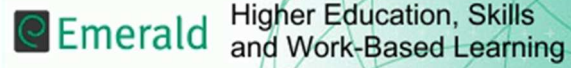


## Work-based skills development: A context-engaged approach

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**Work-based skills development: a context-engaged approach**

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# Work-based skills development: a context-engaged approach

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## Abstract

### ***Purpose (mandatory)***

The case study presented in this paper gives a successful example of how universities can work with business to identify and address skills needs through a context-engaged approach to developing learning to meet the needs identified.

### ***Design/methodology/approach (mandatory)***

Using a case study approach the business-university collaboration to introduce work-based learning programmes is explained. The paper sets out how learning interventions were researched, designed and introduced to meet identified skills needs throughout the organisation. It highlights the practicalities of the management approach adopted and the benefits achieved through partnership working.

### ***Findings (mandatory)***

Key to the success of the collaboration was the recruitment of a 'Training Centre Facilitator' (TCF) who was co-managed by the company and the University and who was located within the company. The TCF was able to fully understand the company's and learners' requirements and thus propose a context-engaged solution that met the needs of the individuals and the organisation. The work-based learning programmes introduced reflected the organisational requirements, individuals' needs and took into account constraints and restraints on their design and implementation.

### ***Originality/value (mandatory)***

The paper presents a case study that investigates an innovative approach to partnership working between HE, FE and a private business organisation. The appointment of a TCF, employed within the company to undertake research and implement identified training interventions is an unusual and original approach to bringing together the three organisations to achieve the planned business improvements. The process used and the key principles for achieving a successful partnership are presented and could be applied in other business-education collaborations to develop in-company work-based learning.

## Key words

Work-based learning, skills development, collaboration, context-engaged

## Introduction

In her paper "Towards a context-engaged approach to Work-based Learning" Felce (2010a) posits that "*a curriculum and pedagogy that are suitable for work-based learners will depend on the contexts in which the HEI is situated and that the starting point should be to develop an approach to work-based learning that engages with its environment, "a context-engaged approach".*" The starting point for developing effective learning within an organisation therefore must be to identify the environment in which that organisation operates and develop a solution that engages with that context.

1  
2  
3 This selective case study presents a context-engaged work-based learning programme  
4 undertaken through a partnership between a university, a Further Education College and  
5 an engineering component manufacturer and identifies the successes achieved. The  
6 reasoning behind the need for the tri-partite relationship between parties who would not  
7 normally enter such a partnership, is set out and the process through which a context-  
8 engaged approach to meet an identified need was realised is explained. Evaluation of the  
9 partnership working and the associated interventions are discussed with particular  
10 reference to the design and evaluation of a skills training centre which has acted as a  
11 catalyst for up-skilling the workforce.

12  
13 The paper concludes with principles that have been established to underlie the success of  
14 this case study and which can be applied to alternative organisations in other business  
15 sectors to design and introduce a learning environment that meets the specific needs of a  
16 given context.

## 17 18 19 Literature review

20  
21 The focus of this paper is an investigation into a business-education collaboration to  
22 provide an effective approach to whole workforce development to meet the changing  
23 needs of an organisation and the recognised difficulties in accessing an appropriately  
24 skilled workforce. Much has been researched and written over many years about the skills  
25 needs in industries within the UK and overseas, yet, despite the recognition that there is a  
26 skills gap (the difference between the supply of and demand for skills) the gap does not  
27 appear to be diminishing.

28  
29 In 2006, in his seminal report, Leitch identified that the UK needed to address its current  
30 and anticipated skills needs. He noted that 40% of adults should be qualified to at least  
31 degree level, that employers, individuals and government should be jointly responsible  
32 and that the focus should be on economically viable and demand-led skills (Leitch, 2006).  
33 More recently, in 2013, the Organisation for Economic Co-operation and Development  
34 (OECD) stated that *“the need for routine cognitive and craft skills is declining, while the  
35 demand for information-processing and other high-level cognitive and interpersonal skills  
36 is growing”* (OECD, 2013, p46). However, despite this optimistic view from the OECD,  
37 there are still skills deficits in many crafts and trades, for instance, a survey of house-  
38 builders within London and the South East showed that *“On average a 51% increase in  
39 training provisions will be required to meet demand for construction labour between  
40 2014-17 to plug the gap of over 14,800 trainees”* (London Chamber of Commerce and  
41 Industry & KPMG, 2014)

42  
43 Within the Black Country region of the West Midlands, in which this case study is based,  
44 there are significant gaps in the skilled workforce for the current and known future needs.  
45 Research by the Black Country Local Enterprise Partnership (BCLEP) noted that *“the Black  
46 Country has 566,300 people with some form of qualification”* and that there *“16% of  
47 residents have no qualifications, considerably higher than the national rate of 10%”*.  
48 (BCLEP, 2013a). Whilst the OECD is reporting that the need for craft skills is declining,  
49 conversely, Black Country employers do not currently employ and cannot recruit a  
50 workforce with the required technical skills. This is of particular relevance to the case  
51 study organisation who are developing new methods of working and who need to remain  
52 competitive in an increasingly global economy.

53  
54 In order to start to address the known skills shortages it is important for the local  
55 population to engage with education and training, both within compulsory and post-  
56 compulsory education and within the existing workforce. The BCLEP (2013b) note that:  
57 *“Current workforce participation in education and training ..... is also important.  
58 Continuing to engage effectively with this cohort, including employers will be vital for  
59 the future economic growth in the Black Country”*. Population census data supplied by  
60

Sandwell MBC for the local area from which the case study company's workforce could be drawn show that there are opportunities to engage with and up-skill the local population. The data also show lower than national average numbers are economically active, higher numbers than the UK average are unemployed and there is a higher than average proportion of residents over 16 with no qualifications or low qualifications and "only 16.9% have level 4 qualifications or higher compared with 27.2% in England and Wales" (Walsall Intelligence, 2013). Whilst the census data identifies potential recruits for local industries it also shows that these individuals will need to be trained to equip them with the skills needed by those industries. Over many years there has been a reliance on government funded training for those both in and outside of employment but this approach is changing to more individual and employer-focused funding for workforce development. Most notable is the move to student loans to fund full-time higher education and for employers to fund workforce development through co-funding models for apprenticeships and primary employer funding through the proposed Apprenticeship Levy.

A key criticism of many past government funded training and existing apprenticeships is that the training received does not directly meet the needs of the employer because it is too generic and not sufficiently focused on the organisation's specific needs. A recent report (OFSTED, 2015) into apprenticeship provision noted a variation in the quality and appropriateness of the programmes. Typically, "weaker provision was characterised by a lack of collaboration between providers and employers to plan apprenticeships that gave apprentices the skills they needed" (OFSTED, 2015, p5) and that "progression through the apprenticeship route was weak" (OFSTED, 2015, p6). A more positive finding related to the case study industry in that the "most effective apprenticeship provision was for those aged 16 to 24 in skilled technical and professional industries" (OFSTED, 2015, p7). These criticisms point to the need for employers and education-training providers to work together to ensure that the employers needs are understood and that they are met through the workforce development programmes that are provided.

The need for these cross-sector partnerships to improve skills and productivity were recognised by the Confederation of British Industries (CBI) when Carberry (2015) noted that whilst the "UK economy is in remarkably good shape compared with many others.... (it is)... nevertheless ... faced with some serious threats to sustained growth. Two of the greatest challenges are a worsening skills crisis and persistently low levels of productivity. This is where universities and their graduates - and their relationship with UK business - come in. .... there is no better time to be talking about the value of university-business collaborations - both to individual universities and businesses, and to the UK economy as a whole". (Carberry, 2015).

An earlier report into education-business collaboration (UKCES & Universities UK, 2014) noted that "more than one in five of all vacancies are 'skills shortage' vacancies - where employers cannot find people with the skills and qualifications needed" and, furthermore that "there are 4.3 million workers whose skills are not being used fully at work". The report proposed that "Universities and employers need to be innovative, and engaged in promoting different and non-traditional routes into higher skill roles" (UKCES & Universities UK, 2014, p4). Collaborations between education and external organisations are well-established and recognised as mutually beneficial (for example: Bloedon and Stokes, 1994; Felce, 2010b; Foskett, 2004, 2005; Haas et al, 2002, Lambert 2003). The external view into an organisation, underpinned by established research and practice, that and HEI can provide is likely to provide innovative opportunities to a business to address workforce development needs.

It is not sufficient to simply provide a catalogue of existing training and education courses and offer these to an employer, as noted earlier, such 'standard' programmes are unlikely to meet the exact needs of the organisation. It is here that a context-engaged approach where "relevant aspects of the external and internal environments should be identified

1  
2  
3 *and their impact on ... aspirations... considered*" (Felce, 2010a, p31). The context-engaged  
4 approach will also need to be cognisant of the communities of practice that exist within  
5 an organisation and that any learning within the organisation will be situated within that  
6 community / those communities (Lave and Wenger, 1991). In workforce development "*a*  
7 *training program that consists of instructional settings separated from actual*  
8 *performances would tend to split the learner's ability to manage the learning situation*  
9 *apart from his ability to perform the skill*" (Lave and Wenger, 1991, p15), it is therefore  
10 pertinent to design learning for skills and other workforce development to be integrated,  
11 as far as possible, within the workplace environment.

12  
13 There is, therefore, long-established and continuing evidence of skills not meeting the  
14 needs of industry, the region or the wider economy and that business-university  
15 collaboration is a potential route to finding a resolution. Through collaborative working  
16 education-training providers can work with business organisations to identify workforce  
17 development needs and create alternative models through which employers and  
18 employees can access that learning and apply it within the organisation to fill skills gaps  
19 and improve organisational performance.

20  
21 This paper reports on an innovative approach in the English Midlands wherein a  
22 partnership was formed to establish a university-business collaboration through which the  
23 workforce development needs of a business could be established and met. The paper  
24 considers how the unusual collaboration achieved a context-engaged solution to the  
25 organisation's specific needs and how this solution could be adapted to use in other  
26 businesses and business sectors.

## 27 28 Case study

29  
30 A case study approach is adopted for this paper because it "*provides a unique portrayal of*  
31 *real people in real social situations*" (Basit, 2010, p19) and it "*offers the opportunity to*  
32 *investigate issues where they occur... and to produce descriptive and analytical accounts*  
33 *that invite reader judgement about their plausibility*" (Cousin, 2009, p131). According to  
34 Cohen, Manion and Morrison (2011, p106) a case study approach can "*probe deeply and*  
35 *analyse intensively the multifarious phenomena that constitute the cycle of the unit*"  
36 whilst Yin (2003) notes that case study research "*allows the researcher to explore*  
37 *individuals or organizations, simple through complex interventions, relationships,*  
38 *communities, or programs*" (in Baxter and Jack, 2008, p544). Simons (1996, p225)  
39 considers that "*by focusing in depth and from a holistic perspective, a case study can*  
40 *generate both unique and universal understandings*". A case study investigation leads to a  
41 greater understanding of the case allowing the researcher to appreciate the complexities  
42 as well as the uniqueness and the interactions with the case's contexts (Stake, 1995, p16).

43  
44 Using Stake's categories of case study research (Stake, 1995) this report can be considered  
45 an intrinsic case study where "*the researcher's interest is in understanding the*  
46 *particularities of the case in hand*" to "*generalise within the case*" (Cousin, 2009 p133).  
47 Nisbet and Watt (1984, in Foskett, 2004:4) posit that this type of study is the "*systematic*  
48 *investigation of a specific instance*". Felce (2010b) used a case study approach to  
49 investigate a cross-university collaborative partnership to "*investigate the development of*  
50 *the partnership and the factors that impact on the success or failure of the partnership*"  
51 (Felce, 2010b, p65) building on the work of Foskett (2004) that investigated a partnership  
52 between an employer in the charity sector and an HEI.

53  
54 Although this case study considers a single case within a particular industry the reader can  
55 still make a judgement about its applicability to their own situation and introduce an  
56 approach that can be context-engaged to a particular setting. Through the case study  
57 approach "*fuzzy generalisations*" (Bassegy, 1999), where the outcomes from a case can be  
58 seen as a possibility for other cases, or "*naturalistic generalisations*" (Stake, 1995) where  
59  
60

1  
2  
3 it is up to the reader to “*make a judgement about the case*” (Cousin, 2009, p135) and,  
4 thus, its applicability to their own context. The approach outlined and analysed in this  
5 paper can, therefore, be relevant to any business sector in any region or country and the  
6 relationships between education and the business organisation can be adapted to suit the  
7 local contexts and required outcomes.

### 8 **Background**

9  
10 The West Midlands, in particular the Black Country, has been a centre for manufacturing  
11 since the UK’s Industrial Revolution; companies in the town of Darlaston have  
12 manufactured nuts and bolts since 1802. Over a number of years, although ownership of  
13 the companies has changed and organisations have merged, nuts and bolts have continued  
14 to be manufactured with the more recent addition of more complex components, such as  
15 ball joints, in the 1970s. Throughout, technology has advanced and competition from  
16 overseas manufacturers has grown, impacting on manufacturing methods and components  
17 produced. Early in the 21<sup>st</sup> Century a decision was made by the case study organisation  
18 (Company A) to move from the production of simple, low value components to complex,  
19 high value control arms requiring a significant investment in new machining centres and  
20 processes. The new products and processes required new, different and advanced skills  
21 from the company’s employees. The introduction of the new products and processes  
22 caused the company to reconsider its approach to staff development and to take a longer  
23 term and more holistic view.

24  
25 The University, which has “*its roots in a patchwork of independent institutions, some*  
26 *formed in the 1800s and others as late as the 1960s*” (Hayes and Meakin, 2013, p5), is  
27 committed to be the: “*Opportunity University ... to be an employer-focused university ...*  
28 *delivering opportunity and academic excellence*”. (University of Wolverhampton, 2012)

29  
30 Consequently, the University is implementing a range of initiatives to extend its existing  
31 curricular models to reach a wider audience and to increase opportunities for access to  
32 Higher Education. Key to development into these new markets is the introduction of  
33 models for new approaches to work-based learning and engagement with organisations  
34 that want to develop their existing and future workforce.

35  
36 In late 2011, the University’s Work-based Learning Unit undertook a two-year project to  
37 work towards Company A’s vision. As this initiative was a relatively new development for  
38 the University it was agreed that the project should be run as a similar model to a  
39 Knowledge Transfer Partnership (KTP), with which the University has long-standing  
40 experience. The early decisions made in terms of project planning, recruitment and  
41 project management were, therefore, based on the KTP model. Consequently the  
42 University employed a graduate (the Training Centre Facilitator) on a fixed term contract  
43 aligned to the contract period.

### 44 **Project Brief and Proposal**

45  
46 Detailed discussions between the University and Company A informed the Project Brief  
47 that set out the organisational needs around staff development. Essential elements of the  
48 Brief were:

- 49 • to meet the immediate skills needs as a consequence of the impending delivery of  
50 new multi-million pound equipment for the planned new production activities
- 51 • the need to up-skill / re-skill existing operatives to meet future production plans
- 52 • to support internal promotion through the provision of access to appropriate  
53 learning opportunities.

54  
55  
56 The University proposed a holistic approach that addresses workforce development needs  
57 throughout the organisation, from the youngest and most junior members of staff through  
58  
59  
60

1  
2  
3 to those who are longer serving and those in the most senior roles. The proposal offered  
4 to:

5 *“design and accredit a suite of complementary courses that can lead to*  
6 *vocational qualifications and (University) awards. The courses will allow*  
7 *(Company A) to meet its identified business needs as well as be flexible and*  
8 *responsive to future requirements.*

9  
10 *The courses will include operator training, both on and off the job, leading to*  
11 *qualifications .., CPD opportunities and work-based masters and doctorates*  
12 *for the management teams ... All courses will provide opportunities for work-*  
13 *based projects, designed in conjunction with (Company A) to ensure activity is*  
14 *directed at organisational as well as individual development.”*

15  
16 [Extract from Proposal, unpublished]

17 From the project proposal the concept model was developed. Figure 1 shows the  
18 principles of the lifelong learning journey that can be accessed throughout an individual’s  
19 career. It presents the vocational nature of the proposed interventions and the alignment  
20 between recognised qualifications, including the progression through apprenticeships, and  
21 key job roles within the Company A.  
22

23  
24  
25  
26 FIG 1 here  
27

28  
29 Figure 1. Training Centre Concept showing Lifelong work-based learning opportunities  
30

31  
32 A project period of two-years was proposed for the initial development work. The project  
33 commenced in January 2011 with the finalisation of the brief, it was due to run until 31<sup>st</sup>  
34 December 2013. A review of progress and outcomes in July 2013 included  
35 recommendations for potential future activities to further develop the vision for the  
36 Training Centre Concept. Company A commissioned a second phase to the project to  
37 further progress the workforce development opportunities; this was completed in  
38 December 2015.  
39

### 40 **Partnership**

41 The University is a provider of Higher Education and it was clear, from the project brief,  
42 that some of the development work was at sub-degree level, vocational training and NVQs,  
43 i.e. delivered through Further Education / private providers. To offer a seamless approach  
44 to Company A’s staff development provision the University invited a local Further  
45 Education College (FECA) to enter into a tri-partite arrangement where FECA would meet  
46 learner and employer needs at Levels 2 and 3 whilst the University would provide HE Level  
47 learning (levels 4 - 8). FECA is an existing education partner with the University so there  
48 was already an established relationship; the work with Company A provided an opportunity  
49 to extend into a different type of engagement.  
50

51 The partnership agreement comprised three documents:

- 52 1. Memorandum of Understanding (MoU) which sets out the basis of the partnership  
53 i.e. the development of the Training Centre Concept (Figure 1)
- 54 2. MoU Appendix 1. Confidentiality Agreement which deals with, primarily,  
55 ‘Proprietary Information’, Intellectual Property Rights and Copyright.  
56  
57  
58  
59  
60

3. MoU Appendix 2. Contract between the University and Company A which sets out the terms of appointment and remuneration for the TCF.

Supplementary documents included those for the management of the TCF through Company A and the University, a University Health and Safety Questionnaire, the Project Plan and Project Work Packages.

### ***Project Management***

The key project team comprised three key roles: the TCF, Industrial Supervisor (Company A's Personnel Manager) and Academic Supervisors. Documentation used for KTP was adapted resulting in one key document that set out the respective roles and responsibilities of the key project team. A Project Steering Group and a Project Working Group oversaw the activities of the TCF and co-ordinated the wider project to meet the strategic objectives. Steering Group meetings were held on a quarterly basis and Working Group meetings were held every six weeks.

### ***The role of the Training Centre Facilitator***

The TCF was employed by the University and was located full-time within Company A. The TCF had a background in engineering and was a recent graduate from the University. Her role was to conduct research and investigations to inform the design and specification for the proposed training centre. Proposals were developed in conjunction with the university, the FECA and Company A. At each stage the Project Steering Group's approval to proceed was gained. The TCF was supervised by two University academics, FECA staff and Company A's Personnel Manager. The TCF was jointly managed by the University's Head of Work-based Learning and Company A's Personnel Manager.

### ***Primary Project Work***

As stated earlier the primary reason behind Company A's engagement with the University was to meet the identified needs of workforce skills development for a multi-million pound investment in new machinery and processes. The focus, therefore, for the primary project work was to establish the specific skills and training needs and provide a staff development programme that met those needs.

In discussions between the three partner organisations the following work packages were identified:

1. Identify skills needs requirements
2. Design and implement a training centre to meet skills needs
3. Management Development Programme for Junior and Middle managers
4. Leadership Development Programme for Senior Managers and Company Executive

These work packages were agreed as essential first steps to meet the requirements for using the new equipment and to start to develop the broader training centre concept; it was envisaged that these would form essential elements within the training centre framework, around which the lifelong, work-based learning opportunities would continue to be developed.

## **Skills Training**

### ***Training for change***

The key driver for the skills training was the transition in production from high volume, small components to more highly engineered components; skills training was needed to bridge the skills gaps which would occur through operating new processes and the introduction of new machinery and technology. Many of Company A's employees are long-

1  
2  
3 serving and this significant move in production processes required the Company to support  
4 them in their move to new roles and responsibilities.

5 In addition, the company recognised that there were other gaps in the Company's skills  
6 base as a result of an historical programme of redundancies. Previous downturns in  
7 manufacturing industries resulted in workforce reduction through voluntary redundancies  
8 and many of those with the most experience and knowledge were those who took  
9 redundancy. The partnership between Company A, FECA and the University needed to  
10 meet a range of identified imperatives.

11  
12 This section of the report will provide an overview of the research undertaken to identify  
13 the skills training needs and the actions taken to introduce a skills training facility that is  
14 context-engaged to meet those identified requirements.

### 15 **Identifying skills for training**

16  
17 At an early stage in the project the TCF established a wide range of skills in use across  
18 Company A's primary factory and different skills required for setting-up, operating,  
19 managing and maintaining the new production equipment that was due to be installed. It  
20 was realised that it would not be practical to introduce training for each individual skill  
21 that was being used so the TCF took the approach used by organisations such as Toyota in  
22 which the focus of initial training is on fundamental skills.

23  
24 Fundamental Skills are:

25 *The ability needed to perform a task or understand an idea.*

26  
27 Or

28 *The basic ability necessary to function competently in society. Skills are*  
29 *reading, writing, mathematics and communication.*

30  
31 (Anon, no date)

32  
33  
34 A fundamental skill, therefore, can be seen as a generic skill which can be applied to a  
35 number of different activities. For example running can be seen as the fundamental skill  
36 which could be applied to a number of different sports; improving and practicing running  
37 techniques would naturally lead to an improvement in other sports' performance.

38  
39 Within Toyota, fundamental skills is the term used to describe the generic skills training  
40 given to all employees, irrespective of their specific work area e.g. assembly, machining,  
41 paint shop etc. The TCF at Company A followed the same approach used by Toyota to  
42 establish the fundamental skills requirements for Company A; a detailed observation of  
43 each work area and task was undertaken to establish the core skills used / needed.  
44 Research included visits to other engineering manufacturers; the visits to the training  
45 centres provided an insight into the process of design but all the facilities visited were  
46 involved in assembly operations rather than machining and assembly operations as were  
47 needed for Company A; thus a different set of skills needed to be identified through  
48 adopting a similar approach to establishment of the fundamental skills.

49  
50 The TCF took approximately 8 weeks to fully research and map the skills in use on each  
51 process at Company A's factory. The research undertaken consisted of a range of desk  
52 study, on-site observation and informal interviews with the workforce. The TCF was thus  
53 able to gain a complete understanding of the machining and assembly processes, the roles  
54 and responsibilities of operators and setter/operators and also the expectations of team  
55 leaders, supervisors and production management. A floor plan of the factory was used  
56 along with a system of coloured dots to mark when and where a particular skill was used  
57 in a process. This map gave an accurate indication of the types of skills used as well as the  
58 skills that under-pinned the majority of the processes. Eighteen skills areas were observed  
59  
60

including recording data, parts handling, visual inspection, spot marking and Kanban (a scheduling system for lean just-in-time manufacturing) (Figure 2). From these specific skills a list of eight more generic categories was established including manual handling, visual inspection, use of tools and knowledge of procedures. This list was further analysed resulting in the identification of five fundamental skills: loading/unloading, gauging, visual inspection, use of tools and packing. An additional two elements were evident in all five skills: manual handling and manual dexterity (Figure 2). In addition to these the research identified Induction and Applied Knowledge as key areas for inclusion in the workforce development programme.

Through this research the resultant skills identified were context-engaged i.e. they are the fundamental skills required for Company A; whilst there are likely to be similarities with other similar organisations, each organisation needs to be considered on its individual merits to establish the skills requirements for its own contexts.

Fig 2 here

Figure 2 . Skills grouping to determine fundamental skills

### ***The training centre***

Once the five fundamental skills were established further detailed research was undertaken to identify current theories and training methods to determine best practice and techniques in designing tasks to 'teach' and 'test' the skills. The knowledge gained from this research was used as the basis for the development of written training materials that complement the skills training tasks and that could be used as reference material after individuals had undertaken the training.

Proprietary work benches were sourced and the company's apprentices were used, where possible, to produce the training equipment for each fundamental skill task. In addition to the training workstations a projector, screen, computer and noticeboards were required to introduce and support the training programme.

There were some difficulties in finding a suitable location for the training centre; it needed to be large enough to accommodate the equipment to train and test in the five fundamental skills and to provide circulation space for the trainers and trainees undertaking the training. It needed to be close enough to the shop floor to be readily accessible but not so close that it suffered from noise pollution and it need to be clean, well lit and ventilated. The room that has been used met these criteria and, in addition, included a sink area and storage space; these could not be removed and have provided additional useful facilities e.g. for washing hands and providing drinking water that would not otherwise have been part of the room specification.

### ***Pilot, training and evaluation***

An initial pilot of the training centre was undertaken to determine the optimum structure for each training day, timings of training at each fundamental skills workstation to ensure a continuous flow of trainees between workstations, to evaluate the effectiveness of the written procedures and self-evaluation forms, to obtain perspectives about the training from a range of job roles within the company.

The first pilot study led to the introduction of magnetic white boards at each skills station with posters illustrating the key points for each skill. Pilot studies 2 and 3 resulted in the creating of 'key learning points' booklet for each trainee to act as aide-memoires for the training covered during the day. The pilot studies confirmed the fundamental skills training should be of one day duration.

1  
2  
3 Each training day concludes with an evaluation of the learning undertaken including a self-  
4 evaluation of performance on each of the tasks and qualitative comments on perceptions  
5 about the training. A more detailed evaluation was conducted towards the end of phase 2  
6 where perceptions of the trainees at least six months after completing the training were  
7 established. Results of this evaluation are presented later in this report.

8  
9 Since its introduction over 365 employees have completed the fundamental skills training  
10 of which 299 are production staff; trainees have also included all office and executives  
11 within Company A. All permanent and temporary staff have undertaken the training and  
12 new employees undertake stage 1 and 2 training as part of their induction before they  
13 start work on the shop floor.

## 14 15 **Evaluation**

16  
17 The University has worked with Company A to evaluate the effectiveness of the skills  
18 training centre through interviews with a representative sample of staff who have  
19 undertaken the training and through a review of key performance indicators (KPIs) and  
20 other external reference points that impact on the company's productivity and  
21 performance.  
22

### 23 ***Focus group interviews***

24 The evaluation of the skills training centre interventions involved a series of focus group  
25 interviews with a self-selected sample of those undertaking the skills training; each focus  
26 group was led by the same facilitator who used the same semi-structured questions to  
27 draw out the interviewees' evaluations and perceptions of their experiences of their  
28 development intervention. Interviews were recorded and a transcript of the interview was  
29 provided to the principal author for analysis and interpretation. Each participant was  
30 provided with a sheet that explained the purpose of the interviews, that their comments  
31 would be anonymous and that they could withdraw from the group at any point.  
32

33 In addition to the focus groups one case study was prepared through a detailed interview  
34 with one of the members of staff who has been promoted as a consequence of the staff  
35 development that he undertook.  
36

37 The interviewer was the TCF, the graduate placed within the company and who is one of  
38 the co-authors. She was chosen to conduct the interviews because of her access to  
39 employees and because of her established working relationships with the different target  
40 groups within the organisation.  
41

42 Over a period of ten weeks five focus group interviews were held with a total of 17  
43 participants; one in-depth interview was held within this timeframe from which a case  
44 study was prepared. Two of the focus groups involved staff who also undertook  
45 leadership and management training; one focus group was for the apprentices; one group  
46 who also studied for an NVQ in Performing Engineering Operations and one who only  
47 undertook the fundamental skills training at Darlaston.

48 Analysis of the focus group interviews shows that the participants found that the  
49 fundamental skills training was more interesting than they thought it would be, that it  
50 could be applied directly to their job and that it made them more engaged in their work  
51 and more empowered as an employee. Many had not undertaken training previously and  
52 most were keen to do more training.  
53

54 Apprentices who took part in the interviews found the fundamental skills training was  
55 essential as initial training before starting work on the shop floor and that it gave them  
56 the opportunity to learn good practice before they were able to pick up bad habits.  
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Using Company A's apprentices to help with the design and production of training equipment proved very successful; it kept project costs down by keeping the production of equipment in-house; the time taken to design and produce equipment was kept to a minimum as the TCF could answer queries and provide advice to the apprentices whenever the need arose and the project provided the apprentices with valuable experience of completing a project through each stage: design, costing and sourcing materials, production and testing.

For the member of staff who achieved promotion, he identified that his individual training / learning experiences had transformed his understanding of his job role, he is enjoying recognised success in his new role and he states that he is enabling his colleagues to learn and to develop themselves in their individual job roles.

Additional staff and organisational development needs were also established these include the introduction of training areas within the shop floor adjacent to the work areas, more specialised training and applied knowledge delivered by key personnel working within and leading the teams. Some participants in the focus groups stated that they thought that the use of standard operating procedures would enhance performance and lead to more continuity of best practice across teams and between shifts.

### ***Review of KPIs and external reference points***

The evaluation also considered benefits identified by Company A, and whilst it is not possible to establish a direct causal link between the staff development introduced, the following improvements have been noted:

1. Lost time accidents have been reduced from 7 to zero since the partnership was signed
2. Employee perception of standard work has improved as they now understand the value of benefits of standard work; they have a willingness to engage in developing best practice and 95% of trainees felt that they could apply skills and knowledge learned to their job
3. Employee feedback post training has highly commended the health and safety aspects of the training with many commenting the manual handling training has been contextualised using Company A's products
4. Quality department have reported an improvement in defect management due to employee awareness of defect code reporting and engaging with the process
5. Tangible examples have been provided where employees have used systematic visual inspection techniques (taught in the training) to identify defective products
6. Employee feedback demonstrates a broader awareness of Company A's products and processes
7. The training interventions have supported the transition of skill flexibility from assembly processes to machining processes
8. Employee feedback demonstrates a broader awareness of the company's products and processes
9. Company A has recorded a significant increase in return on capital employed
10. The company has seen an increase in profit which was better than planned
11. During the transition to new manufacturing processes the company has continued to deliver world class levels of quality with reduced levels of waste
12. Company A has maintained reliable delivery to all customers during the transition
13. The company has been successful in bidding for additional investment for new model launches

External recognition for the training interventions have come through regional and national engineering awards and the award of the highest rating in ISO9001 (external quality measure) for Company A's training and the positive attitude of employees, as noted by the assessor.

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2  
3 Throughout the partnership the University has reflected on the effectiveness of the formal  
4 partnership, the management of the project and the use of the KTP-type model to achieve  
5 the objectives set. The partnership provided a formal agreement and allowed the  
6 respective partners' visions, aims and objectives in entering the partnership to be shared;  
7 it has provided the basis for the contractual relationships between the parties and the  
8 mechanism through which the TCF was employed. Oversight through the Steering Group  
9 has been less regular than planned with infrequent meetings due to difficulties in  
10 organising time with the members; however contact with the Steering Group was achieved  
11 through informal engagement and meetings between the Senior Executive, Site and  
12 Personnel Managers and the TCF. The regular Working Group meetings were effective in  
13 ensuring on-going focus for the project and for providing new directions where necessary;  
14 attendance at the meetings tended to be limited to representatives from Company A and  
15 the University.

16  
17 Placement of the TCF within Company A is seen as crucial to the success of the project as  
18 were her knowledge of engineering processes and academic achievements prior to taking  
19 on the role. Through working from within the organisation she has been able to establish  
20 excellent relationships with personnel across the company and undertake the on-site  
21 research that has been essential in informing the context-engaged solution to the skills  
22 development needs identified. The academic support provided by the University has  
23 underpinned her work in the company and provided useful mentoring and coaching to take  
24 forward ideas and potential solutions proposed.

## 25 26 27 **Conclusions and Recommendations**

28  
29 This paper has presented a case study of a business-university-FE collaboration to develop  
30 a context-engaged solution to an identified skills need. It has outlined the approach  
31 adopted towards the management of the partnership and the project as well as the  
32 research undertaken to establish the required learning interventions. The focus of the  
33 paper has been the design, implementation and evaluation of the training skills centre.  
34 The evaluation has highlighted benefits to individuals and to the case study organisation.

35  
36 Key to the success of this collaboration was the context-engaged approach that enabled  
37 needs of the individuals and the company to be identified and met through the training  
38 designed and introduced. The placement of the TCF within the organisation was a critical  
39 aspect; this allowed the TCF to fully understand the company, the learner requirements  
40 and the organisational systems and processes that can impact on staff development and  
41 the ability to meet identified needs. Communication and visibility through placement in  
42 the company also raised the profile of the collaborative nature of the partnership and thus  
43 improved the level of engagement within the company and the University. The TCF was  
44 able to gain a detailed understanding of the requirements as well as the current restraints  
45 that the industry faced and which could be reflected upon in the solution proposed.  
46 Through the approach adopted the training introduced directly met the needs of the  
47 employer and the learner addressing concerns identified within the literature (OFSTED  
48 2015) that training does not directly meet employer needs. The collaborative approach  
49 adopted allowed an external view into the organisation that addressed the external and  
50 internal environments and ensured an impact on the business that was fully context-  
51 engaged (Felce, 2010a).

52  
53 Future collaborations within this or other business sectors should consider undertaking a  
54 similar context-engaged approach to develop effective learning within an organisation.  
55 The key principles established from this case study are:

- 56 1. Engage fully with the organisation and identify a key person within each partner to  
57 take ownership  
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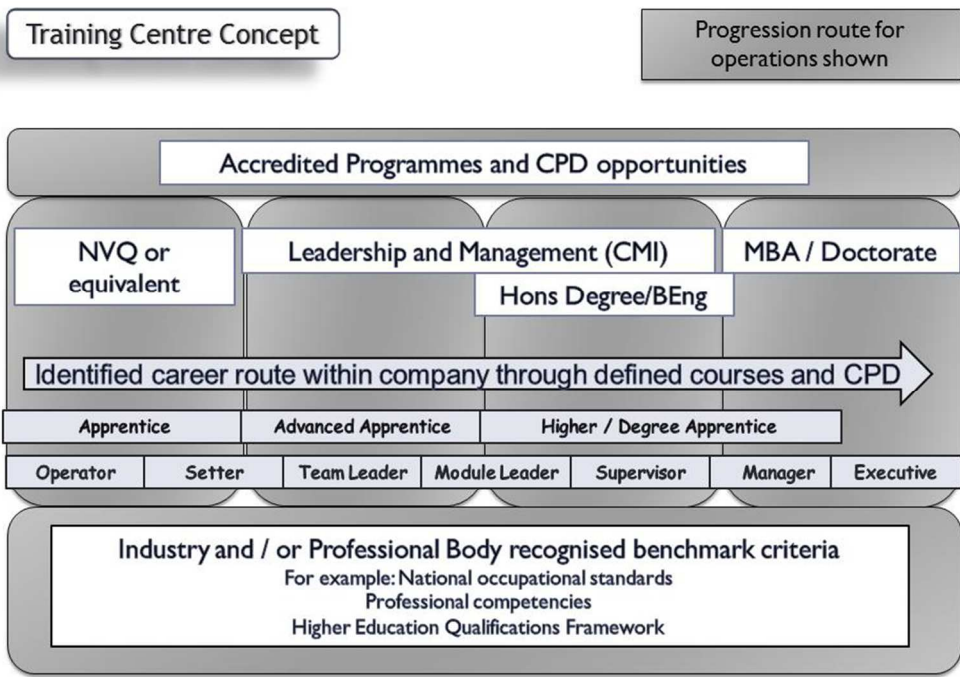
2. Establish the organisation's vision and reasons for entering into the partnership; consider: the medium / long-term goal
3. Establish a partnership, agree contractual terms and a time-defined plan e.g. two year plan
4. Research the organisation's skills to establish current practice and anticipated gaps / needs
5. Design, introduce and evaluate a learning programme targeted at different personnel within the organisation appropriate to learner and company needs and expectations
6. Instigate internal promotion, where possible, to recognise achievement, manage talent and to empower individuals
7. Support the introduction and evaluation of learning delivered; pilot initiatives and make necessary amendments
8. Regularly review partnership arrangements and agree point of closure of partnership.

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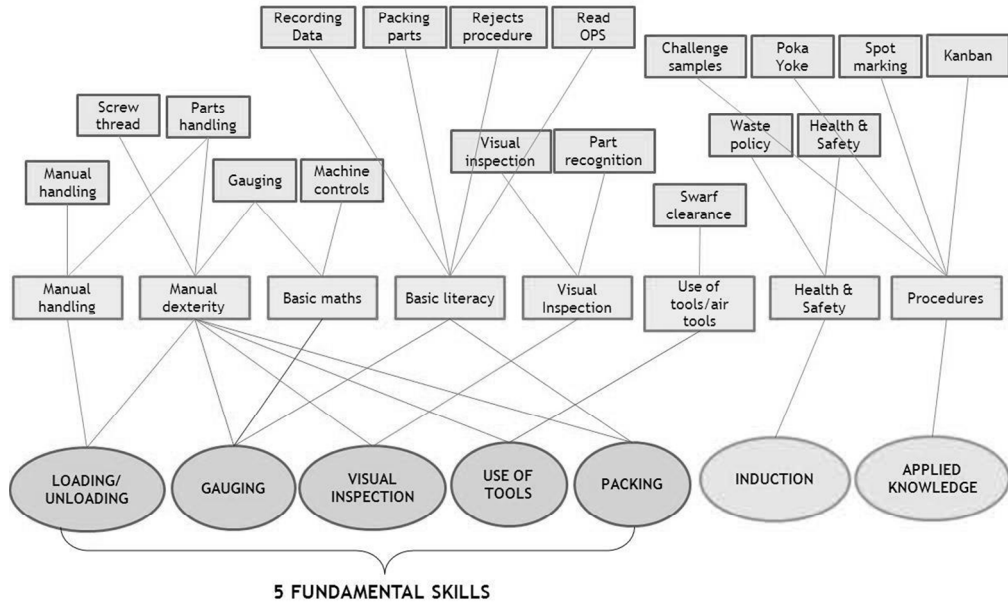


Training Centre Concept showing Lifelong work-based learning opportunities  
251x175mm (96 x 96 DPI)

Work-Based Learning

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Skills Grouping to Determine 5 Fundamental Skills



Skills grouping to determine fundamental skills  
251x176mm (120 x 120 DPI)

Work-Based Learning