government set a target of three million starts by 2020, despite warnings that this could reduce quality.</i>	The terms 'work-place' or 'work-based' learning do not appear in the report. <i>Reports high levels of satisfaction with apprenticeship training from employers and apprentices. Yet roughly one in five apprenticeship providers that have been inspected are rated less than good by Ofsted – is this a result of Ofsted's risk-based identification of which providers to inspect? Which could lead to under or over estimation?</i> <i>Suggests answer to quality is to spend more on monitoring: several recommendations on this area.</i>	For learners: There is no transparent quality mark by which prospective apprentices can judge quality. Progression paths are unclear; there is no map or system (para 39). The Sutton Trust found that only one in four young people who start an apprenticeship progress from level 2 to level 3. There are too many dead ends. The application process for technical education is complex: recommend a "UCAS-style portal for technical education to simplify the application process and encourage progression to	Overall quality too often poor. There is no recognised quality badge/kitemark for good apprentice employers. This should form part of a drive to ensure all such apprentice employers are aware of their responsibilities (<i>Paragraph 76</i>). Inadequate oversight of training and assessment. <i>We recommend that the Government continues to carefully monitor whether bodies responsible for apprenticeship quality have enough resources to fulfil their roles and acts quickly to remedy any emerging capacity issues.</i> (<i>Paragraph 7</i>).

	<i>“whether bodies responsible for apprenticeship quality have enough resources to fulfil their roles and act quickly to remedy any emerging capacity issues”. No mention of positive support to improve quality such as training for deliverers/supervisors.</i> <i>Levels: policy for higher levels; need is for level 2s and 3:</i> <i>“We recommend that the Institute makes the growth of degree apprenticeships a strategic priority.” (Paragraph 23)</i>	<i>further training at higher levels”. (Paragraph 89)</i> Continuing lack of independent and impartial careers advice and guidance: Baker clause not enforced. Apprentices are not given a strong enough voice. Wages: apprentice minimum wage (£3.70 per hour) is too low and not always enforced, with inadequate sanctions for those who don’t comply. Stats mask the issue: the average apprentice earns £6.70 (the minimum wage for 18-20 is £5.90). The benefits system is a barrier: <i>We recommend that the Social Mobility Commission conducts an immediate study into how the benefits system helps or hinders apprentices. No apprentice should suffer any financial disadvantage as a result of taking up an apprenticeship.</i> (Paragraph 79). Travel costs: the Government is <i>“dragging its feet over apprentice transport costs”</i> particularly in some regions. <i>Para 82.</i> Access and Inclusivity: Young and disadvantaged not given financial, emotional or learning support needed.	<i>We recommend that new providers judged by Ofsted to be making insufficient progress should be removed from the register of apprenticeship training providers.</i> (Paragraph 11). <i>We recommend that the Government places a cap on the amount of training new providers can offer. This cap should remain in place until they have been found to be making sufficient progress by Ofsted.</i> (Paragraph 14) <i>We recommend that all new apprenticeship training providers should receive at least a monitoring visit from Ofsted within a year of being approved to deliver training by the ESFA.</i> (Paragraph 16) Two areas in particular: New providers are inadequately monitored Sub-contracted training Sub-contracting is ‘opaque’ and sub-contractors are not held to quality standards, nor directly judged by Ofsted who rely on ‘middle men’ judgements. <i>We recommend that Ofsted conducts a review of subcontracted provision across the country and produces a survey report setting out its findings, drastically increases the number of monitoring visits</i>
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		Little access to bursaries for the disadvantaged. <i>Access: We recommend that the Equality and Human Rights Commission conducts a monitoring review of apprenticeship participation by gender, ethnicity and by people with learning difficulties and/or disabilities every three years. Each review should recommend changes to improve Government policy and employer practice. (Paragraph 86).</i> Social Mobility Commission found in its most recent State of the Nation report, the best opportunities can be hard to access for those geographically isolated or lacking in social capital. (para 56). People with learning difficulties and/or disabilities (LDD) are less likely to become apprentices than their peers—in 2016/17 they accounted for 10.3 percent of starts. (p.198). Those that do begin an apprenticeship drop out at a higher rate. Extra support is available to providers who employ apprentices with LDD, but this is poorly understood and employers remain wary (para 84). For Employers	<i>of subcontracted provision it undertakes, and inspects the largest subcontractors separately so that they receive a rating based on all the training they offer, regardless of lead provider. (Paragraph 49).</i> Ofsted describe the subcontracting market as “very volatile” and emphasised the importance of strong quality assurance by lead providers. No regulation of lead provider management fees. Assessment <i>We recommend that Ofqual should be given responsibility for the external quality assurance of all end-point assessments. (Paragraph 19)</i> Lack of learner voice: <i>We recommend that the role of the Institute’s apprentice panel be formalised: its recommendations to the Institute’s board and the board’s responses should be published. (Paragraph 27)</i> <i>We recommend that the Government establishes and promotes an improved complaints procedure for apprentices. (Paragraph 29)</i> New Standards
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		Systemic features acting as barriers include: Employers are inadequately funded. Time within which the apprenticeship levy must be spent is too short. 20% off-the-job training rule seen as ambiguous and inflexible, a <i>“deal breaker for many low margin organisations who cannot afford to lose staff for this amount of time”</i> page 15. But NUS and PASC: <i>“in our current imperfect system removing the protection of the 20 percent minimum, however crude it may be, could hurt apprentices.”</i> Too few incentives for small and medium-sized businesses and social enterprises Organisations that help the hardest to reach are stretched – PASC suggest a new social justice fund. <i>“the new funding system is not incentivising employers to take on young and disadvantaged apprentices. Some witnesses criticised the abolition of ringfenced budgets and lower employer contributions for younger apprentices. Others said that flaws in the system’s design could lead</i>	<i>“The transition from apprenticeship frameworks to standards has been mismanaged by successive Governments. Employers have been let down”.</i> (Paragraph 36). too few standards are available, which is preventing employers recruiting apprentices and providing high-quality training. The replacement process was originally due to finish in time for the 2017/18 academic year and there is widespread concern about the quality of inherited standards. Funding <i>We recommend that the Government increases the top funding band to better match the full cost of delivery for some apprenticeships. It should also double the time employers have to spend their funds to 48 months and allow them to transfer more of these funds to firms in their supply chain (currently only 10%).</i> (Paragraph 45) <i>We recommend that the Government caps the management fee a lead provider can charge a subcontractor. It should consult on the level at which the cap should be set. Lead providers should have to justify to the ESFA the management fees they charge.</i> (Paragraph 53) <i>We recommend that the Government tightens the requirements on providers who subcontract their provision. Lead</i>
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		<i>employers to focus on existing workers at the expense of new starters. the “general shift” towards higher levels was reducing opportunities for disadvantaged learners. Since the introduction of the new system, level 2 starts have fallen sharply. Apprenticeship participation among 16–18 year-olds declined by over five percent in 2017. We recommend that the Government increases incentive funding for small and medium-sized businesses and social enterprises who recruit young and disadvantaged apprentices, and explores other potential incentives to encourage recruitment of young and disadvantaged people. (Paragraph 59)</i> The extra support available to providers who employ apprentices with LDD, is poorly understood and employers remain wary (Para 84) – see above.	<i>providers should have to deliver a significant amount of their apprentices’ training. (Paragraph 54)</i> Unclear success criteria “success is too often judged by which institution you get into, rather than what you get out of it. As we found during our recent inquiry into higher education, what really matters is high-quality teaching, genuine experience of the world of work, and a commitment on behalf of Government and institutions to ensuring learners receive value for money” (para 92)
Ofsted blog: schools, early years, further education and skills www.gov.uk/educationinspection.blog.gov.uk Chris Jones HMI, specialist Adviser for			Because most apprenticeship standards have no qualifications, inspectors and providers must be clear about the different ways of measuring achievement. Standards focus on knowledge, skills and behaviours expected of the apprentice. Frameworks due to disappear in 2020. Over 40% of

Apprenticeships 20 July 2018			standards are for higher and degree level apprenticeships. Business admin has no replacement apprenticeship standard at level 2. But most apprentices work at levels 2 & 3 with only 11% at level 4+.
Kuczera, M. and S. Field (2018), <i>Apprenticeship in England, United Kingdom</i>, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris http://dx.doi.org/10.1787/9789264298507-en Useful and well-evidenced comparison with other OECD countries. England has relatively few young apprentices compared with other countries. The report suggests England could facilitate transition from school to work by making better use of apprenticeships	Page 47 “training delivered by and through the employer, and therefore primarily in the workplace”. Page 7, repeated on p.21 “Historically, the defining feature of apprenticeship has been a contractual relationship between an apprentice who works and an employer who trains in return. In England, the responsibility of the employer to deliver training on the job has been largely eclipsed by a focus on training delivered usually by a third-party training provider. This is unfortunate, as the key advantage of apprenticeship over other forms of training is on-the-job training, delivered by experienced workplace practitioners”. Page 48 Chapter 3 “Work-based learning has been a defining feature of apprenticeships for millennia. This chapter is about work-	Barriers for Learners Wages The most recent apprentice survey found that nearly one in five (18%) of apprentices (Level 2 and 3) are paid wages below the legally required minimum. This is a serious problem, because it is widespread, it amounts to unlawful exploitation and this type of exploitation tends to stigmatise the whole apprentice brand (p.55) Lack of Support Learner drop-out is linked to the lack of support (see systemic issues below). Academic and pastoral support for apprentices was widely agreed to be an important factor in ensuring completion, particularly for those apprentices aged 16 to 17 (Gambin, et al., 2014). Better supervision reduces dropout. More demanding apprenticeships in England could cause higher dropout rates- so need better support, not less inclusion (page 101).	“Poor quality, in one form or another, is one of the major challenges facing English Apprenticeships” (page 77) Systemic: Need for regulation and standards for apprenticeships. “Employer engagement should be encouraged by introducing clear standards for work-based learning, and investing in the training capacity of employers. Regulations and standards should also ensure that apprentices are not used solely as unskilled labour, recognising that in England nearly one in five apprentices is paid below the legal minimum”. (page 7) Lack of integration of academic and work-based learning “Degree apprenticeships are likely to grow rapidly as they allow those involved to avoid student loans and subsequent debt. This will be a positive development, but only if it restructures university degrees into quality apprenticeships with a substantial element of

targeting school leavers. <i>The report argues for more general education in all apprenticeships for young people; an increased emphasis on supporting work-based learning; and clear logical relationships between apprenticeship and the technical qualifications now under development. Degree apprenticeships potentially represent an important opportunity, but they need to involve a real integration of study in a university with work-based learning, not just a part-time degree plus a job. Page 3</i>	based learning and work-based training in apprenticeship, meaning the learning and training delivered by and through the employer, and therefore primarily at work and in the workplace. In most countries and over most of recorded history, employer-provided work-based learning and training has been central to our understanding of apprenticeship. As far back as Babylonian times, apprenticeship has involved a contractual relationship between an employer-master-teacher and a worker-trainee, with the employer-master-teacher having the obligation to provide training, and the worker-trainee having the obligation to work This is reflected, for example, in the Oxford English Dictionary definition of an apprentice as "one who is bound by legal agreement to serve an employer in the exercise of some handicraft, art, trade, or profession, for a certain number of years, with a view to learn its details and duties, in which the employer is reciprocally bound to instruct him" (Oxford English Dictionary, 1979). Today, the same principle is found in modern German apprenticeships, where all employers taking apprentices are described as 'training	In strong school systems, those facing the greatest challenges receive extra coaching, formally or informally; mentoring; wider personal or social problems affecting school performance are addressed. In some countries, apprentices receive such support to help them complete. It is often the responsibility of local authorities. In Germany 'apprenticeship assistance', is available to apprentice dropouts, and supports transition into another apprenticeship or training programme. Assistance includes remedial education (language skills, theoretical and practical instruction) and support with homework and exams. Australia has introduced 'the Apprenticeship Support Network' aimed to create efficiencies and reduce confusion in the market through a one-stop-shop for employers – it is too early to evaluate (page 102). Barriers for Employers: Employer capacity to train: Some employers may not feel able to train apprentices, and some are better than others at conducting training on the job.	work-based learning, rather than just a part-time degree plus a job”. Inadequate focus on academic or general skills linked to reduced length of programmes Youth apprenticeships in England receive much less academic preparation: “despite a recent requirement that all apprenticeships should be at least one year in length, English apprenticeships are typically much shorter than in many other countries, with an average of less than 18 months, compared with 3-4 years in some other countries (Department for Education, 2016).” English apprentices commonly spend less time in total in education and training than those in many other countries. A 3- or 4-year apprenticeship in Denmark, Norway, Austria, Switzerland or Germany will involve a substantial amount of general education, provided off the job – “this may be of the order of 400 hours” (page 13). In England, around half of starting apprentices are incumbent workers and no additional learning is needed to gain accreditation. Use of sub-contracted training providers, resulting in: work-based learning being neglected as an element of
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	employers', since taking on an apprentice involves meeting a set of requirements to offer training. Similarly, in Norway employers have to be approved as 'training organisations'." Work-based learning is a vital element in high-quality apprenticeships. "The workplace is a powerful learning environment, allowing hard skills to be learnt on the latest equipment, under the guidance and supervision of the practitioners who know how to use the equipment, while soft skills like teamwork and negotiation are acquired in context following the example of experienced professionals with these skills. It is no accident that this central defining feature of apprenticeship has allowed apprenticeship to maintain its status over millennia. External training providers inevitably find it difficult to keep up to date with technological and other change in the workplace, and teaching occupational skills in school workshops is often expensive because of the high cost of equipment. A Danish study (Westergaard and Rasmussen, 1999) compared the cost of apprenticeships, including subsidies to employers for provision of the on-the-	Those who supervise and guide apprentices in their workplaces have heavy responsibilities, especially when apprentices are young. New apprentices not only have to learn a range of formal skills, but also need to acquire a diverse set of soft skills, in terms of how they work with colleagues, relate to their boss, communicate with customers and sometimes handle conflict. Young apprentices are also learning how to deal with life in the workplace, and may also, as teenagers transitioning to adulthood, have to tackle personal problems (sometimes including drug and alcohol abuse). In Switzerland, the full range of these issues is covered by the mandatory training courses for apprentice supervisors. (page 52). In England there are no requirements for apprentices' instructors, although it is a feature in strong apprenticeships and a recommendation of the 2017 PASC. It is mandatory in Germany and Switzerland, and in some trades in Ontario Canada and optional in Norway (page 52). Better prepared apprentice supervisors reduce dropout. In Germany, the temporary suspension of compulsory training for apprentice supervisors was associated with higher apprentice dropout rates and more	apprenticeships: "A large proportion of apprenticeships in England still involve low-level skills, acquired in a period of little more than a year, with a limited component of general education, and with most of the training taking place off the job. Work-based learning is under-developed" (page 19). "Apprenticeship regulation does not currently provide adequate support for work-based development". "In England, third-party training has supplanted work-based learning requirements"(page 49). The report claims that the "longstanding obligation on an employer to provide instruction, was augmented by – but not supplanted by - training and education provided by schools, colleges and other third-party training providers, forms of learning which provide a key complement to work-based learning. In other countries, employers are still required to provide effective training and an effective learning environment in the workplace. Many of the strongest English apprenticeships continue to offer training by the teacher-practitioner-employer that is not part of the 'off-the-job' training, but training in the workplace is not systematic and lacking quality assurance." In many apprenticeship
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	job training, with the cost of apprenticeships provided entirely in schools. In the school-based apprenticeship, apprentices were receiving training they would otherwise have received with employers, in school workshops. The study found the cost of the school-based apprenticeship was five times higher than the cost of apprenticeship with a work placement, even with the subsidy included. (see Kuczera, 2016 for more information on the benefits of work-based learning). Also define 'Standards', as "the training responsibilities of employers". " 'Work-based learning standards' are regulations defining the competencies that should be developed in apprentices by employers through work-based learning, and other supporting regulations bearing on how that work-based learning should be delivered, such as those requiring relevant qualifications of apprentice supervisors". This type of apprenticeship regulation can be found in German speaking countries, in the Netherlands, Switzerland, Denmark and Norway Canada and Australia. E.g. qualifications and training of	complaints on behalf of companies about the performance of apprentices. In the light of this, mandatory training for apprentice supervisors was reintroduced in 2009 after a six-year suspension. Systemic: The report questions the age/level/sectoral shift in policy focus: Cites Australia where the sectoral shift has been linked to the sharp growth in the proportion of adult apprentices (aged 25 and above). While in 1996 adult apprentices were a minority, representing 8% of trade apprenticeships (at a time when most apprenticeships were in the trades) by 2016 adult apprentices were nearly one-third of trade apprenticeships and nearly one-half of non-trade apprenticeships. These adult apprentices are much more likely to be incumbent workers rather than new recruits. Adult apprentices are also more likely to take advantage of opportunities to use the recognition of prior learning to realise an accelerated completion of their apprenticeships – so that around half of the adult apprentices reduced	systems, training provided by employers in the workplace goes beyond training provided as part of the 'off-the-job' training in England. In England, the primary focus of regulation and quality assurance is funded training. Only 'off-the-job' training, provided by a registered training provider, is eligible for funding. This can include training that is delivered at the apprentice's normal place of work but must not be delivered as part of their normal working duties (Skills Funding Agency, 2017)." English and Maths are funded separately. Some of this 'off-the-job' training, eligible for funding in England, might be work-based learning. Employers can register as training providers and train their own staff. Some of the 'off-the-job' training provided can be subcontracted to employers by training providers and delivered in the workplace. Many employers do provide work-based learning to apprentices that is not part of the off-the-job element, even though it is not directly funded through the levy or, in the past, by the government. But these are all possibilities rather than obligations on employers. In England, regulation of employers providing apprenticeships is limited: apprenticeship must be
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	apprentices' instructors in the employer, and how and where specific skills should be developed.	their apprenticeship period from 3-4 years to less than 2 years. Capacity and support for small employers Small employers play a big role in apprenticeship provision, and may need special support, including advice on how to make most effective use of apprenticeship, and local networks of co-operation. The rationale for the new apprentice target for public-sector employers is questionable, given that the public-sector workforce is already relatively skilled in comparison with the private sector (page 9). Drop-out In England, two-thirds (67%) of starting apprentices complete (DfE, SFA, 2017). Dropout can be less costly to the apprentice than in some other countries, because the apprenticeship is not tied to their employment. Methodological variations make it difficult to make precise comparisons of completion rates, but completion rates are reported in the region of 50% for Australia, Canada, and New Zealand, above 60% for Ireland, over 70% in France and over 80% for Austria, Germany and Switzerland (page 100).	offered in jobs, called 'genuine jobs', providing apprentices with the opportunity to gain the knowledge, skills and behaviours needed to achieve apprenticeship. But this requirement bears simply on the job role. There are effectively no other regulations on employers in respect of any training that they deliver, unless, as described above, they are employer-providers or subcontractors. "This lack of focus on work-based learning is a weakness". This approach distances English apprenticeship from employer training obligations, a core characteristic of apprenticeships that was visible in English apprenticeships for many centuries, that is even visible in the dictionary definition of apprenticeship, and remains visible in the apprenticeship systems of many other countries. Since work-based learning is highly desirable, this is a major challenge. <i>A main recommendation (page 50) is: the strategic objective should be to re-establish work-based training as a key characteristic of apprenticeships which will be a necessary condition of England realising world class apprenticeships.</i> "This issue also goes to the broader ambitions embodied in the introduction
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		Data from England show that apprentices from ethnic minorities, those with a learning difficulty or disability, and those with lower levels of education are all more likely to drop out (Gambin and Hogarth, 2016). In England, dropout has been associated with getting another job, moving to another educational programme and dropping out of education and training altogether.	of the apprenticeship levy, apprenticeship reform, and the target of three million starts. Since these ambitions will involve a substantial element of restructuring of other forms of human capital development into apprenticeship, this will only represent an achievement if the apprenticeships realised can demonstrate the highest quality”. “In the absence of more regulation of the employer role, there is a real risk that a significant proportion of apprenticeships will involve the exploitation of apprentices as unskilled labour” p.50 As an integrated combination of external education and training and work-based learning is the most effective way of preparing apprentices for working life, employers should be encouraged to take more responsibility for work-based learning. This can be achieved by introducing regulations and standards for work-based learning, and by investing in the training capacity of employers. “This may involve:  Clarifying and strengthening, within the apprenticeship standards, what is expected
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			of employers (as opposed to what is expected of training providers) in terms of work-based development that goes beyond the funded off-the-job training element. Work-based training should not only be fundable in principle, but encouraged or mandated systematically in all apprenticeships. ②②Developing training for employer based supervisors of apprentices as part of a broader process of upgrading and professionalising work-based learning. ②②Enhancing collaboration between training providers and employers, with training providers not only providing guidance to students in the workplace, but also providing guidance to workplace supervisors of apprentices over how practices at work can assist learning, and how productive work, linked to structured feedback on performance, can blend work and learning. ②②Through active enforcement of standards on employers, ensuring that apprenticeship is not used to exploit apprentices as unskilled labour. ②②Enforcing rigorously the existing minimum wage requirements for apprentices.”
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			Capacity Lack of capacity and resources of employers, particularly small companies, to provide training arrangements: Governments can enhance the training capacity of firms through a wide range of tools that include the provision of training for apprentice instructors; offering support materials to firms to help them develop their training skills; and facilitating networking among employers to share knowledge and experience on how best to support, develop and make use of apprentices. For example, Switzerland, in addition to formal requirements, Gvt provides in the 'QualiCarte' a checklist of 28 quality criteria that are used by companies for self-assessment (OECD, 2010). Within the English context, a recent guide prepared by the Chartered Institute of Personnel and Development (CIPD) offers a range of advice to employers on best practice in mentoring and developing apprentices – but it is almost entirely voluntary (CIPD, 2017).
Fuller, A. and Unwin, L. (2004) Expansive learning	Part of an ESRC project, research into apprenticeships in SMEs in the steel industry (2000-2003).	The work environment can be a barrier to work-place learning	Highlighted hugely variable experiences that led to diverse outcomes. An expansive apprenticeship offered a detailed model of skill and knowledge

environments: integrating personal and organisational development, in Rainbird, H., Fuller, A. and Munro, A. (eds) Workplace Learning in Context, London: Routledge. Fuller, A. and Unwin, L. (2010) 'Knowledge Workers' as the New Apprentices: The Influence of Organisational Autonomy, Goals and Values on the Nurturing of Expertise, Vocations and Learning, 3 (3) 201-222. Fuller, A. and Unwin, L. (2016a) Applying an Apprenticeship Approach to HRD: Why the Concepts of Organisation, Identity and the Organisation of Workplace Learning Still Matter. In H. Shipton, P. Budhwar, P. Sparrow and A.	A (then) new and influential conceptual framework, presented the 'expansive/restrictive' (E/R) continuum, to identify the key pedagogical and organisational features that characterised different approaches to apprenticeship, including the relationship of the apprenticeship to the business and the use of qualifications as a platform for progression. The continuum was cited as a highlight in the ESRC's end-of-award report and formed a central part of the ESRC-funded Learning as Work project (2003-2008). This major mixed-method project investigated workplace learning in 11 public and private sectors through employee interviews and workplace observations	Over the past two decades, Fuller and Unwin have developed the concept of 'expansive' and 'restrictive' workplaces, which focus on the importance of the employment environment in promoting or restricting learning of employees. They represent the concepts as a continuum and have developed a set of criteria by which workplaces can judge how far they constitute 'expansive' workplace learning environments that promote the distinctive and core meaning of apprenticeship. They use the continuum to illustrate an argument that apprenticeship constitutes a distinct model of skill formation that should be protected from the policy effects of successive governments that have moved to dilute its 'core meaning' (Fuller and Unwin, 2016b).	acquisition through on/off-the-job training delivered by highly skilled staff; whereas a simplistic conversion of existing employees to apprentices with little discernible change in learning epitomised a restrictive apprenticeship. Here Fuller extended her apprenticeship research to the wider workplace environment, where questions about why some workplaces create expansive learning environments and others restrictive were linked to insights about how work is organised and how skills are developed and used. An outcome was the Working as Learning Framework (WALF) for employers, policymakers and researchers and has been applied in diverse sectors and settings to provide a framework for enabling workbased learning.
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Brown (eds) Human Resource Management, Innovation and Performance, London: Palgrave Macmillan. Fuller, A. and Unwin, L. (2016b) 'The aims and objectives of apprenticeship' in T. Lanning (ed) Where next for apprenticeships? Policy Report, London: CIPD, August.			
Fuller, A., Unwin, L. (2008), <i>Towards expansive apprenticeships: A commentary by the Teaching and Learning Research Programme</i>. London: Teaching and Learning Research Programme. Fuller, A. and Unwin, L. (2011), 'Apprenticeship as an evolving model of learning', <i>Journal of Vocational Education &</i>	Need to combine on and off the job training: key concept of 'hybridity'.	Many apprenticeships do not lead to the development of new skills. The absence of classroom instruction tends to apply to informal apprenticeships. Restricting apprenticeship entirely to the workplace can be risky for learners because, while the workplace and everyday activity are important for meaningful learning, apprentices also need time to reflect and transcend their workplace concerns.	Combining on-the-job training with days of classroom-based education is standard practice today in countries such as Germany and Switzerland, but apprentices in Italy and the UK, especially those in service occupations, receive no off-the-job training.

Training, Vol. 63, pp. 261-266.			
DfE SFA (2017), "National achievement rates tables 2015 to 2016", www.gov.uk/government/statistics/national-achievement-rates-tables-2015-to-2016 .			In 2015, around one in five apprentices did not receive formal training, either within the workplace or at an external provider.
Kis, V. (2016), "Work-based learning for youth at risk: Getting employers on board", <i>OECD Education Working Papers</i> , No. 150, OECD Publishing, Paris, http://dx.doi.org/10.1787/5e122a91-en .	Dropout has received relatively little attention in the development of standards or in the operation of the levy in England. This OECD survey considers work-based learning as a means of supporting school to work transition. Suggests four policy tools are commonly used to prevent the barriers listed above and ensure quality— largely by providing support and increasing access - see opposite:	1.Pre-apprenticeship schemes - designed to prepare young people for good quality apprenticeships leading to rewarding careers. Not necessarily always for those at risk – for any learner who, for one reason or another, needs preparation before entering apprenticeship. In some contexts, pre-apprenticeship may be a near-universal stage that young people pass through before entering full apprenticeships. They are called bridging programmes in Switzerland, transition programmes in Germany, and pre-apprenticeship in Australia and the United States. Shorter than usual apprenticeship programmes, two-year apprenticeships leading to a qualification are associated with better labour market outcomes than identical but uncertified programmes. Can lead directly to employment or to higher-level apprenticeship.	2.Special forms of apprenticeship are sometimes used to include young people at risk. Often, to encourage participants to transition into regular apprenticeship, and in this sense they are also a form of pre-apprenticeship. But usually they also allow for graduation within the special apprenticeship scheme, offering a qualification with labour market value. Many lower level apprenticeships (Level 2) were associated with lower quality and recent data confirm that in 2016/17 there were more people starting on higher-level apprenticeships while the uptake of Level 2 apprenticeships decreased (DfE, 2017). While an increase in higher-level apprenticeships can be seen as positive, it can leave aside some learners who are not be able to start immediately on a more demanding programme. But an apprenticeship that leads to a lower level qualification can be a high-quality option,

		3. Programmes of support during apprenticeships to assist apprentices to cope with and succeed in demanding training programmes. 4. Direct financial incentives to providers and/or employers to take apprentices from disadvantaged backgrounds.	designed to provide strong support for the learner, with attention to a range of basic and transferable skills.
Kis, V. (2016), “Work, train, win: work-based learning design and management for productivity gains”, <i>OECD Education Working Papers</i>, No. 135, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jlz6rbns1g1-en <i>Part of the OECD suite of papers on WBL.</i> <i>Focus on productivity gains from WBL, so gives some arguments for persuading employer</i>	Work-based learning (core definition): <i>Learning that takes place through some combination of observing, under-taking, and reflecting on productive work in real workplaces. It may be paid or unpaid and includes a diversity of arrangements as described below.</i> • Structured work-based learning schemes: <i>Forms of work-based learning that combine on-the-job and off-the-job components, with equal importance, and typically lead to a formal qualification. Duration, learning outcomes, funding and compensation arrangements are determined through a regulatory framework and there is typically a contract between the learner and the firm. Apprenticeships or dual programmes are a classical example of</i>	Level of investment Many countries have been promoting apprenticeships with substantial investment of public resources – for example England recently announced that government spending on apprenticeships will double by 2019-20 compared to its level in 2010-11. The United States announced in late 2015 the award of USD 175 million to expand apprenticeships in new, high-growth fields (www.dol.gov). To make the most of public investment and ensure strong outcomes for young people, structured work-based learning schemes must be carefully designed and implemented. (page 8)	The potential consequences of poorly designed work-based learning schemes include insufficient provision of work-based learning opportunities by firms, low take-up rates by learners, poor learning experiences and limited productivity increases for learners and wasteful use of public resources. For many young people enrolling in structured work-based learning schemes, like apprenticeships, these programmes are a key stepping stone into the labour market. Page 9 The time needed for a trainee to get close to the productivity of experienced employees depends on factors like the complexity of the skills involved, how good the firm is at training and the ability of the trainee. One way of capturing this

<i>engagement. Useful definitions, distinguishing structured from informal WBL. Government investment figures balance above barriers of lack of investment.</i>	<i>such schemes, but other terms are also used across countries to refer to such schemes.</i> • Work placements: <i>Forms of work-based learning that usually complement formal education and training programmes, are shorter and less regulated than formal structured work-based learning schemes. Examples include internships, work shadowing opportunities and other work placements used as part of school-based VET programmes.</i> • Informal and non-formal work-based learning: <i>Forms of work-based learning that do not lead to a qualification and typically lack explicit targeted learning outcomes. This includes, for example, learning-by doing or learning from managers or co-workers.</i>		empirically is to ask employers about their perception of how well and how fast trainees can carry out skilled tasks in comparison to skilled employees. These questions have been part of employer surveys in Germany and Switzerland. The results show substantial variation across occupations. page 13
ETF (2013) <i>Work-Based Learning: Benefits and Obstacles A Literature Review for Policy Makers and Social Partners in ETF Partner Countries</i> European Training Foundation Meta-analysis of WBL literature and research	Context p.4 “We have recently witnessed an international trend towards the reappraisal of WBL in VET and even in higher education. EU policy documents (i.e. European Commission, 2012, 2010 and Agenda 2020) increasingly emphasise the importance of apprenticeships, traineeships and other forms of WBL, focussing on the need to foster cooperation between	Systemic The VET systems in most partner countries are strongly school-based. What partner countries lack is a thorough understanding of what WBL means: the economic, social and educational benefits it can offer, its potential in the context of development, and the obstacles that stand in the way of its implementation. Moreover, partner countries often lack the capacities, methodologies and	p.8 Obstacles related to ensuring the quality of WBL. Some authors argue that the apprenticeship model—and WBL in general—is overly romanticised and that its weaknesses in terms of learning quality tend to be under-estimated. If workplaces and work practices are not learning-conducive and the potential for learning is low, WBL will obviously be less effective than other modalities, or even ineffective. However, the literature indicates that the outcomes obtained are

a review of the evidence relating to the benefits obtained from investment in WBL worldwide. <i>ETF's aim is to raise awareness in partner countries (developing countries) about the benefits and potential of work-based learning and the obstacles that may have to be overcome when implementing this model. The aim is to support VET reforms undertaken to increase labour market responsiveness as well as overall efficiency and effectiveness. The report forms part of an ETF Innovation and Learning project entitled 'Learning context matters' (2011-13), which promotes learning in different environments in partner countries, with a particular focus</i>	education and business. The Organisation for Economic Cooperation and Development (OECD), in several VET reviews over recent years, has continued to recommend wider use of WBL and has highlighted the need to improve the quality of the current offering. Similarly, the International Labour Organisation (ILO) is promoting the effort to upgrade informal apprenticeships in low- and middle-income countries.” WBL will play a more prominent role in VET in these countries in the future for several reasons: (a) purely school-based learning has structural limits with respect to the preparation of the workforce, particularly in sectors where content is non-academic (i.e. emerging manufacturing industries and modern crafts); (b) public funding of VET is under pressure in several countries and the contribution of the private sector in the form of WBL can help alleviate this problem; (c) contextualised work-process and business-process knowledge is also becoming more important in partner countries, not least because of globalisation; and (d) there is a huge need to make VET more attractive and relevant to learners and one way to	tools to establish and implement WBL routes and opportunities in VET. WBL is not meant to exclude or replace school-based learning in VET. Both modalities are most effective when they complement each other rather than compete. Most published research is in high-income countries with well-developed VET and WBL systems. p.5 Benefits only arise when certain conditions are met (i.e. an effective learning environment in the workplace). A key advantage of WBL for participants is that they develop expertise not only through the acquisition of technical skills and personal and social competences but also through socialisation in the workplace. Competences include: Hard skills, technical expertise and tacit knowledge. WBL is a very effective modality for developing expertise and skills relevant to a profession and a specific workplace. the close relationship between learning and real-life work processes and the nature of the WBL process (learning by observing and doing), the development of	influenced by diverse factors relating to the learning context and process; the most important of these are the nature and organisation of the work in the company, how the work is structured and allocated to novices, the support and constructive feedback trainees receive from co-workers and mentors, the perception of a job as meaningful, and the complexity of the job. The employer's support for WBL and their commitment to the project also has a direct impact on quality because of the staff time that must be dedicated to planning, learner placement, assessment, workplace supervision and training. The availability of good trainers and mentors is crucial to the overall quality and success of WBL, and finding the right people is particularly difficult in the case of micro- or very small enterprises. Quality depends on the use of appropriate quality control mechanisms (i.e. learning plans, counselling support, documentation and assessment of work-site learning activities), and implementing such mechanisms is not always easy, requires time and training for the supervisor. In terms of supply and demand, the review concludes that
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<i>on work-based and practical learning. Despite its main audience – countries yet to develop WBL systems – it provides a useful summary of the literature including benefits and barriers.</i> “Conclusion In summary, it would appear that the benefits of WBL far outweigh the disadvantages. As recognised by the latest Communications on VET, a properly functioning VET system including both on-the-job and off-the-job learning can make a strong contribution to a country’s economic development and social cohesion (European Commission, 2012; 2010).”	achieve this goal is to place greater emphasis on WBL. Definition p.4 “WBL is frequently described in the literature as a set of learning practices that differs from those of school-based or classroom learning. WBL is learning that takes place in a real working environment through participation in the work process, irrespective of whether the learners are young people, students, unemployed people or employees, or whether they are paid or unpaid. Some definitions go further and also encompass some forms of classroom-based learning (i.e. simulations, virtual firms) or see WBL as a component of a broader learning programme that also includes theoretical lessons and classroom learning. WBL is found at all levels of VET— initial, post-secondary and third level—and in continuing vocational education and training (CVT). However, the actual proportion of learning that takes place in a real workplace can vary considerably, ranging from a high-intensity and high frequency of work-based activities (i.e. apprenticeships, in-company training) to a low-intensity and low frequency	technical skills and disciplinary knowledge goes hand in hand with the acquisition of tacit knowledge (know-how or procedural knowledge). Soft skills and behaviours. WBL is an excellent way to acquire a broad range of soft skills, competences and behaviours. Many of these are difficult to develop outside of a real workplace, for example, attitudes towards work, taking responsibility, meeting deadlines, and knowing how to act in a given situation. Key competences (communication, teamwork and customer relations skills) and general competences (project planning and problem-solving skills) are becoming increasingly important in the labour market. Gained in formal and informal interaction with colleagues, management and customers, and by resolving real-life challenges. However, there is less consensus on the effectiveness of WBL in developing more academic knowledge and cognitive skills, such as problem solving. Achieving good results in these areas depends largely on the specific conditions of each situation. Socialisation and motivation. A growing body of research shows that, besides facilitating the acquisition of technical	“the net benefits might not be quite so substantial if apprenticeships were less selective and undertaken by a larger number of young people”. Learning needs to be structured: p.30. Findings from learner surveys suggest that part of the value of WBL for skills development arises from the fact that they are structured programmes, which appear to have a more positive impact on participants than professional experience alone. For instance, 70% of participants in school-based New Apprenticeships in Australia and 57% of participants undertaking work placements as part of VET reported that their employability skills improved a great deal, compared to 53% of those who had a part-time job and only 22% of those who had some other type of work experience (Smith and Green, 2005). The benefits of WBL are dependent on its quality: if learners are to fully develop their potential through participation in WBL, a number of conditions need to be met. These relate to both the environment and the individual, and include learner motivation, the support provided, and the extent to which learners are put in situations where the bar (expectation) is neither too high nor too low. The question is, as stated by
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<i>A meta-analysis, so repeats many of the arguments in the rest of the lit review, but is a fairly comprehensive summary and usefully devotes many pages to definitions and clarification of conceptual approaches, including a concept of WBL as situated and developing reflection in the learner. They provide a useful summary of the various ways WBL have been defined (see next column).</i> <i>The analysis is perhaps over-positive on the benefits of WBL while under-emphasising the barriers, although these are included.</i> <i>Many of the skills cited as benefits are also attained by a degree/HE route: "UK graduates in 2005 reported the following</i>	of work-based activities (i.e. internships, work-life familiarisation). In all of these cases, research and the literature have identified the many tangible and intangible benefits that WBL can offer. Overall, the literature demonstrates huge actual and potential benefits while at the same time revealing the limitations of WBL and the obstacles that hinder its implementation and proper management. The following review of the economic, social and learning benefits associated with WBL, is organised around the three actors that most benefit from this model: learners, employers, and society." Definition p.11 WBL refers to "the learning processes that take place in the workplace. Conventional theories of learning and human capital have been increasingly challenged by the development of 'situated approaches to learning' (Brown et al., 1989; Lave and Wenger, 1990). In simple terms, situated learning is learning that takes place in the same context in which it is applied." Conceptual approach	and job- or profession-specific skills, WBL is also effective in providing conditions for socialisation in a workplace environment, to understand workplace culture and its expectations and to acquire good work habits. The effects of WBL on self-confidence, self-efficacy and learner motivation have been well documented. It has also been shown to develop career awareness and career management skills. WBL has specific advantages for young people, in terms of wages and school to work transitions. Apprenticeships in particular are associated with very positive early employment outcomes in both developed and developing countries. In Australia, Germany, Netherlands, Belgium and France, for example, a high percentage of apprentices and trainees find employment immediately after they complete their training. Research has shown that involvement in WBL improves employees' quality of work, professional status, career development, and job satisfaction. It <i>fosters entrepreneurship</i>. Data from the UK show that former apprentices between the ages of 25 and 27 are almost three times more likely to set up their own businesses than their peers	Nijhof and Nieuwenhuis (2008), 'whether the workplace is designed for learning' (page 37). Quality issues include: -Apprentices can end up working in routine production (rather than learning through production). -Apprenticeships require stable conditions of skill and employment, and often deteriorate under changing conditions. -The WBL model is not a good setting for teaching abstract and theoretical material (although, as noted by Fuller and Unwin, apprenticeships can also encompass complementary training). - Apprenticeships often replicate the gender divisions of the workplace, the class biases of family selection, and the discriminatory patterns of employers. There is wide recognition that WBL brings benefits when combined with off-the-job training. Certain types of general skills, including numeracy and literacy skills, but also vocational knowledge, are acquired more easily in a classroom environment, which also operates at a slower pace (Field at al., 2009).
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<i>five main competencies acquired through their higher education five years earlier: analytical thinking (34% of respondents), performance under pressure (28%), ability to work productively with others (26%), mastery of own field or discipline (26%), and ability to acquire new knowledge (24%) (Little et al., 2008: 32). This last-mentioned skill is what adds significance to the aftermath of higher education, when many new work skills are acquired by graduates". Green, F. and Henseke, G. (2014) The Changing Graduate Labour Market: Analysis Using a New Indicator of Graduate Jobs, published by the Centre for Learning and Life Chances in Knowledge Economies</i>	the <i>learning as participation</i> approach (to which WBL is related) considers that learning is social, composed of a variety of components, and comes from experiencing and participating in daily life, which includes the relations, content and context of work (Sfard, 1998). As such, social interaction is a critical component of situated learning because learners become involved in a community-of-practice that embodies certain beliefs and behaviours to be acquired – refers to Kearsley, 2011, based on Lave, 1990; Wenger, 1998; Wenger, 2006). They suggest there is “no single definition of what WBL entails” beyond the notion that it implies two characteristics: learning in a work context and learning through practice. A distinction is made, however, between <i>learning for work</i> (e.g. during a work placement as part of an IVET curriculum) and <i>learning at work</i> (e.g. in-house company training). Seufert (2000) points out that WBL ‘differs from conventional training in that it involves deep and conscious reflection on actual experience at the work place’. In addition to the acquisition of specific skills and	who followed other education paths. P.6 Many reintegration/re-training programmes already use WBL to offer participants from vulnerable groups. Scepticism of employers Benefits for employers range from financial benefits (i.e. increased productivity) to soft benefits (i.e. increased staff morale), and from immediate benefits (i.e. acquisition of skills needed in the workplace) to medium-term (i.e. lower staff turnover) and long-term benefits (i.e. enhanced profitability and improved business performance). Employers need convincing of benefits found in academic research and employers surveys, which include: <i>Higher productivity.</i> Most European studies have found that WBL has a significant impact on productivity, although the estimated return on investment varies considerably. In some studies, employers who hired former WBL participants reported that those employees required less training, did better work and had more and broader skills than other new recruits. <i>Recruitment impact.</i> WBL affords employers insight into whether the participants have the characteristics	Summary: “the quality of WBL is not a given and needs to be regulated” (page 37) Factors which affect the learning potential of the workplace: Aspects such as autonomy to make decisions reflect the learning/development potential of the workplace. Unfortunately, these aspects are also closely related to each company’s workforce hierarchy. As shown by the European Survey of Workplace Conditions (Eurofound, 2012), there are major differences in the levels of autonomy accorded to workers depending on their categories. Highly skilled clerical workers enjoy high levels of autonomy (over 85% can change the speed, the method and the order of the tasks they undertake), while low-skilled manual workers have significantly less (only 52% have the autonomy described above). Consequently, the learning potential of jobs occupied by low-skilled manual workers is often lower than that of other types of jobs. The complexity of the job is another factor that influences the learning potential, and major differences exists across countries in the complexity of the jobs in their economies. Within Europe,
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and Societies at: http://www.llakes.org	competences, the learner's ability to develop meta-competence and learning-to-learn skills is becoming even more critical than learning specific tasks. This view is confirmed by Guile and Griffiths (2001), who state that parallel to the learners' vertical development (building the intellectual capacity to complete a VET programme), WBL also supports their horizontal development (building the capacity to integrate into different environments, including the world of work). A distinction is also made between narrow and broad interpretations of WBL: the first refers to learning in the workplace driven strictly by employer needs; the second, broader definition denotes work-related learning driven by individual and societal needs (Nixon et al., 2006). However, the results of research also reveal a growing need for a critical evaluation of the learning potential of the workplace. It is generally recognised that workplace learning has limitations, especially in terms of transferability and innovation. These limitations are not inherent in the concept of WBL; they	needed for the job. It also gives them the opportunity to recruit the most talented people, thereby reducing the cost of external recruitment and internal induction. The opportunity to get to know future employees can be an important motivating factor for employers who engage in WBL programmes, even the less intensive forms, such as internships and work-familiarisation schemes. <i>Enhanced corporate image.</i> According to surveys, employers in some countries (but not all) believe that participation in WBL enhances the company's reputation. <i>Staff retention and work satisfaction.</i> Research indicates that employees who have trained with a company are more likely to stay with that employer because they feel a sense of loyalty or commitment and see better opportunities. <i>Opportunity to address skills gaps and invest in future workforce.</i> Skills shortages have a range of negative consequences, e.g. lose valuable business or be forced to turn business away, and shortages can delay the development of new products and	countries like Denmark, Sweden, Finland and the Netherlands have significantly higher proportions of complex jobs compared to countries like Spain, Slovakia, Greece, Bulgaria, Romania and Lithuania (Greenan et al., 2007). The learning potential of a workplace is influenced by both the internal organisation and also the nature of jobs in the economy. The role of employers in WBL is crucial as they must devote staff time to planning, placement, assessment and review, as well as workplace supervision and training. The lack of a training plan and the absence of discussion with the employer to monitor progress are also reported as contributing to apprenticeship drop-out (Bowman et al., 2005). Many countries with developed apprenticeship systems have put in place a process that regulates the resources companies must have to support apprentices. (page 39) Measures to ensure that in-company trainers have the required pedagogical or personal development skills to support WBL can prove difficult to implement in SMEs (micro-businesses in particular), which are too small to employ a special trainer or to ensure that an
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	depend rather on the nature of a given workplace and its learning potential. A workplace is first and foremost a production environment and—even though today in most firms production increasingly requires learning—the extent to which a given workplace can produce changes in behaviour and favour the acquisition of knowledge varies depending on such factors as the support offered by peers and managers, the learning opportunities, and accessibility of information (Nijhof and Nieuwenhuis, 2008). Therefore, the quality of WBL and the opportunities it offers will depend on working processes and how the work is organised. The term WBL cannot be clearly distinguished from other terms used to refer to practice-based learning in a work context; several close (and interchangeable) synonyms are found in the literature, including employment-based learning, on-the-job training, enterprise-based learning and, in some contexts, workplace learning. p.12 The boundaries between these different forms of learning are often	services or lead to increased operating costs. Cost benefit analysis Costs: wage or allowance paid to trainees; supervision and mentoring, tools and materials, administration. Productive returns from apprenticeships outweigh training costs and are eventually profitable, although net costs are initially higher due to the lower productivity of apprentices in the initial stages of their training. The cost-benefit ratio is dependent on the share of general and company-specific training, length of training, and the size of the company and sector (page 6). Benefits for society: <i>Increased employability.</i> Studies comparing the performance of WBL and school-based learning indicate that WBL more effectively prepares learners for the labour market and fosters the acquisition of soft and employability skills. <i>Youth employment.</i> National studies and cross-country comparisons show that countries with strong apprenticeship systems have better youth employment patterns and lower youth unemployment rates.	existing member of staff acquires the required qualifications. A related challenge for the development of WBL is the need to standardise and institutionalise WBL practices to ensure consistent quality. The aim of quality control is to ensure a common core of learning for students (Darche et al., 2009) because WBL is not effective without quality learning in the workplace. Many strategies can be employed to accomplish this. Yasso, 2000 defined them, as follows: -a learning plan that lays out what the student should learn in the workplace; -a counselling support programme to help students cope with problems they encounter at work; -documentation and evaluation of workplace learning activities; -consensus between the school or training provider, the employer and the student on WBL goals and how they can be achieved; -careful selection and planning of workplace learning activities; -an orientation programme to prepare students socially, practically and psychologically for their role in the workplace. (p.39) The limitations of WBL include the weakness of the model for developing
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	blurred and the level of regulation and the extent to which they include a theoretical component varies. For example, the term workplace learning tends to embrace all types of learning related to the needs of the workplace, even learning that occurs away from the work process (including formal on-the-job training and off-the-job education and training), whereas the use of the term work-based learning (WBL) tends to be restricted more to learning through work. The term WBL suggests a greater focus on the actual work-process rather than on the learning venue, whereas the term workplace learning appears to focus more on the venue than on the process. However, even the term WBL is not always defined consistently in the literature. According to the strict definition, WBL is clearly distinct from classroom learning and does not encompass the latter. In the broader definitions, WBL also refers to combinations of classroom-based learning and learning in the workplace, or is seen as one component of a wider learning programme.	<i>Inclusion in society.</i> WBL can offer intrinsic benefits in terms of inclusion. It can lay down an important foundation for social integration and participation, particularly for vulnerable groups. It also helps to keep dropout rates low. <i>Economic return.</i> WBL makes sound economic sense because the costs of achieving learning outcomes are transferred from publicly funded educational institutions to enterprises. The results of studies that have compared the lifetime benefits of completing an apprenticeship in terms of employment and wages with the cost of the programmes point to significant surpluses of benefits over costs. Another economic rationale for WBL is the relationship between the technological upgrading of an economy, its potential for innovation and creativity, and the learning needed to foster both. Obstacles pp 7 &8 1 WBL is more complicated to organise than school-based learning owing to the involvement of a number of actors and, in particular, to the significant roles of the private sector and employer representatives. 2 It is subject to regulations governing not only education and training but also	basic skills or imparting theoretical or academic knowledge and issues concerning the portability of skills. Also, the reproduction of social and gender segregation patterns; and working conditions. A survey of UK graduates in 2011 showed that 17% of graduates gained work experience through unpaid internships and only 23% were paid, demonstrating that unpaid work experience is nearly as common as paid (Graduate Prospects Ltd., 2011). Unpaid internships can provide learners with relevant experience, but students in such situations should make sure they are really in positions where they are learning and benefitting from the placement; otherwise, the situation could be characterised as abusive.
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	A definition of WBL restricted to authentic working situations, involving real workplace relationships and clearly distinct from classroom-based learning may be analytically sharper, but it could also be seen as narrow and likely to make WBL less attractive. A broader definition may better reflect the reality since WBL models targeting young people in IVET usually include some classroom instruction. However, the risk of a less restrictive definition is that it may distort the fundamental concept and render the distinction meaningless since it could then be argued that classroom learning is also encompassed by WBL. WBL is usually described in the literature as a set of practices that differ from the more widely understood concept of purely school-based learning. The actual proportion of learning in an authentic workplace environment may vary. According to Sweet (2011), borderline cases include the simulated work environments (e.g. training firms) that are an integral part of vocational education for commercial and business occupations in vocational schools and colleges in Austria and	employment (i.e. labour law, health and safety). 3 Obstacles to policies supporting WBL often stem from the complex interplay between the state and employers and from the specific nature of this type of learning, often less visible and measurable than formal learning acquired outside the workplace. <i>Obstacles to optimal public policy support.</i> As WBL is a very broad concept comprising many different forms and levels, policy makers may find it difficult to decide what types of WBL to support and what form this support should take. They may have concerns about accountability, the 'deadweight' effect associated with the provision of public funds to employers (in particular for CVT), and the effects of candidate creaming. They need to channel the support to disadvantaged target groups and decide whether to support company-specific skills or only generic and transferable skills. <i>Obstacles to the recognition of WBL.</i> Two key issues are whether non-formal and informal learning leads to nationally recognised qualifications and whether these certificates have real currency in the labour market and are recognised by other companies. In some cases, qualifications have poor currency due to a lack of confidence in the	
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	other countries. These forms of learning fall between WBL and school-based learning as they do not necessarily take place in a real working environment. The importance of such virtual learning environments, which also include simulations of real workplace environments, appears to be on the rise and is challenging classical definitions of WBL. Other organisations already include forms of practical vocational training that take place in the school context (e.g. in workshops or through simulations, school-based mini-companies or virtual companies) in the broader definition of WBL (i.e. Cedefop, and the ILO definition of 'enterprise-based learning'). ETF take this approach and suggest that WBL includes a number of activities that can be situated along a continuum from shorter-term introductory types of experiences in a workplace to longer-term, more intensive placements, including internships, apprenticeships and in-company employee training. They cite a number of definitions: 'WBL refers to learning that occurs through undertaking real work, through the production of real goods and services, whether this work is paid or unpaid. It needs to be clearly	process. <i>Poaching.</i> A typical risk in WBL is that some firms will invest in training whilst others spend their money recruiting the trained workers. If competitors do not train but rather invest in higher wages to attract the trained workforce, the firms involved in training lose the full benefit of their investment. <i>Lack of a legal structure and paucity of data.</i> The lack of a regulatory framework for WBL (i.e. legislation determining the status or insurance of trainees) is often seen as an important barrier to its expansion. <i>Lack of quality can be an obstacle – see opposite</i> <i>The availability of WBL opportunities and coordination with employers.</i> The limited availability of places for apprenticeships, internships and other forms of WBL is a key problem, can change over time, is sensitive to economic cycles, and employers will not always be interested in investing time and resources in WBL. A low level of involvement on the part of social partners and stakeholders and weak links	
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	distinguished from learning that takes place in enterprise-based training workshops and training classrooms. The latter is not work-based learning, but simply classroom-based learning that takes place in an enterprise rather than in an educational institution.’ (Sweet, 2011)” ‘Acquisition of knowledge and skills through carrying out—and reflecting on—tasks in a vocational context, either at the workplace (such as alternance training) or in a vocational education and training (VET) institution.’ (Cedefop, 2011). ‘Programmes for both secondary and post-secondary students that provide opportunities to achieve employment-related competencies in the workplace. Work-based learning is often undertaken in conjunction with classroom or related learning, and may take the form of work placements, work experience, workplace mentoring, instruction in general workplace competencies and broad instruction in all aspects of industry.’ (Naidu, 2011) ‘A component of a learning programme that focuses on the application of theory in an authentic, work-based context. It addresses	between schools and employers are key challenges to the implementation of a robust WBL system. The current challenge facing informal WBL arrangements (i.e. informal apprenticeships) is the need to formalise and upgrade their systems. <i>Negative perceptions.</i> WBL is often seen by parents and learners as a second-best educational alternative, and the same perception has also negatively influenced policy making. Some employers view WBL not so much as an investment in future skills but rather as a way to sustain low-cost production. Another barrier related to the perception of WBL is a lack of familiarity with the different forms of work-based training. Research has shown that it is essential to market the value of WBL. <i>Working conditions and the tendency to reproduce work distribution patterns.</i> One of the major criticisms levelled against WBL is that it tends to reproduce existing patterns of employment segregation by gender, social class or ethnicity. The status of apprentices and trainees and their working conditions are also important issues. In countries or situations where	
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	specific competences identified for the acquisition of a qualification, which relate to the development of skills that will make the learner employable and will assist in developing his/her personal skills. Employer and professional bodies are involved in the assessment of experiential learning, together with academic staff.' Applied learning that takes place through school-based or student-led enterprises, workplace simulations, workshops and even project-based learning in the classroom can also be labelled as WBL. WBL programmes may be designed exclusively for students at different levels of education or for employees. They may be company-specific, school-wide, local, regional or national, or they may include a combination of local and national implementation and oversight (Yasso, 2000).	WBL positions are not regulated by law or where enforcement mechanisms are weak or lacking, learners may end up working long hours for low wages and enjoy little or no social protection. Attitudes p.20 positive attitudes and motivation are not necessarily a direct result of undergoing WBL. Research also shows that they are a precondition for effective learning. Eraut and Hirsch (2007) identified a series of factors that influence whether people learn on the workplace: motivation, confidence, commitment, challenge (at the appropriate level), feedback, support, and trust. Recognition p.20 one obstacle to WBL is the potential difficulties it creates with respect to the portability of the knowledge and skills acquired because what a person has learned is often not visible or is only apparent to colleagues. Therefore, qualification mechanisms are needed to ensure that the learning gained (and associated learning outcomes) is recognised and validated at least by the employer and, ideally, by the system more widely.	
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		In Finland, 5% of competence-based qualifications (VET qualification system for adults) are obtained without the learner undertaking any type of formal instruction; instead, workers obtain these qualifications through validation of learning acquired through work experience and other non-formal means (Nevala, 2010). Many other adults obtain partial competence-based qualifications by validating the learning they have gained at work. <i>(However, in England, there has to be new learning?).</i> Lack of a legal framework and paucity of data about WBL p.36. In France, for instance, legislation recognises WBL as a parallel and equivalent pathway to nationally recognised qualifications. This concept is inherent in the alternance system and was supported by legislation (2002) that grants everyone the right to have their learning recognised, irrespective of how it was acquired, provided they can produce evidence that they have acquired the required knowledge, skills and competence. Similar rights can be found in other countries, including Finland, where this applies to all VET qualifications.	
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		The lack of evidence on the effectiveness of WBL is another factor preventing its broader development – the measurement of learning outcomes can be challenging. Insufficient resources committed by employers to ensure that quality training is provided. Availability and quality of trainers and mentors Low level of involvement of social partners and stakeholders. A strong WBL culture requires the presence of powerful employer and business associations, the full involvement of trade unions, and a long familiarity of all parties with the WBL system (Quintini et al., 2007). Strong stakeholder involvement and ownership is the key factor, for example, in the strength of the <i>German</i> dual system. (page 40)	
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Learning Styles in Vocational Education and Training J. Vorhaus, in International Encyclopedia of Education (Third Edition), 2010	Work-based methods, such as on-the-job learning.	Learning preferences Researchers have explored the impact of preferences on work-based learning (Allinson and Hayes, 1996; Riding and Sadler-Smith, 1992; Smith, 2000a, 2000b). Smith (2000a, 2000b) examined the styles and learning preferences of over a thousand VET learners in Australia. His evidence suggests that the majority of VET learners tend to be dependent learners, preferring visual means of presenting and absorbing information, while resource-based flexible delivery tends to assume that VET learners are independent, and prefer text- or oral-based means of presenting and absorbing information. Through interview-based research with apprentices and trainers, Brooker and Butler (1997) suggested that apprentices rated highly the learning methods that involved structured approaches with assistance from other experts in the workplace, and that learning or practising alone were not favoured approaches. In addition, Smith's (2000a) research with apprentices provided further evidence for more structured, rather than self-directed, approaches to learning. They also found that business and management students preferred	Billett (1996) used observational approaches in the workplace to explore the use of resource-based learning materials and engagement in everyday practice. He found that everyday practice was consistently viewed as more effective than instructional materials. In the UK, Sadler-Smith et al. (2000) compared managers' perceptions of the effectiveness of a range of learning methods. Work-based methods, such as on-the-job learning, were perceived as being more effective — and were implemented more frequently — than other methods such as taught courses, while the method perceived as least effective (and used least frequently) was distance learning.
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		collaborative and dependent learning methods to self-directed learning.	
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Pandy Brodie & Kate Irving (2007) Assessment in work-based learning: investigating a pedagogical approach to enhance student learning, Assessment & Evaluation in Higher Education, 32:1, 11-19, DOI: 10.1080/02602930600848218 HE context, working with employers <i>Attempts to develop a conceptual framework for WBL at HE level; as with most of the HE WBL literature, there is an emphasis on meta-cognition (learning-to-learn); critical reflection; and holistic learning.</i>	‘Work-based learning’ (WBL) is a widely-used term in higher education today and increasingly so, with the emphasis on the sector’s role to support and develop both local and national economic infra-structures and to develop employability skills for students (Atkins, 1999). (page 11) WBL had a clear set of characteristics at the institution studied as the focus of this paper. It involves planned learning through work, a significant proportion of which is negotiated between the student and the employer; informal and unintended learning are also likely and anticipated consequences of the experience. Learning outcomes are level-related to the Quality Assurance Agency’s (QAA) Framework for Higher Education Qualifications (FHEQ) and assessment criteria agreed and transparent to learners. Assessment of WBL on undergraduate full-time programmes is based on a range of tools (presentation, reflective interview and reflective report/ portfolio) that require students to produce evidence to support their claims for learning. In the case of students on programmes designed to gain academic credit for their learning whilst in employment, accreditation of prior experiential	The development of rigorous pedagogies to underpin WBL and its assessment is still embryonic. This paper presents a case study of how one medium sized institution, with experience of offering WBL for more than 20 years, has developed a pedagogical approach for both supporting and assessing WBL. The WBL model (a triangle) is based on the inter-relationship and inter-dependency between <i>understanding learning</i>, <i>critical reflection</i> and the identification and <i>development of capability within a WBL context</i>. The approach to WBL discussed “requires students and teachers to develop, and perhaps change, their conceptual frameworks of knowledge, knowing and learning”. In higher education, epistemological beliefs are grounded within socially shared subject discipline. As Bauer et al. (2004) have argued, these belief systems related to the nature of knowledge tend to be a determining factor for learning. In WBL, the holistic nature of the learning experience (extending considerably beyond discipline boundaries) means that students need to recognize knowledge presented in unfamiliar ways and to develop the skills of meta-cognition in order to recognize and	The use of a learning journal as an aid to monitoring and evaluating progress towards achieving learning outcomes is an integral aspect of the process, and affords opportunities for both formative and summative self-assessment. Many of these skills are, however, new to students, and it could be argued that to some extent they are advantaged, or disadvantaged, by the epistemology and pedagogy of their ‘home’ disciplines. Thus, students studying social science and health-based degree programmes usually have some awareness and skills in reflective writing. For scientists and mathematicians these are often unfamiliar learning strategies. For all students, there is the challenge of accepting the value of learning through work, often underplayed in a higher education environment that is based on crediting higher level thinking, rather than ‘doing’, skills. In order to be successful WBL learners, students need to be able to recognize and measure their own learning in quite different circumstances; to acknowledge and articulate, for example, how they have learnt from informal interactions with peers in the workplace, which, as Boud and Middleton (2003, p. 194) have noted, are ‘predominant ways of learning’ at work.
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	learning (APEL) may form a significant part of the ‘learning repertoire’, with claims for learning supported by critical reflective accounts.	learn from the knowledge and experiences encountered. p.14 Teachers need to ensure students know: • what learning is, (learning implies change)—learning theory; • how to do it best, (the style, approach, fitness for purpose)—learning theory; • when they have learnt, (description of and reflection about the learning)—critical reflection; • what their learning is informed by (its validity; how it stands up to scrutiny against outside evidence)—critical reflection; • what they need to learn (future learning)—critical reflection; • what they have learnt, know more about, become more able at doing (analysis and evaluation of the learning)—capability	Assessment: The weighting within vocational programmes is such that frequently students are in a position of needing to demonstrate vocational proficiency in addition to the academic and, in some programmes, the final degree classification is derived solely from academic assessments rather than the more desirable contribution from both the academic and the professional components. This can serve to devalue capability, to distort the validity of professional/vocational programmes and, in many instances, lead to over assessment of students. Capability should be assessed: and employers can, and do, contribute. This brings to the debate issues of equity, in employer perception of what and how they are assessing, standardization between employers and across WBL opportunities, and quality assurance of assessment undertaken by those outside of the higher education institution. In assessing capability, there needs to be agreement on the evidence that can legitimately be used. Evidence can be provided by the student, the employer, the HE teacher or higher education observer. The weighting within the overall assessment of the capability being measured needs to be considered. This article suggests the use of a
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			student's written evidence articulating their capability; however, this introduces an intermediate variable, i.e. their ability to write. There are issues around how far this variable compromises the validity and integrity of the assessment of practical capability; and around the weighting that should be given to employers' contribution which, it is suggested, is currently only 10%.
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Curriculum and Globalization: Higher Education K.H. Mok, in International Encyclopaedia of Education (Third Edition), 2010	Education or higher education institutions are expected to provide training for their students in transnational skills or competences such as the mastery of an international language (i.e., English), the mastery of information and communications technology, and the abilities of problem solving, creative and critical thinking, which are considered as major components in a new curriculum which would fit the global world (UNESCO, 2000).	It is against such a wider context that a number of scholars have pointed out the importance of strengthening the work-based learning element of HE, to integrate their academic learning with the real workplace.	Work-based learning curriculum and work-integrated learning are becoming more popular, with attempts to promote the production of specific and non-disciplinary knowledge.
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Case Studies in England Ronaldo Mota, David Scott, in Education for Innovation and Independent Learning, 2014 <i>HE. Focus on the development of independent learning, collaboration and problem-solving in WBL. Underpinned by a theory of change. Recontextualisation of learning for different contexts.</i>	The Work-based Learning for Educational Professionals Centre (WLE) is a Higher Education Funding Council for England (HEFCE) initiative to encourage excellence and innovation in Higher Education. The Centre was part of the National Centre for Excellence in Teaching and Learning Languages (CETL) initiative 2005-2010. The WLE aimed to develop new approaches to work-based learning through facilitating innovations in: learning at work and through professional practice; teaching and assessment modes for work-related and work-located learning; and the uses of e-learning and digital technologies. There was a focus on interdisciplinary approaches and international collaborations, contributing to the development of new conceptual and theoretical approaches to work-based learning. Their definition: “Work-based learning is understood as a process where the problem to be solved originates from and within the work environment—this makes the assumption that the problem is the starting point of learning. This requires the development of a well-designed problem-learning approach (Hmelo-Silver, 2004; Sockalingam et	Learner-centred approaches to WBL. Students need to know precisely how they are responsible for their learning in the new setting. This will require them to understand that they need to play a more active role in their own learning, and will require greater self-motivation, organization, and greater self-awareness (metacognition) of their learning needs and behaviour.	The educational framework associated with the activities in the CETL programme was based on a theory of change, which is understood as "a systematic and cumulative study of the links between activities, outcomes and context of the initiative" (Connel and Kubish, 1998). Theory-building in work-based learning; physical and virtual centres supporting activities in face-to-face, mixed-mode and at a distance; and a multi-faceted approach to dissemination with a multifunctional website centre stimulating the development of communities of practice. The knowledge generated and practised in one context needs to be recontextualized in order for it to be used in new and different contexts. Evans et al. (2010, 2011) explore the nature of this recontextualization process with particular reference to how concepts and practices change as they are used in different contexts.
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	al., 2011). The following additional characteristics are also important: (i) learning is strongly dependent on student ownership of the problem and solution; (ii) it demands a particular type of support from the tutor, whose role is different from teachers in a conventional learning environment; (iii) the number of lectures is limited; (iv) in general, small-group collaboration is needed; and (v) ample time for self-study is made available.		
Facilitating problem-based learning among undergraduate nursing students: A qualitative systematic review Jacqueline Wosinski, Anne E. Belcher, Yvan Dürrenberger, Anne-Claude Allin, Coraline Stormacq, Linda Gerson in <i>Nurse Education Today</i> (2018) Vol. 60 pp 67-74	Key ingredients of the success in PBL among undergraduate nursing students include the learning social environment and self-regulation processes. (page 73)	Learner barriers: Student ability to learn: If students understand that PBL is designed to foster their clinical reasoning skills in complex clinical situations (Barrows and Tamblyn, 1980; McGarry et al., 2011), it will add meaning to the learning process. Students should understand that taking responsibility for the self-learning fostered by PBL becomes mandatory due to the rapid obsolescence of scientific knowledge (Billings and Halstead, 2016).	Tutors should remember that PBL aims to develop both cognition about solving clinical problems and transformative meta-cognition so that students may transfer this skill to the situations they will encounter as nurses (Billings and Halstead, 2016). According to Moust (2010), the tutor's role is to guide the students in learning both the content necessary to solve the problem and the process of PBL, as well as to regulate the group's dynamics. Tutors facilitate this process through: 1) helping group members reach an agreement regarding how the group will function; 2) fostering the

<i>Problem-based learning was the subject of the by far the greatest number of literatures arising from searches for ‘work-based learning’ on Google Scholar and ERIC. Originating in the USA health sciences curricula, it has expanded as an approach to WBL and lifelong learning in professional practice in areas including nursing, social work, mechanical engineering, optometry, industrial production. This systematic review, in the field of nursing, provides a good summary.</i>		Self-directed learning skills Developing self-learning means becoming aware of one’s own learning strategies (Moust, 2010). In PBL, self-learning is conjugated with collaborative learning, another skill necessary for efficient nursing and interdisciplinary care. For collaborative learning to increase, the PBL group needs the opportunity to solve several clinical problems together over time (Hommes et al., 2014). Students should understand that collaboration fosters learning, particularly in complex situations. Trainers need to be skilled in the approach: 1) in PBL, the nursing tutor models clinical reasoning and leadership skills; 2) the quality of group interactions is critical to the success of nursing students with PBL; 3) nursing students go through the process of learning with PBL; 4) through PBL, nursing students acquire skills that foster clinical reasoning; and 5) when the PBL method is used as intended, nursing students understand its purpose and process.	collaborative learning required to solve the problem at hand; 3) demonstrating leadership skills by steering toward the goal of PBL and; 4) instilling a positive and safe learning environment that will allow the team to demonstrate a spirit of enquiry and sharing (Moust, 2010). Leary et al. (2013): it is the tutor’s expertise in the PBL process that positively influences the students’ learning, hence PBL tutors need to be mentored in combining content and pedagogical knowledge (McKendree, 2010). p.72 Conclusions: 1) tutors should be trained to effectively guide the team work of undergraduate nursing students along the PBL process in order for them to achieve its goal; and 2) nursing students should be securely introduced to PBL and experience the development of their clinical reasoning through PBL.
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Eraut, M. (2007), <i>How professionals learn through work</i>. Guildford: SCEPTRe and the University of Surrey.	Progress in WBL can mean doing things better, doing things differently or doing different things. Encouraging progress, but also recognising it, stimulates more learning. Eraut combines a theoretical model with empirical research to present a typology of early career learning that distinguishes between: -work-processes with learning as by-product e.g. problem-solving, working with clients -learning activities located within work or learning processes e.g. asking questions, listening and observing, giving and receiving feedback -learning processes at or near the workplace e.g. coaching, shadowing, independent study, courses	Challenge and value of the work If people are over-challenged (physically, mentally or emotionally) or if they are under-challenged the learning process is not effective. Confidence and commitment, motivation The extent to which individuals perceive their job to be meaningful influences further learning and their perception of whether they can make choices. A sense of progress and accomplishment also affect when and how people learn through work. Feedback helps this.	Feedback and support Constructive feedback from co-workers, mentors and line-managers and support in answering questions lead to learning. Allocation and structuring of work The allocation of work is central in stimulating learning. The learning process is affected by the way work is organised (job descriptions and task allocation) and the decisions taken by managers or co-workers on what work is allocated to novices. Encounters and relationships with people working with, meeting and observing different people from whom the learner can learn and also the difficulty of the work. Mutual respect and the attitude of all concerned to collaboration are also crucial. Individual participation and expectation of progress and performance
Workplace Learning and the Organization Alison Fuller and Lorna Unwin (2010)	Summarises research on how work is linked to State VET systems and economic policy.	Employers The economic context is critical	Quality definitions are problematic Question whether new forms of production leading to upskilling or

The Sage Handbook of Workplace Learning chapter 4 pp 40 -50 <i>Useful history of the growth of research interest in WBL and opposing conceptualisations. More critical than much of the literature. Also discuss the role of trade unions.</i>	Work-based learning is defined as: <i>learning about work</i>. Many of the theoretical discussions have centred on adult learning and some on learners managing their own learning, with emphasis on aspects such as communities of practice and self-directed learning. Conceptualise WBL using Lave & Wenger (1991) who challenged conventional theories of learning in 2 ways: 1. importance of learning processes and the umbilical link between learning and identity formation (learning not a product) and 2. social and relational character of the learning process means the unit of analysis is the community of practice not the individual. <i>Eraut also argued for situated perspective which implies transfer between contexts is problematic and argues that explicit support should be given for new entrants to help them contextualise knowledge from other settings.</i> This approach aids understanding of learning at a collective level.	p.40 The primary function of the workplace is production not learning; workplaces have to function in the wider economy. 3 reasons for increased research interest in last 20 years: awareness of the workplace as a site for learning; globalisation and changing workforce needs; Government's concern to increase workforce skills and capacity for innovation to compete in the global marketplace. The Anglo-saxon model of capitalism (short-termism, skills polarisation, flexible, casualised labour markets has led to a 'low skills equilibrium'). Link between how nation states create their VET systems and how employers organise their workplace. E.g. Singapore interventionist, developmental; Germany supportive, corporatist; England and US laissez-faire, free-market. Organisational learning (Argyris & Schon, organization theorists) – builds conceptual bridges between WPL and organisational performance. P.46 Distributed and collective. p.47 Most contemporary researchers define <i>learning as organisational</i> to the extent that it is undertaken by members of an organisation to achieve organisational	deskilling? A high-performance management approach leads to improved organisational outcomes due to employee engagement, higher skills and capacity to innovate – depends on team working and sharing. Criticised as a front for work intensification and dependent upon context. Fuller and Unwin (2004) offer a broader conceptualisation of participation by considering pedagogical and organizational features as relevant to the creation of expansive and restrictive learning environment. Expansive environments offer substantial horizontal, cross-boundary activity, dialogue and problem-solving and reflection. Restrictive ones have little diversity and hierarchical and unreflexive forms of expertise are passed down from experts. Expert has supervisory and managerial learning on the job supported by coaching, feedback and appraisal. Prior learning opportunities create an individual's 'learning territory' through which they process new learning. Training should take a/c of existing expertise and professional values. P.46 e-learning (defined as the use of connected Information and Communication Technologies) is seen as
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	p.44 Social and situated theories of learning – participation. Can include off-site structured learning; on the job instruction and colleagues sharing of knowledge and techniques. E-learning, guided learning and portfolio building blur the distinction. External regulation including license to practice (law, medicine) requiring regular updating, can promote learning. There is a ‘measurement challenge’ in the participation approach. A social theory of learning was proposed in response to dissatisfaction with cognitive and behaviourist theories. Cognitivist explanations for the development of expertise are grounded in assumptions of individualism (the individual as autonomous learner) and stability (the acquisition of codified and stable bodies of knowledge and skills). Give a historical context for WBL research: In Europe and Australia, early work in the field was often linked to the Vocational Education and Training (VET) traditions with concerns around skills, competencies and 'on the job' learning. The idea that learning and workplaces had more to do with real lifelong and life-wide aspects than traditional "training" regimens has,	purposes, takes place in teams and is embedded in the culture. However, given the frequently conflictual nature of the workplace, it is questionable whether many cases of genuine (whole organization) organizational learning may be found. Learners Perceptions p.46 Off the job training has variable success, depending on how relevant it is perceived and whether the learner feels ‘sent on it’ for reward or punishment.	a means of offering individualised learning & widening access. Virtual tutors, e-portfolios, blogs and fora; but not used for WBL as widely as anticipated. There is relatively little research on the role of the trade unions <i>vis-à-vis</i> workplace and organizational learning. In the UK, researchers have contested the extent to which there is evidence to suggest that employees are more likely to have access to formalized training in unionized workplaces. Kersley et al. (2006) have argued there is evidence, whereas Hoque and Bacon (2008) say it is, at best, weak. Stroud and Fairbrother (2007) argue that trade unions should show an interest because there are benefits to be gained (for both employees and organizations) when the skills of any workforce are improved and expanded. These benefits relate to greater security of employment and improvements of the organization’s position in product or service markets. As Stroud and Fairbrother (2007: 9) acknowledge, however, unions have not always
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	they claim, emerged in the last decade. Since the mid 1990s, the field has grown world-wide as an area of theory, research, and practical work that has not only expanded the interest but has also legitimized the area as a field of study, reflection, and progress.		been willing or able to set the agenda when it comes to learning at work.
Work place learning across 11 sectors Felstead, A., Fuller, A., Jewson, N. and Unwin, L. (2009) <i>Improving Working as Learning</i> . London: Routledge.	Importance of locating workplaces within their productive system (i.e. stages of production - horizontal – and structures – vertical (head office, etc).	Affects discretion to create optimal conditions for learning. High and low performing work organizations due to global competition and new techs.	
Onstenk, J. and Blokhuis, F. (2007) "Apprenticeship in The Netherlands: connecting school- and work-based learning", <i>Education + Training</i> , Vol. 49 Issue: 6, pp.489-499, https://doi.org/10.1108/00400910710819136	Apprenticeship well-established part of the VET system. School and workplace learning are integrated. Defines success as “effective problem solving on the job”. Stresses importance of the quality of WPL.		Despite progress in developing closer interaction between workplaces and vocational schools two remaining issues are 1. the quality of workplace learning (content, guidance, assessment) and 2. the quality of the connection between workplace and school-based learning. Suggests solutions are establishing quality criteria for work-based learning places, enriching workplace learning and designing curricula which integrate learning places and learning experiences.

Helyer, R. 2010, 2015 (2nd ed) The Work-Based Learning Students Handbook MacMillan Springer For HE students, USA <i>Audience is the student and the book promotes WBL as empowering (RPL), flexible (learning methods, time, place and length of study), time-efficient and offering networking (p.3)</i>	“Work-based learning is what is learned by working”. Page 2 “compared to the traditional provision of HE, students learn by doing real work that is designed to support and integrate with classroom-based knowledge acquisition”. The learners are employees who negotiate a learning plan. Learning outcomes are assessed by the educational institution.	Learner barriers Claims that WBL in HE addresses the barriers of insufficient time and to build confidence by recognising skills not previously assessed or accredited. Lack of relevance addressed by negotiation of individual learning plan (with employer); learning contracts and assessments. Emphasis on learning to learn.	Good quality is: Integrative – work and the classroom inform each other- , spiral, reflective, emphasis on learning-to-learn, social, peer-learning, use of virtual tools. Stresses the need for reciprocity: work and the classroom inform each other. Refers to Kolb’s model of experiential learning.
Roodhouse, S. and Mumford, J. (2010) (2016 2nd ed) <i>Understanding Work-Based Learning</i> Routledge Universities: degree, MBA, PhD	The engagement of people in work in university accredited learning. “Learning in the workplace is focused on a job. The workplace automatically creates a social setting and competency framework” p.1. WBL is “culture building”. Methods include: induction, team building, feedback, away-days, training for statutory obligations.	Learner barriers Initiated by employers in response to business need (not learner centred so lack engagement?). Lack of recognition Quotes King 2007 on page 3: less than 20% of trainees are on programmes leading to nationally recognised qualifications. Part-time university courses (day-release, evening classes) recognise non-qualified learners but run in parallel with work not integrated p.4	The alignment of work-based needs and academic provision is strongest in post-graduate areas. (page 6)

		Distance learning: allows widening participation (pioneered by OU) but lacks peer learning (<i>possibly out of date – on-line for a provide peer exchange</i>).	
Cahill, C. (2016) <i>Making work-based learning work</i> Jobs for the Future USA	Definition page 6: WBL = “activities that occur in workplaces and that involve an employer assigning a worker or a student meaningful job tasks to develop his or her skills, knowledge, and readiness for work and to support entry or advancement in a particular career field. WBL extends into the workplace through on-the-job training, mentoring, and other supports for a continuum of lifelong learning and skill development.” Page 7 gives a useful model of types of WBL: including internships, transitional jobs, on-the-job-training, and apprenticeships, with purpose and learner population of each.	Learners Cites academic and financial barriers and also lack of social capital. Inequitable access: “The benefits have accrued primarily to the most highly educated and socially connected segments of the U.S. population. In recent years, educators and leaders in the workforce development field have returned to the problem of providing work-based learning opportunities to the marginalized populations for whom this experience can mean the most: low-income students, jobseekers (including the long-term unemployed), low-skilled incumbent workers, and opportunity youth—young people between the ages of 16 and 24 who are out of school and out of work”. (page 2) Proposes 7 principles of effective models (which address the related ‘barriers’): 1. support entry and advancement in a career track 2. Provide meaningful job tasks that build career skills and knowledge 3. Offer compensation (wages) 4. Identify target skills and how gains will be validated	Seventy percent of employers offer some type of training to employees, but these opportunities are most often aimed at management and mid-level workers.⁶ In fact, out of the \$177 billion that employers collectively spend each year on formal training, 58 percent of training dollars are spent on employees with a bachelor’s degree or higher. E.g. While doctors and nurses are required to complete formal experiential learning through internships, clinical rounds, and residencies, frontline health care workers often learn their jobs through trial and error, quick instruction by peers, and occasional “in service” sessions on required topics such as safety. Page 4 An exception to this trend in employer training priorities is the unionized portion of the construction sector, which has adopted the use of apprenticeship to support the skills development of entry-level workers. (page 5) The 7 principles also ensure high quality.

		5.Reward skill development 6.Support college entry, persistence, and completion 7.Provide comprehensive student supports (p.3)	
Talbot, J. (2019) <i>Global perspectives on work-based learning initiatives</i> IGI Global <i>Mainly HE focus. 10 countries, latest trends in WBL. England, Nigeria, New Zealand, USA, Australia, Ireland, S Africa, Germany, Japan, Netherlands. APL (accreditation of prior learning) features prominently.</i>	Distinguishes 3 ‘dimensions’ of WBL: p.xviii Full-time students on work placement, mentoring or internships; workers gaining formal qualifications or updating (APL important); workers doing both on and off the job learning e.g. apprenticeships.	Barriers: funding, institutional constraints, assessment challenges, employer capacity, especially for smaller companies. Netherlands: APL to raise qualifications levels; working on an effective pedagogy of WBL; importance of informal lifelong learning. USA: WBL in secondary schools for work readiness; integrating academic study with career preparation. Curriculum: subject discipline (universal) vs practice knowledge (contextualised, situated, multiple stakeholders).	UK: Employers do not find school-leavers have the range of skills they require but have a poor record of investing in employee development. Suggests degree apprenticeships can challenge the perceived gap between academic and professional standards, on and off the job learning and knowledge/competences.
Doel, M. (2019) <i>Defining Technical Education</i> Professorial Roundtable, IoE, UCL Presentations from: Professor Alison Fuller, Professor of Vocational Education and Work and Pro-Director Research and Development at the	Definitional concepts proposed by Professor Fuller for ‘technical education’ include: 1. Level: where technical education is a route to employment in the skilled labour market, articulating downwards to pathways to semi-skilled position and upwards to jobs requiring graduate level qualifications. In this sense it is defined internationally as ‘intermediate’ level. In terms of qualifications, this links to levels 3, 4 and 5.	Employers Future -proofing technical education in light of major technological change (‘4 th industrial revolution’). Need to recognise that workplaces are an essential resource for and source of expertise for occupational/technical state formation but that workplaces differ and not all have the capacity and characteristics to provide a generative and supportive environment for learning and development. In this sense, we need to understand	Chris Winch: defines ‘technician’ as “someone who is able to apply theoretical considerations to practice in their occupation”. Quality: the theory can not be specified by employers alone. They should be able to make recommendations as to what should be selected in curricula, but it is research professionals and others deeply involved in the relevant occupations who create the relevant theory , not employers (in the main). Theory is:

UCL Institute of Education Christopher Winch, Professor of Educational Philosophy and Policy in the School of Education, Communication and Society at King's College, London.	2. Breadth: It is important to highlight two aspects of breadth relating a) the breadth of the concept of occupation to which the education and training (E and T) relates – contrasting E and T for narrowly defined job roles versus for broad based skill formation for occupational expertise that is recognised by employers/the sector across the labour market and, for example, gives access to professional registration: b) The extent to which general education, as well as technical and vocational education, is included as an integral element of the E and T pathway. Here we know that strong national technical education systems (including the ‘dual system’) include more general education in their upper secondary/post-secondary E and T pathways (including in Apprenticeships) than has historically been the case in England. Conclusion We need a properly resourced, designed and planned intermediate TVET system, articulated vertically (down and up) with education and training and qualification pathways. It needs to be thought through in terms of its relationships to changing labour market structures, profile and opportunities.	workplace as a learning environment and explore ways in which they can be supported to become more ‘expansive’. Employer heterogeneity, different availability of capacity suggests the need for co-production and a partnership approach with providers. Systemic Moving beyond assessment and outcome-led approaches to focus on curriculum and pedagogy - inputs and process relating to both theory and practice. The purpose of technical education needs further clarification. What is it for? Learning for specific job roles, or (broader based) occupations. Development of occupational expertise that’s recognised as providing autonomous, skilled workers and as a platform for progression for participants to rise up career (and education) ladder. A lack of focus on the nature of the learning England has tended to fall into the trap of moving to levels and qualifications thus narrowing the debate by talking about qualifications first. Qualifications are the means of delivering under an	the set of assumptions, values, principles and systematically organised knowledge relevant to competent practice of the occupation. The selection should be made relative to the occupation, not to the needs of particular employers. Technical education should be closely related to the idea of an occupational, rather than an informal labour market. Technical education in this sense can encompass the traditional technical occupations, but also others that make use of systematically organised knowledge. All qualifications at level 3 and above should include a significant element of relevant theory, albeit closely related to practice. Technical education should develop sound judgement as a basis for sound practice. <i>Observation of practice alone cannot be sufficient to issue a guarantee of good performance into the future.</i> Candidates should show evidence of how they will act in complex and unpredictable situations that may arise in the future. For this they will need to draw on, not just situational, but systematically organised knowledge relevant to the practice of the occupation. This entails that they should be able to demonstrate powers of judgement in hypothetical as well as actual situations.
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	Key concepts include: Progression (platform four progression) Exchange and use value of pathways, curricula and qualifications for the individual and employer Hybridity There must be a better understanding of the interaction of theory and practice and the ways they inform each other; theory serves practice rather than being an end in itself. The concept of hybridity was seen as useful, in bridging provision to enable further learning. Co-production and capacity	education framework. Lack of a coherent framework In the market are T-levels, QCF qualifications, technical qualifications and an applied general route. The only difference is the percentage of externally assessed content and whether the qualification leads to job or to university. Need one framework with simple to use definitions, and an overarching concept of technical education to fit qualifications into. It was suggested that such a framework now exists in apprenticeships and that there is a vertical concept of a framework in Sainsbury's levels from 3-7. Such frameworks have associations of rigour, seen as aspirational in policy. Policy is likely to focus on levels 3, 4 and 5 because that is where the gap is seen, but level 2 is also important and ought to include some theory. Lack of progression A large percentage of level 2 learners are those who can't currently progress to a further level. The quality of level 2 qualifications is seen as 'lightweight' and should include more theory. Learners	Furthermore, candidates should be able to demonstrate <i>post hoc</i> what the basis of their decision-making was. If it was unsatisfactory, we would wish to withhold the guarantee of competence. These considerations suggest that we will need to assess their knowledge of theory outside immediate vocational situations. The link between vocational and technical education is very close. On the other hand, the link between technical education and vocational training is much looser. We should understand that someone who has undergone a vocational education has received a technical education in this sense. We are currently a long way from this in the UK, due to our heavy reliance on Level 2 qualifications, but this should be our aim. There is the issue of the relationship between FE and HE and in parallel between technical and technological education. The latter is education which allows the possessor to be able to analyse and even make changes to the relevant theory that are relevant to professional practice. We have a range of well-established relevant qualifications at the higher technical and technological level, situated
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		Terminology: The term ‘technical’ is off-putting for some groups especially those interested in service sector and interpersonal occupations such as healthcare (see the Gatsby Report). Design of the curriculum A characteristic of level 3 competences is autonomy. Learners need to be able to plan, develop and lead and then to be able to apply these skills to cognate occupations. Extended projects enable the development of these skills. Similarly, project management planning skills may not be part of a curriculum, but are learned incidentally through working alongside others in work settings.	at levels 4-6. Holders of level 3 qualifications, the baseline level for ‘technical’ education should be able to access these higher levels. On the German model, these qualifications would normally be accessible after several years of professional experience and approximately 1,000 hours of study, leading to a senior technical qualification such as the <i>Meister</i> or <i>Fachwirt</i>. It’s worth noting that these are currently badged at Level 6 in the EQF, giving them degree level equivalence, but through a non-university route.
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Quality Assurance.

A comprehensive 'Model of quality assurance' is found on page 77 of Kuczera, M. and S. Field (2018), *Apprenticeship in England, United Kingdom*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris <http://dx.doi.org/10.1787/9789264298507-en>.

They identify three types of feature and the quality characteristics of each. While their focus is 'apprenticeships', these features and characteristics could be applied more widely to work-based learning in all contexts.

System features

Wide coverage across different industrial sectors, high status and a good brand, extensive employer buy-in.
Strong and effective support institutions in terms of a legal and institutional framework that engages key actors in supporting the system. e.g.
Strong policymaking bodies, co-ordinating institutions e. g. Effective consultation leads to a well-respected apprenticeship system

Design features

Well-constructed qualifications, apprentice standards and approaches to assessment relevant to labour market needs.
Apprentice wages that work for both apprentice and employer.
e. g. well-qualified people, preparing qualifications and standards, adequate input from employers e. g. Time and resources to construct qualifications, standards etc. Arrangements for updating.
Leads to well-respected qualifications and standards meeting employer and learner needs.

Delivery

Especially training quality and effectiveness. e. g. Accredited training providers, well-trained trainers including in pedagogical technique.
Leads to high completion rates and good labour market outcomes.

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