



Postgraduate

EMPLOYEE AS STUDENT TOOLKIT

Supporting universities and employers to identify and evaluate postgraduate education options for existing employees

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INTRODUCTION

INTRODUCTION

Purpose

The 'Employee as Student' Toolkit¹ supports higher education institutions (HEIs) to measure and demonstrate the value of postgraduate programmes when used as a development option by organisations.

By 'Employee as Student' we refer to those employees whose organisations are investing in them, by supporting them (predominantly financially) to undertake a postgraduate programme.

The toolkit offers tools to support HEIs to work with employers to calculate the return on investment from placing employees onto postgraduate programmes. It also supports a training evaluation exercise to be conducted so as to interrogate various stages of the postgraduate programme process.

Toolkit Audience

This toolkit is particularly relevant to representatives of higher education institutions, particularly Programme/Course Leaders and those who find themselves engaging (or expecting to engage) with employers, particularly through post-experience courses.

The tools support close working with employers and the employee as student.

Using this Toolkit

This toolkit provides explanations, opportunities for reflection, examples and tools.

e.g.

Examples support you to contextualise the content being introduced.

¹ This toolkit forms the second part of a larger postgraduate toolkit. The first part, '[Postgraduate Placement Toolkit](#)' is also available.



Activity to encourage **reflection**.



Tools to support HEIs and employers to work together to measure return.



Quotes from our research participants and other secondary data are found throughout the toolkit.



Links to resources to support further engagement with the concepts, research and materials being introduced.



Primary data provides examples from our own primary research with employers, students and representatives from higher education institutions.

This toolkit focuses upon the evaluation of postgraduate programmes to identify any return on investment to the employer; it is not designed to guide the entire process of engaging with employers.

The Development of this Toolkit

This toolkit was developed using primary and secondary research, this research included:

- The review and analysis of HEI reports and other secondary resources;
- Interviews with HEIs (predominantly Programme Leaders), that allowed for challenges and best practice to be identified;
- Interviews with students placed onto postgraduate programmes with their employers allowed for current practice to be understood;
- Discussions with employers who had sponsored students onto postgraduate programmes;
- A Twitter campaign to identify respondents as above.

The data collection took place in 2015.

Tools

The tools used within this toolkit include a:

- **Evaluation Checklist** (Tool 1)
- **Development Plan Tool** (Tool 2)
- **Measuring Reaction Tool** (Tool 3)
- **Measuring Change Tool** (Tool 4)
- **Measuring Application and Implementation** (Tool 5)
- **Business Impact Evaluation Tool** (Tool 6)
- **ROI Evaluation Tool*** (Tool 7)
- **Employee Self-Reporting Form** (Tool 8)
- **Post-Evaluation Reflection** (Tool 9)
- **Evaluation Strategy Planner** (Tool 10)

*A cost-benefit tool to support the ROI Evaluation is available in an alternative **Excel format** where automated calculations are possible.

All tools are found at the back of this toolkit or are available as separate downloads at:

<http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

Tools may be adapted.

Authors

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The authors wish to thank research participants for their time and feedback.

The toolkit was produced for the Higher Education Funding Council for England (HEFCE).

The opinions conveyed within this toolkit are the authors own, or those attributed to research participants. These opinions are not those of the University of Derby.

SETTING THE SCENE

SETTING THE SCENE: THE POSTGRADUATE CONTEXT

Postgraduate Arena

Higher education has a great potential to impact on individuals' lives, as well as the economy and society in general. Universities UK (2014) report that in 2011-2012 the higher education sector generated over £73 billion of output, including direct and indirect effects, and contributed 2.8% of UK GDP². Other positive impacts of the UK higher education sector include its ability to create a substantial number of jobs³ and attract overseas investment. There is much evidence to suggest that postgraduates are economically important, with documented benefits such as:

- Graduates with a Masters degree earn £5500 per year more than undergraduates, amounting to £200k over 40 years (Universities UK, 2014).
- Female Masters graduates earn over 10% more than undergraduates (Conlon and Patrignani, 2011).
- A BIS report (Department for Business Innovation & Skills, 2013) found that graduates have a positive impact on society.
- Further links have been made between PGT qualification and lower unemployment.

Postgraduate studies are known to offer a number of benefits to individuals beyond economic benefits such as higher potential salaries and enhanced prospects. For instance, the University of Bedfordshire (2015) emphasize the development of transferable skills while the Council for Industry and Higher Education (now the National Centre for Universities and Business) (2010) find that employees with Masters degrees have greater analytical and problem solving skills. The Telegraph (2014) report that postgraduate study enhances individual's personal development skills such as discipline and time-management.

Even though the HE sector has been expanding and the number of individuals gaining first degrees and postgraduate degrees has increased since 2001, concerns have been raised regarding postgraduate system of HE in the UK (Universities UK, 2012). BBC (2012) report that postgraduate system in the UK is tailored to meet the demands of overseas students while the UK economy demands a highly skilled workforce. Recent studies find that the number of students in postgraduate education

² Gross Domestic Product. GDP is a common economic term when describing the economic performance of a country.

³ Universities UK (2014) find that in 2011-2012 higher education sector accounted for 2.7% of UK employment

is declining (with the exception of postgraduate research programmes) (HEFCE, 2015). According to the Higher Education Funding Council for England (HEFCE, 2015), this trend is particularly notable in postgraduate taught (PGT) programmes and other postgraduate courses such as PGCEs.

“ ”

“Any sustained slide in the number of students on postgraduate taught courses is deeply worrying, because it creates a bottleneck in the intellectual supply pipeline that ultimately produces what we might call ultra-skilled workers”

The Guardian, 2013

Some important trends are being observed in Higher Education and Postgraduate Education at this time:

- Student numbers for postgraduate taught programmes are in decline (HEFCE, 2015).
- Students are beginning postgraduate studies at a younger age than they did a decade ago (HEFCE, 2015).
- Access to funding for postgraduate level study is limited (HEFCE, 2015).
- There are an increased number of international students on postgraduate programmes, which can account for between a third to one half of the total number of PGT students (HEFCE, 2015; The Guardian, 2015; Department for Business Innovation & Skills, 2015).
- The Guardian (2015) report that the most preferred areas of full-time study for postgraduate students are business, management and marketing; these subjects are also the most available. Some of the least common courses include the most expensive ones such as dentistry and subjects like chemistry and physics. The preferred subjects for part-time students differ; they are more associated with the professional development and include subjects such as medicine, dentistry, veterinary science and others.

A reduction in public sector training expenditure and access to finance⁴ are some of the reasons cited for as reasons for downward trends in postgraduate education (HEFCE, 2015).

⁴ Postgraduate students are not eligible for student loans and therefore access to finance can be problematic. HEFCE found that 72% of PGT students were self-funded or required a loan to complete their studies (HEFCE, 2015)

Employer's Role in Employee Development

Employees are considered a valuable resource, and may be a source of sustainable competitive advantage (Tregaskis and Dany, 1996; Mayo, 2000; Tansky and Cohen, 2001; Poell et al, 2015). Employee development (often termed human resource development or HRD) has received much attention from both practitioners and scholars due to its high importance for individuals, their families, organisations, and society (United Nations, 2015). Lipman (2013) notes the significance of employee development, stating that the return on such an investment is substantial, enhancing employee loyalty, productivity and engagement.

Within the higher education arena, the importance of employer engagement has received much attention (QAA, 2014). The term employer engagement is often used to refer to collaborations and partnerships between a HEI and employer. Opportunities for employer engagement exist for both companies and HEIs in the form of work experience, careers advice and mentoring, knowledge exchange activities, collaborative research projects, and informing programme design (to name but a few). The QAA (2014) report that employer engagement has become commonplace and continues to grow. Employers also take an interest in engaging with universities in order to develop their current human resource, with employees supported into postgraduate programmes and becoming students ('employees as students'). As such HE has a part to play in workforce development and workforce upskilling (QAA, 2014).

Companies may seek employee development opportunities via university postgraduate programmes and some programmes also integrate professional competences by incorporating certification (e.g. CIPD). Chivers (2007) offers a number of examples where post-experience education is desirable; they include new professions, new specialisms, career advancement (e.g. undertaking a management course at Masters level), increasing professional competences. The Guardian (2002) also emphasize that postgraduate programmes are often more focused and specialised than undergraduate programmes.

“ ”

“...in terms of what the higher education course programme is offering through formal learning that the professional has not learned through informal learning, it seems that the improvements in meta-competences⁵ and in knowledge/cognitive competence predominate”.

Chivers, 2007

⁵ Meta-competencies are 'overarching' competencies that are relevant to a wide range of work settings and which facilitate adaptation and flexibility on the part of the organization. Meta-competencies are usually said to include learning, adapting, anticipating, and creating change (Oxford Reference, 2015).

University education can result in enhanced meta-competences, which can be identified as transferable skills, knowledge/cognitive competences, functional competences (e.g. producing high-quality reports, conducting studies), personal/behavioural and competences in values/ethics domain (Chivers, 2007).



“When a company sends an employee to a postgraduate course, they are investing in human capital, they are sending their staff to get education. There is a big difference between training and education. Some programmes incorporate training (such as nursing); others are more academic and are geared towards education. While training provides one with specific skills, education can be taken elsewhere, as the skills students learn are transferable”.

Melanie Powell, Senior Lecturer in Economics, University of Derby

Reflection and Further Resources



What might be the benefits of employee development via a postgraduate programme?

What can a PG programme offer in terms of development that informal training cannot? For instance, in your subject area, are there professional needs that are specifically fulfilled by a university education?

How attractive is your offer to an employer?



The Department for Business Innovation & Skills identifies the benefits higher education offers, including market and non-market benefits, from society and individual point of view. See the Four Quadrants here:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254101/bis-13-1268-benefits-of-higher-education-participation-the-quadrants.pdf

MEASURING THE RETURN

RETURN ON INVESTMENT

Supporting an employee into postgraduate study can be a costly affair by the time tuition fees, study days, and other expenses are considered (as can any development) (Faerman and Ban, 1993). Employers can and often do measure this investment, and yet HEIs remain relatively divorced from this process. By measuring the return for an employer, of supporting an employee onto a postgraduate programme, HEIs can support the decision-making process and interrogate what value postgraduate education brings.

Training Evaluation and Return on Investment Models

Return on Investment

Return on Investment (ROI) is a widely used approach to measure the returns from investing in a given venture, opportunity or activity (for instance of going on a training course or to a conference). Moseley and Dessinger (2010, p.31) state that ROI is a key measurement to any business and may be used also by HR professionals looking to measure the value of development options.

“ ”

“Fierce competition in the marketplace, pressure to reduce costs and improve efficiency, and the emergence of efficient working practices have been significant in the turn of HR development to consider Return On Investment (ROI)”

Phillips, 2003

Estimating ROI is essential for a number of reasons, including planning and justification of the budget required for development, and estimating the selected development methods and their impact on an organisation’s success. In its simplest form, ROI is based on a ratio between the costs and the benefits (Benefit-Cost Ratio/BCR), when the financial benefits outweigh the costs, the development programme may be cost-effective

However, BCR only appreciates the financial costs, the less tangible benefits should also be strongly considered and BCR shouldn’t be considered on its own. Whilst financial return is significant, intangible benefits⁶ (those that have no material presence)

⁶ Phillips (2007) states that it can be a case when trying to put monetary value to data is too subjective, lacks credibility or is inaccurate

are also valuable to consider (innovative thinking, good leadership, morale) (Phillips, 2007).



Returns from staff development investment may include:

- √ Improved staff retention
- √ Increased compliance
- √ Increased productivity
- √ Greater workforce flexibility
- √ Greater material efficiencies
- √ Improved quality
- √ Increased motivation and morale

However, without being able to quantify these it may be difficult to justify development expenditure - is it any wonder therefore that development budgets are cut so severely when financial conditions get tough?

Measuring such returns can be challenging. Separating the effects of development interventions from other causes (i.e. is enhanced performance due to the development or something else?) can be difficult. Faerman and Ban (1993) note a lack of evaluation techniques that evaluate the interconnection between the development and changes in work-related behaviour. Blundell et al (1999) state that it is challenging to identify the causality between training and benefits that employers normally expect from investing in such development activity, such as improved productivity or increased competitiveness.

Training Evaluation Models

There are various training evaluation models in circulation⁷. The models of Kirkpatrick and Phillips are among the most common and assist organisations to estimate the effectiveness of training. For the purpose of this toolkit, the Kirkpatrick⁸ and Phillips⁹ models have been considered and adapted¹⁰.

⁷ There are a number of other models⁷ which estimate the effects of training. Bassi et al (1997) offer examples such as a Systemic Model of Factors Predicting Employee Training Outcomes by Richey (1992), Kaufman, Keller, Watkins Five-Level Model⁷. Watkins et al (1998), for instance, state that Kirkpatrick's model does not account for external changes and contribution to external environment and clients. Kaufmann and Keller (1994) focus on continuous improvement and takes into consideration any value-added for society. Kaufman, Keller and Watkins Five-Level Model (1995) adds a 5th level of evaluation to Kirkpatrick's framework - societal contribution at mega level. The Systemic Model of Factors Predicting Employee Training Outcomes by Richey (1992) identifies the factors (knowledge, attitudes and behaviour) that affect training outcomes (Russ-Eft and Preskill; 2009).

⁸ See [Appendix 1: Kirkpatrick Model](#)

⁹ See [Appendix 2: Phillips Model](#)

¹⁰ The application of the Phillips model to postgraduate programmes is demonstrated in [Appendix 3: Application of Phillips Model](#).

Taking the levels advocated through these training evaluation models we are able to identify several ways in which these can be applied to a postgraduate evaluation context (see table below).

STAGE	WHAT TO EVALUATE IN POSTGRADUATE PROGRAMMES
PRE-PROGRAMME DELIVERY	
Level 0	<ul style="list-style-type: none"> • Identify the development needs of the employee • Identify the suitable postgraduate programme
POST-PROGRAMME DELIVERY	
Level 1	<ul style="list-style-type: none"> • Identify the employee’s reaction and satisfaction to the programme
Level 2	<ul style="list-style-type: none"> • Measure any changes in the employee’s knowledge, skills, attitudes and behaviours (as needed)
Level 3	<ul style="list-style-type: none"> • Measure the application of the newly acquired knowledge, skills, attitudes and behaviour
Level 4	<ul style="list-style-type: none"> • Measure changes in business impact
Level 5	<ul style="list-style-type: none"> • Measure Return on Investment (ROI) using a cost-benefit approach • Identify and market tangible benefits
Reflection	<ul style="list-style-type: none"> • Reflect upon best practice, challenges and further collaborative approaches.

Evaluation Checklist (Tool 1)

The [Evaluation Checklist tool](#) allows HEIs to monitor progress, challenges, strengths, weaknesses and best practice throughout the evaluation process. It supports an evaluation strategy to be developed and supports the use of other tools available within this toolkit.

Identification of Need

Level 0 of Phillips’ model typically allows for basic data and inputs to be collected. We have included gaining data on the development needs and objectives of employees into the level 0 that we advocate for postgraduate programmes as this is data needed to begin finding the right postgraduate programme and evaluating it.

Once the needs and objectives of employees (individuals or a group) have been identified, a HEI can assist an employer to choose the postgraduate programme that addresses these needs and objectives. Identifying development needs and objectives

may emerge through the organisations process for training needs analysis¹¹ and other human resource development processes. For organisations that do not have this in place, the **Development Plan Tool** provides some support for this.



Postgraduate Evaluation Toolkit

Development Plan

This tool supports representatives of HEIs to work with employers to devise a development plan for employees.

Prior to using this tool, a training/development needs analysis may be useful to understand what the employee's development needs are. Many organisations, particularly large ones with an established human resource function may already have a process for identifying training/development needs and proceeding with a training plan.

Employee Name:	<input type="text"/>			
Date:	<input type="text"/>			
Development Need Identified ¹	Development objective ²	How does it align to the individual's appraisal/review? ³	How does it align with any departmental or business priorities? ⁴	What are the costs associated with the development? ⁵
1. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

¹ What development need does the organization have for the individual? This might follow a training needs analysis exercise. For example, the HR department requires all HR Officers to have CIPD accreditation.

² What is the objective of the development? For example, for the employee to gain CIPD accreditation.

³ The organization may wish to ensure that the development aligns with the individual's development review/appraisal.

⁴ The organization may wish to ensure that the development aligns to departmental or organizational priorities.

⁵ An identification of costs may support the decision-making process. This may include the cost of the postgraduate programme.

Development Plan Tool (Tool 2)

The **Development Plan Tool** allows HEIs to work with organisations to encourage development needs and objectives to be identified. Such activity may already exist within the organisation (termed training needs analysis for instance).

The results of this activity can be used to influence decision-makers within the organisation, demonstrating that there is a development need and that this aligns to individual, departmental or organisational priorities. As such it supports the approval process present in many organisations.

Measuring Reaction

Level 1 of Phillips' model looks to understand whether the development activity responds, and is relevant, to the development need. Applied to postgraduate

¹¹ The University of Oxford's Learning Needs Analysis toolkit may be useful to support a training needs exercise: https://www.conted.ox.ac.uk/courses/professional/lnat/individual_learning.php

programme evaluation it can be done during or following the programme to establish whether the student felt the programme responded to their development need.

Measuring employee as student reactions allows the strengths and usefulness of a particular PG programme to be identified. Where there is room for improvement HEIs can look to enhance the programme and provide a more relevant offering to the employee.

Measuring Reaction Tool (Tool 3)

The **Measuring Reaction Tool** assists in evaluating reaction to the PG programme (or modules on the programme). The tool is designed to be administered at the end of the programme but equally it could be used formatively during the programme. A similar measurement technique may already exist in your institution in the form of a module evaluation questionnaire or programme survey.

Measuring Change

This stage supports level 2 of Phillips' model and involves measuring any changes caused by the programme. Changes include changes in the knowledge, skills, attitudes and behaviours of the employee as student. Measuring change is essential because the postgraduate programme is aimed at making a positive change in employee's knowledge, skills, attitudes and behaviours.

However, presence of a positive change does not guarantee that the newly created or acquired knowledge and skills will be implemented (and that is why implementation and application is measured next, in Level 3). A positive change in employee attitudes and behaviours also does not guarantee that an employee's performance will be enhanced.

The **Measuring Change Tool** supports this measure of change.

Measuring Change Tool (Tool 4)

The **Measuring Change Tool** is to be used by the employee/student, although there is opportunity for the employer to participate.

A decision should be made on what to measure, and this depends on the development objectives and rationale for the development (see **Development Plan Tool**). There are many options for how to measure change, and these might include:

- Using company data (such as sales figures, outputs, or absence data);
- Measuring perceived differences (such as perceived improvement in morale);

- Conducting a 360-feedback exercise.

In order to measure the changes, the level of knowledge, skills, attitudes and behaviour¹² are measured before and after the development programme, the change is the difference between the before and after.

Measuring Application

This stage supports level 3 of Phillips' model and occurs after the programme has been completed. Change does not necessarily indicate application in the workplace and so this level allows us to see whether the changes identified in level 2 (above) have influenced employee's performance in the workplace. At Level 3, the application and implementation of newly created/acquired knowledge and skills can be measured.

The application should be associated with the business area that the development was designed for. Issues associated with the implementation should be noted and addressed. The **Measuring Application and Implementation Tool** supports implementation to be measured.

Measuring Application and Implementation Tool (Tool 5)

The **Measuring Application and Implementation Tool** supports the collection of data to identify whether the knowledge and skills have been implemented in the workplace. The tool can be offered to an employer to carry out an in-house evaluation, alternatively the HEI can assist the employer to complete this tool.

Ideally, it would be good to identify that the knowledge and skills from the programme have been transferred and applied in the workplace. If this is not seen then the employer and HEI may work together to identify how this can be enhanced.

Even if the implementation and application have been successful, it does not guarantee a positive business impact. Business impact is evaluated in the next level – Measuring Business Impact.

¹² Note: Not all of these four need to be measured – it depends what the development objective was.

Measuring Business Impact

This stage supports level 4 of Phillips' model and occurs during or after the programme has been completed. At this level, business impact caused by the application and implementation of knowledge and skills is measured.

Business Impact Evaluation Tool (Tool 6)

The **Business Impact Evaluation Tool** has been designed to measure business impact. This tool can be offered to an employer to carry out evaluation in-house, alternatively the HEI can assist the employer to complete this tool.

If business impact is not seen then the employer and HEI may work together to identify how the employee's development can be better delivered to result in positive business impact.

Measuring Return on Investment

This stage supports level 5 of Phillips' model and occurs after the programme has been completed. It allows a HEI to learn about the returns an organisation has received from sending their employee onto a postgraduate programme. ROI is a useful metric, which indicates success of an investment and can be communicated to the stakeholders.

At this stage, the costs and benefits of the overall development are measured. It is essential not to overlook the intangible benefits created during the postgraduate programme, even though they are not converted to monetary terms and therefore cannot be accounted for in the ROI calculation. Intangible benefits can have a dramatic impact on the individual and organisation. We suggest that intangible benefits created are carefully identified, recorded and marketed.

ROI Evaluation Tool (Tool 7)

The **ROI Evaluation Tool** can be used by a HEI together with the employer (alternatively the employer may wish to use it independently). The tool considers costs and benefits incurred from the programme for the employer.

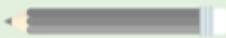
A positive ROI indicator can be used to justify further development programmes and can indicate the successful management of the development programme.



A Derby Business School MBA student was able to realise savings of £390,364 for their employer (a health care trust) during their MBA Business Impact Study.

Employee Self-Reporting Form – Intangible Benefits (Tool 8)

The **Employee Self-Reporting Form** allows the employee to note the intangible benefits created. In turn this data can be provided to the organisation and HEI. Where intangible benefits are not generated then this may need to be explored further by the HEI in order to identify possible enhancements.



Postgraduate Evaluation Toolkit

Employee Self-Reporting Form (Intangible Benefits)

Tool description

Normally, a training activity is aimed at producing tangible benefits, e.g. cost minimization, increasing customer satisfaction, increasing productivity. However, studying on a postgraduate programme produces a number of intangible benefits. The occurrence of these intangible benefits can be observed but also evaluated using this self-reporting form.

How to use this tool?

Evaluation of intangible benefits can be challenging, however they play a very important role in value creation. HEIs can offer this tool to an employer to evaluate the occurrence of intangible benefits created.

Feeding the results of this exercise back to your organisation may support future engagement between your employer and universities.

1. Name
2. Personal Development¹
After completing the postgraduate programme, do you believe you have enhanced your professional practice, and how?
If so, how?

¹ For instance, patience, confidence, competitiveness, leadership.

Reflection (Post-Programme)

After the evaluation has been completed, a formal reflection could be useful to identify future enhancements to the delivery of the programme, and alignment with organisational needs.

The **Post-Evaluation Reflection Tool** supports this.

Post-Evaluation Reflection Tool (Tool 9)

The **Post-Evaluation Reflection Tool** is designed for HEIs to reflect on strengths, weaknesses and best practice. As a result, further opportunities for collaboration may be identified.



Our research identifies the following common challenges academics face when engaging with companies:

- A balance between what a company wants and what a PG programme needs to be (as validated)
- Time constraints
- Sending the right people with the right skills to communicate with employers¹³
- Reporting success (case studies, success rate)

Reflection and Further Resources



- Do you always measure return from investment in training or attending a conference? If not then could you?
- What model, framework or system do you use?
- Does a negative ROI mean that a HRD programme has failed?



The basics of estimating the ROI in HR field, including methodology, process and rules and discussed by Jack and Patti Phillips, see:

<http://www.humanresourcesiq.com/hr-technology/columns/the-basics-of-roi/>

Here, Jack and Patti Phillips discuss the possibility of measuring the impact and ROI for soft skills programmes:

<http://www.roiinstitute.net/wp-content/uploads/2015/06/Hard-Numbers-from-Soft-Skills-Article.pdf>

¹³ UHR (2012) argue that a university HR plays a key role in shaping the culture within a university to accommodate the modern requirements of students, such as value for money and improved learning conditions.

REFERENCES

REFERENCES

Alliger, G.M. and Janak, E.A. (1989) Kirkpatrick's levels of training criteria: thirty years later. *Personnel Psychology*, 42 (2), pp. 331–342.

Bates, R. (2004) A critical analysis of evaluation practice: the Kirkpatrick model and the principle of beneficence. *Evaluation and Program Planning*, 27, pp. 341–347.

Bartel, A. P. (2000) Measuring the employer's return on investments in training: evidence from the literature. *Industrial Relations*, 39(3), pp. 502 – 524.

Bassi, L.J. and Russ-Eft, D.F. (1997) *What works. Assessment, development, and measurement*. American Society for Training & Development: Alexandria.

BBC (2012) *University postgraduate system 'failing UK economy'*. [Online] Available from: <http://www.bbc.co.uk/news/education-20034164> [Accessed: 18 November 2015]

Bloomberg (2012) *Measuring College ROI*. [Online] Available from: <http://www.bloomberg.com/bw/articles/2012-04-09/measuring-college-roi> [Accessed: 18 November 2015]

Blundell, R., Dearden, L., Meghir, C., and Sianesi, B. (1999) Human capital investment: The returns from education and training to the individual, the firm and the economy. *Fiscal Studies*, 20 (1), pp. 1–23.

Brown, B.L. (2001) *Return on investment in training*. [Online] Available from: http://dev.jsr.vccs.edu/critical_needs/ROI.pdf [Accessed: 18 November 2015]

Chivers, G. (2007) Professional competence enhancement via postgraduate post-experience learning and development. *Journal of European Industrial Training*, 31 (8), pp.639 – 659.

Council for Industry and Higher Education (CIHE) (2010) *Talent fishing: what businesses want from postgraduates*. [Online] Available from:

<https://www2.le.ac.uk/departments/gradschool/about/external/publications/talent-fishing.pdf> [Accessed: 18 November 2015]

Conlon, G. and Patrignani, P. (2011) *The returns to higher education qualifications*. [Online] Available from:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32419/11-973-returns-to-higher-education-qualifications.pdf [Accessed: 18 November 2015]

Department for Business Innovation & Skills (2015) *Consultation on support for postgraduate study*. [Online] Available from:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416243/BIS-15-185-consultation-on-support-for-postgraduate-study.pdf [Accessed: 18 November 2015]

Department for Business Innovation & Skills (2013) *The benefits of higher education participation for individuals and society: key findings and reports "The Quadrants"*. [Online] Available from:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254101/bis-13-1268-benefits-of-higher-education-participation-the-quadrants.pdf [Accessed: 18 November 2015]

Faerman, S.R. and Ban, C. (1993) Trainee satisfaction and training impact: issues in training evaluation. *Public Productivity & Management Review*, 16 (3) pp. 299-314.

Grubb, W.N. (1996) *Learning to work: the case for reintegrating job training and education*. Russell Sage Foundation: New York.

The Guardian (2015) *Business studies is the big pull for postgrad students*. [Online] Available from: <http://www.theguardian.com/education/2015/feb/24/business-studies-is-the-big-pull-for-postgrad-students> [Accessed: 18 November 2015]

The Guardian (2002) *Carry on studying*. [Online] Available from:

<http://www.theguardian.com/business/2002/sep/08/education.postgraduate> [Accessed: 18 November 2015]

HEFCE (2015) *Overview of postgraduate education*. [Online] Available from:

<http://www.hefce.ac.uk/analysis/postgraduate/> [Accessed: 18 November 2015]

Hoeckel, K. (2008) *Costs and benefits in vocational education and training*. [Online] Available from: <http://www.oecd.org/education/innovation-education/41538706.pdf> [Accessed: 18 November 2015]

The Independent (2011) *Tailor-made courses are proving the perfect fit*. [Online] Available from: <http://www.independent.co.uk/student/postgraduate/mbas-guide/tailor-made-courses-are-proving-the-perfect-fit-2369855.html> [Accessed: 18 November 2015]

Kaufman, R., Keller, J. and Watkins, R. (1995) What works and what doesn't: evaluation beyond Kirkpatrick. *Performance and Instruction*, 35 (2), pp. 8-12.

Kirkpatrick, D.L. (1994) *Evaluating training programs*. Berrett-Koehler Publishers, Inc.: San Francisco.

Kirkpatrick, D.L. (1959) Techniques for evaluating training programs. *Journal of American Society of Training Directors*, 13(3), pp. 21–26.

Lachnit, C. (2001) *Training proves its worth*. [Online] Available from: <http://www.workforce.com/articles/training-proves-its-worth> [Accessed: 18 November 2015]

Lipman, V. (2013) *Why employee development is important, neglected and can cost you talent*. [Online] Available from: <http://www.forbes.com/sites/victorlipman/2013/01/29/why-development-planning-is-important-neglected-and-can-cost-you-young-talent/> [Accessed: 18 November 2015]

Mayo, A. (2000) The role of employee development in the growth of intellectual capital. *Personnel Review*, 29 (4), pp. 521 – 533.

Moseley, J.L. and Dessinger, J.C. (2010) *Handbook of improving performance in the workplace. Volume 3: Measurement and evaluation*. Pfeiffer: San Francisco.

OECD (2012) *Education at a glance 2012: OECD indicators*. [Online] Available from: http://www.oecd.org/edu/EAG%202012_e-book_EN_200912.pdf [Accessed: 18 November 2015]

Oxford Reference (2015) *Overview. Meta-competencies*. [Online] Available from: <http://www.oxfordreference.com/view/10.1093/oi/authority.20110803100152792> [Accessed: 18 November 2015]

Phillips, J.J. (2003) *Return on investment in training and performance improvement programs*. 2nd ed. Routledge: London.

Phillips, J. J. (1996) *Measuring the results of training. The ASTD Training and Development Handbook*. Craig, R. (ed.). McGraw-Hill: New York.

Phillips, J. J. and Phillips, P. (2014) *Eleven reasons why training and development fails...and what you can do about it*. [Online] Available from: <http://www.roiinstitute.net/wp-content/uploads/2014/12/Eleven-Reasons-Why-Training-and-Development-Fails.pdf> [Accessed: 17 November 2015]

Phillips, J.J. and Phillips, P. (2007) *Show me the money: how to determine ROI in people, projects, and programs*. Berrett-Koehler Publishers: San Francisco.

Phillips, J.J. and Pulliam, P. F. (2000) *Level 5 evaluation: mastering ROI*. ASTD: Alexandria.

Poell, R.F., Rocco, T.S. and Roth, G. L. (2015) *The Routledge Companion to human resource development*. Routledge: London.

ROI Institute (2004) *The business case for ROI: measuring the Return on Investment in human resources*. [Online] Available from: <http://www.roiinstitute.net/wp-content/uploads/2014/12/BUSINESS-CASE-IN-HR-Website-12-2004.pdf> [Accessed: 15 November 2015]

Russ-Eft, D. and Preskill, H. (2009) *Evaluation in organizations: a systematic approach to enhancing learning, performance, and change*. 2nd ed. Basic Books: New York.

Tansky, J.W. and Cohen, D.J. (2001) The relationship between organizational support, employee development, and organizational commitment: an empirical study. *Human Resource Development Quarterly*, 12 (3), pp. 285-300.

The Telegraph (2014) *The benefits of postgraduate study*. [Online] Available from: <http://courses.telegraph.co.uk/study-advice/the-benefits-of-postgraduate-study/39/> [Accessed: 18 November 2015]

Tregaskis, O. and Dany, F. (1996) A comparison of HRD in France and the UK. *Journal of European Industrial Training*, 20 (1), pp. 20 – 30.

UHR (2012) *Changing times in UK universities: what difference can HR make?* [Online] Available from: [http://www.uhr.ac.uk/uploadedfiles/documents/Changing%20times%20in%20UK%20universities%20\(print%20version\).pdf](http://www.uhr.ac.uk/uploadedfiles/documents/Changing%20times%20in%20UK%20universities%20(print%20version).pdf) [Accessed: 18 November 2015]

United Nations (2015) *Human resources development*. [Online] Available from: <http://www.un.org/en/development/desa/oesc/humanresources.shtml> [Accessed: 18 November 2015]

Universities UK (2014) *Postgraduate taught education: the funding challenge*. [Online] Available from: <http://www.universitiesuk.ac.uk/highereducation/Documents/2014/PostgraduateTaughtEducationTheFundingChallenge.pdf> [Accessed: 18 November 2015]

Universities UK (2012) *Patterns and trends in UK higher education*. [Online] Available from: <http://www.universitiesuk.ac.uk/highereducation/Documents/2012/PatternsAndTrendsInUKHigherEducation2012.pdf> [Accessed: 18 November 2015]

University of Bedfordshire (2015) *Why postgraduate?* [Online] Available from: <http://www.beds.ac.uk/howtoapply/postgraduatestudy/postgraduate-why> [Accessed: 18 November 2015]

Watkins, R., Leigh, D., Foshay, R., and Kaufman, R. (1998) *Kirkpatrick plus: evaluation and continuous improvement with a community focus*. [Online] Available from: <http://home.gwu.edu/~r Watkins/articles/kirkplus.pdf> [Accessed: 17 November 2015]

TOOLS

Tool 1 - Evaluation Checklist

Tool description

This tool is designed for HEIs specifically to monitor the progress, challenges, strengths, weaknesses and best practice of evaluation throughout the process. The checklist is based upon Phillips ROI model. The checklist ensures that essential questions have been addressed. This is done to create and maintain a long term and mutually beneficial relationship between a HEI and the employer.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

This tool should be completed throughout the evaluation process. Post-evaluation, the results should be analysed and any issues addressed.

The tool may be used on an individual basis (one per employee-as-student), or if a cohort with similar needs are being placed onto a programme then one per cohort (with an mean average being taken may be used).

Pre-Programme Delivery

This section should be completed before the employee commences as student on the programme. The [Development Plan Tool](#) supports this stage.

Level 0	Yes	No
Have the employee's development needs been identified?	<input type="checkbox"/>	<input type="checkbox"/>
Has the best solution for the development needs) been proposed?	<input type="checkbox"/>	<input type="checkbox"/>
Have the costs been negotiated and communicated?	<input type="checkbox"/>	<input type="checkbox"/>
Does the employer have an identified point of contact?	<input type="checkbox"/>	<input type="checkbox"/>
Have the expectations of the employer and employee been identified and conveyed to the programme teaching team ¹⁴ ?	<input type="checkbox"/>	<input type="checkbox"/>

¹⁴ It is not assumed that the direction of the programme will change as a result of this stage but the teaching team may wish to adjust examples to fit the expectations.

Post-Programme Delivery

This section should be completed on completion of the programme, or at intervals throughout the programme (each semester for instance).

Level 1- Reaction And Planned Action	Yes	No
Is the student satisfied with the programme and its delivery?	<input type="checkbox"/>	<input type="checkbox"/>
What were the weaknesses of the programme and its delivery?		
How can the weaknesses be reduced?		

Level 2 - Learning	Yes	No
Have changes in skills occurred?	<input type="checkbox"/>	<input type="checkbox"/>
Have changes in knowledge occurred?	<input type="checkbox"/>	<input type="checkbox"/>
Have changes in attitudes occurred?	<input type="checkbox"/>	<input type="checkbox"/>
Have changes in behaviour occurred?	<input type="checkbox"/>	<input type="checkbox"/>

Level 3 - Application of Learning	Yes	No
Has the employee applied what they have learned in the workplace?	<input type="checkbox"/>	<input type="checkbox"/>

Level 4 - Business Results	Yes	No
Did the application of the learning produce measurable business results?	<input type="checkbox"/>	<input type="checkbox"/>

Level 5 - Return on Investment	Yes	No
Did the monetary value produced by the programme exceed the costs of the programme?	<input type="checkbox"/>	<input type="checkbox"/>
Did the programme bring intangible benefits to the employer?	<input type="checkbox"/>	<input type="checkbox"/>
What intangibles benefits have been created? Please describe.		
How can the weaknesses be reduced?		

Reflection

This section provides the opportunity for the HEI (the Programme Leader may be best placed) to reflect upon the delivery and further opportunities.

Was the employer satisfied with the outcomes of the programme in the longer term?
Were there any elements of best practice when engaging with the employer?
How can the best practice be communicated to the colleagues and other stakeholders?
What were the challenges?
How can the challenges be addressed?

Are there other opportunities for cooperation with this employer (e.g. career mentoring, presentations, events)?

Tool 2 - Development Plan

Tool description

This tool supports representatives of HEIs to work with employers to devise a development plan for employees.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

Prior to using this tool, a training/development needs analysis may be useful to understand what the employee's development needs are. Many organisations, particularly large ones with an established human resource function may already have a process for identifying training/development needs and proceeding with a training plan.

Employee Name:				
Date:				
Development Need Identified¹⁵	Development objective¹⁶	How does it align to the individual's appraisal/review?¹⁷	How does it align with any departmental or business priorities?¹⁸	What are the costs associated with the development?¹⁹
1.				
2.				

¹⁵ What development need does the organization have for the individual? This might follow a training needs analysis exercise. For example, the HR department requires all HR Officers to have CIPD accreditation.

¹⁶ What is the objective of the development? For example, for the employee to gain CIPD accreditation.

¹⁷ The organization may wish to ensure that the development aligns with the individual's development review/appraisal.

¹⁸ The organization may wish to ensure that the development aligns to departmental or organizational priorities.

¹⁹ An identification of costs may support the decision-making process. This may include the cost of the postgraduate programme.

Tool 3 - Measuring Reaction

Tool description

In order to measure the first of Phillips evaluation stages, reaction, a satisfaction tool can be used. It is highly likely that a similar tool exists within your HEI, usually in the form of a module evaluation questionnaire.

This tool is part of the Postgraduate Placement Toolkit and is available from:

<http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

The below questions begin to gather the employee's reaction to the postgraduate programme experience. If you have a module evaluation questionnaire, or programme survey then you may wish to use this instead. This version can be adapted as needed (using the MS Word version available). It may be adapted to reflect a module or programme level (it currently reflects at programme level).

Once completed, the tool will provide feedback data for programme leaders. Where unsatisfactory responses are received the HEI/Programme Leader may wish to consider ways in which the programme can be enhanced.

Employee Name:	
Date	

	Yes	No
Was the programme relevant to the employee's job?	<input type="checkbox"/>	<input type="checkbox"/>
Was the employee satisfied with the teaching?	<input type="checkbox"/>	<input type="checkbox"/>
Was the employee satisfied with the university facilities?	<input type="checkbox"/>	<input type="checkbox"/>
Has the employee noticed any personal development benefits from the programme?	<input type="checkbox"/>	<input type="checkbox"/>
Was the employee satisfied with the management of the PG programme?	<input type="checkbox"/>	<input type="checkbox"/>
Did the employee find the PG programme useful?	<input type="checkbox"/>	<input type="checkbox"/>
Did the PG programme meet the employee's expectations?	<input type="checkbox"/>	<input type="checkbox"/>
Comments and suggestions:		

Tool 4 - Measuring Change Tool

Tool description

This tool evaluates the perceived changes in employee's knowledge, skills, attitudes and behaviour as a result of the postgraduate programme (or modules on the programme). This tool is to be completed by the employee/student. The employer and HEI can use the results of the exercise to identify possible enhancements to the development process or programme for it to result in more change.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

1. The employee enters the development objectives previously identified
2. The employee identifies how strongly they feel have the skills, knowledge, attitude, and behaviour in relation to the development area. 1 - Weak; 10- Strong
3. At the end of the development (module/programme) the employee reassesses himself or herself again.
4. The results are returned (an anonymous version if required) to the HEI. Where there has been a large increase between the before and after columns there has been a greater change (which is good).
5. The HEI uses the results to understand whether the programme is perceived to have created change.
6. Programme enhancements are identified.

Employee Name:								
Date:								
Development objective	Categories observed (1-10 – 1 weak; 10 strong)							
	Knowledge		Skills²⁰		Attitudes		Behaviour	
	Before ²¹	After ²²	Before	After	Before	After	Before	After
1. Enter development objective here	1-10							
2. Enter development objective here								
3. Enter development objective here								

²⁰ The development objectives identified might not all affect knowledge, skills, attitudes and behavior, complete only those that apply.

²¹ Complete this part before the programme. 1 = Weak; 10 = Strong

²² Complete this part after the programme

Tool 5 - Measuring Application And Implementation

Tool description

This tool considers how well the employee's new skills are applied in the work context. It does so by considering if the application of knowledge and skills has occurred, and if changes in attitudes and behaviour have influenced performance.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

This tool should be offered to an employer to carry out an in-house evaluation.

Where the newly-acquired skills, knowledge, attitudes or behaviours have not been applied to the workplace or there have been challenges in doing so, the employer, employee and HEI may look to identify how this could be improved (for instance whether improvements could be made to the programme or the workplace to support this to happen).

Employee Name:	
Date:	
SECTION A: APPLICATION OF KNOWLEDGE	
Has the employee been able to apply their new knowledge to their job as intended?	
Have their been any issues/difficulties in applying or implementing the new knowledge? If so please describe.	
How might any issues with application of implementation of knowledge be addressed?	
SECTION B: APPLICATION OF SKILLS	
Has the employee been able to apply their new skills to their job as intended?	
Have their been any issues/difficulties in applying or implementing the new skills? If so please describe.	
How might any issues with application of implementation of skills be addressed?	

SECTION C: CHANGES IN ATTITUDES

Have you observed a change in the employee's attitude since their participation on the postgraduate programme AND has this affected their performance at work? Describe.

Have you observed a change in the employee's attitude since their participation on the postgraduate programme AND has this affected the work climate? Describe.

SECTION D: CHANGES IN BEHAVIOUR

Have you observed a change in the employee's behaviour since their participation on the postgraduate programme AND has this affected their performance at work? Describe.

Have you observed a change in the employee's behaviour since their participation on the postgraduate programme AND has this affected the work climate? Describe.

Tool 6 - Measuring Business Impact

Tool description

This tool evaluates the business impact that the employee's development has on an organization. For each business need identified (as stated in the **Development Plan Tool**) pre- and post- development performance should be identified. The impact represents the difference between those pre- and post- development performance. It is important to only consider the changes resulted directly from training.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

1. Enter the employee's name
2. Enter the types of impact that might be measured. This will depend on what the development activity is to achieve.
3. Enter an indicator that the employer wishes to address via the employee's new knowledge/skills. Often development through postgraduate programmes aims to make more subtle longer term changes to the way individuals think and act and so this may be hard to measure or quantify. A perception measure (rate your leadership on a scale of 1-10) may be required.
4. Complete the impact measures after the programme. Time may need to lapse between the completion of the programme and the realisation of business impact.
5. Interpret the result. In some cases a decrease in indicator is a positive sign (saving money). In some cases increase is a positive sign (more new products launched).

Employee Name:	
PRE-DEVELOPMENT: WHAT BUSINESS IMPACTS DO YOU WANT TO ACHIEVE? Examples might include cost savings, enhanced productivity/output, less complaints etc.	
Impact 1	Is there a current measure/rate of this currently - enter here. For instance 4 complaints per month
Impact 2	Is there a current measure/rate of this currently - enter here
Impact 3	Is there a current measure/rate of this currently - enter here
BUSINESS IMPACT – MEASURING CHANGE What impact did the changes in the employee’s behaviour/knowledge/skills/attitude have? Once completed the difference between the pre-development measures above, and the post-development measures below indicate any change.	
Time lapsed since completion of programme:	months ²³
Impact 1	New measure/rate. For instance 2 complaints per month
Impact 2	New measure/rate. For instance 2 complaints per month
Impact 3	New measure/rate. For instance 2 complaints per month

²³ More time may be needed for some benefits to be realized.

Tool 7 - Return On Investment (ROI) Evaluation Tool

Tool description

This tool provides guidance for estimating the ROI. The benefits can be quantifiable (measurable in financial/time-related terms) and non-quantifiable (intangible benefits). *It is essential not to overlook the intangible benefits (e.g. leadership, better decision-making, critical thinking, time management, morale, motivation) gained from a training programme as they can participate in value creation and can have positive long-term consequences.*

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

This tool can be used by an employer with assistance from the HEI where required. ROI is a useful metric which indicates success of an investment and can be communicated to key stakeholders. ROI can be measured in various intervals and returns can be ongoing – this tool doesn't need to be left until the end. To complete this tool:

1. Identify the costs involved in the development programme. They include costs pre-PG programme and costs of PG programme itself and associated costs (e.g. opportunity costs)
2. Identify measurable benefits (e.g. savings occurred due to newly acquired knowledge)
3. Identify occurrence of intangible benefits. These benefits cannot participate in ROI calculation, but it is essential to note them due to their influence on value creation.
4. Calculate the ROI (see formula below)

Employee Name	
Date	
SECTION A: CALCULATING THE COSTS	
Costs	Amount (£)
Pre-Programme	
Selecting the course This includes pre-programme liaising with a HEI, travelling costs, events associated with a course selection.	
Programme development This includes the costs associated with adjustments to the existing PG programme and negotiating them to the provider (HEI).	
Development programme management This includes the work of management involved in supervising and monitoring the progress of an employee on a PG programme.	
Additional costs	
Programme	
Fees	
Travelling costs	

Accommodation	
Study materials	
Costs to cover the employee's working hours This includes expenditure paid to another employee/contractor to perform the activities the employee on a PG programme normally performs.	
Opportunity costs These costs include the cost of opportunities the employer is "missing out" on while the employee is on a PG programme.	
Training evaluation costs	
Additional costs	
TOTAL A	
SECTION B: CALCULATING THE BENEFITS²⁴	
Tangible Benefits	Amount (£)
Efficiency	

²⁴ Note: The benefits accounted for after the training programme should be the benefits this particular training was aimed at. However, studying on a PG programme can bring numerous non-quantifiable benefits too. Please note all non-quantifiable benefits caused by a PG programme. It is also very important to isolate the effects of this training programme from the effects caused by other interventions.

Productivity	
Cost saving	
Profitability	
Customer-related	
Other quantifiable benefits	
Other quantifiable benefits (2)	
TOTAL B	
SECTION C: CALCULATING RETURN ON INVESTMENT (TANGIBLE)	
TOTAL B – TOTAL A =	£ (TOTAL C)
BENEFIT-COST RATIO: TOTAL C / TOTAL A =	(BCR)
ROI = BCR X 100 =	% (ROI)

This tool is available in an Excel format from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

Section D is arguably the most important and relevant section. Whilst sections A-C have encouraged a number to be placed on the return on investment, much investment is not as tangible. It is recommended that examples of intangible benefits are marketed both within the HEI, outside the HEI and within the employing organisation.

SECTION D: THE INTANGIBLE BENEFITS	
Non-quantifiable, Intangible Benefits	
Benefits	Examples
Work atmosphere (e.g. improved team work, less stressful climate)	
Employee's personal development (e.g. improved confidence)	
Employee's feelings (e.g. feeling more motivated and appreciated)	
Employee's approach and initiative (e.g. positive approach to work)	
Attitudes and behaviours (e.g. increased respect to the company's values, strategy and mission)	
Other non-quantifiable benefits	
Other non-quantifiable benefits (2)	

Tool 8 - Employee Self-Reporting Form (Intangible Benefits)

Tool description

Normally, a training activity is aimed at producing tangible benefits, e.g. cost minimization, increasing customer satisfaction, increasing productivity. However, studying on a postgraduate programme produces a number of intangible benefits. The occurrence of these intangible benefits can be observed but also evaluated using this self-reporting form.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

Evaluation of intangible benefits can be challenging, however they play a very important role in value creation. HEIs can offer this tool to an employer to evaluate the occurrence of intangible benefits created.

Feeding the results of this exercise back to your organisation may support future engagement between your employer and universities.

1. Name

--

2. Personal Development²⁵

After completing the postgraduate programme, do you believe you have enhanced your professional practice, and how?

--

If so, how?

--

3. Feelings²⁶

After completing the postgraduate programme, have you observed any change in your feelings associated with your work/company?

--

Please try to explain why/how.

--

²⁵ For instance, patience, confidence, competitiveness, leadership.

²⁶ For instance, happiness, feeling appreciated, less stressed or others.

--

4. Decision-making²⁷
After completing the postgraduate programme, has your decision-making improved?
Please try to explain why/how.

5. Attitude²⁸
After completing the postgraduate programme, have you noticed any change in your attitude?
Please try to explain why/how.

²⁷ For instance, speed and accuracy of your decisions.

²⁸ For instance, loyalty to the company, respect to corporate image and others.

6. Approach²⁹

After completing the postgraduate programme, have you noticed any change in the way you approach your daily tasks?

Please try to explain why/how.

²⁹ For instance, innovative thinking, better planning, and time management

Tool 9 - Post-Evaluation Reflection

Tool description

This Post-Evaluation Reflection tool allows strengths, weaknesses and best practice from the programme engagement to be formally identified.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

The tool can also be used by the academic programme team to identify their own best practice, challenges and opportunities

Were any elements of best practice identifiable whilst the employee was on a postgraduate programme?

How can best practice be disseminated to colleagues or beyond?

What were the challenges?

How can the challenges be addressed?

Are there other opportunities for cooperation with this HEI (e.g. collaborative research)?

Tool 10 - Evaluation Strategy Planner

Tool description

This tool assists a HEI to plan an effective evaluation strategy. The tool helps to identify various stages where evaluation might take place. It is advisable for a HEI and an employer to work together on an evaluation strategy and identify the areas where collaboration is necessary.

This tool is part of the Postgraduate Placement Toolkit and is available from: <http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

How to use this tool?

Whilst the employee as student toolkit contains several tools to support you to evaluate various levels of the postgraduate programme, and the [Evaluation Checklist](#) (Tool 1) support.

Level	Tool	Data required (qualitative, quantitative)	Measurement technique (e.g. survey, interview, focus groups)	Time frame (Gantt Chart can be used)	Owner ³⁰
0	Identifying inputs Identifying necessary information				
1	Reaction evaluation. Measures employee satisfaction with the programme. Standard student survey can be used.				
2	Change evaluation. Allows the changes in employee's knowledge, skills, attitudes and behaviours after training to be identified.				
3	Application evaluation. Identifies the application of knowledge and skills that has occurred and the status of implementation. It also identifies if changes in attitudes and behaviours have influenced				

³⁰ Who will manage this data collection and any other information about how it will be managed.

	employee performance and work climate.				
4	Business impact evaluation. Identifies the business impact as the difference between the state of business pre and post development				
5	ROI evaluation. Provides guidelines for the measurement the costs and benefits of the programme. It is important to note the intangible benefits that cannot be quantified.				

APPENDICES

Appendix 1: Kirkpatrick's Model

Kirkpatrick's Four-Level Training Evaluation Model was published in the end of 1950s and has been updated a number of times since (Watkins et al, 1998). It has been noted that Kirkpatrick's model is a widely used framework for training evaluation (Tamkin et al, 2002; Bates, 2004). The model accommodates four levels; at each level the impact of a training programme is measured.

Kirkpatrick's model is simple and pragmatic (Alleger and Janak, 1989). However, a number of scholars have criticised this model. Tamkin et al. (2002) suggest that this model does not consider various intervening variables affecting learning and transfer. Bates (2004) argues that the risks of the model might outweigh its potential and states that the model fails to demonstrate the overall effectiveness of the training and fails to offer adjustments for a training programme to make it effective.

LEVEL	WHAT TO MEASURE	HOW TO MEASURE
1 - Reaction	At this level employee's reaction to training is measured. Employees' experience and satisfaction with programme and facilities are measured. The weaknesses of the programme should also be noted at this stage.	Surveys and questionnaires can be used.
2 - Learning	At this level the changes in employees' knowledge is measured. It is important to understand if the learning objectives have been met. It is also important to note that learning refers to other outcomes such as skills and attitudes.	Tests and control groups can be used at this stage
3 - Behaviour	At this level the changes in employees' behaviour is measured including the application of the skills/knowledge they have received during training. It is important to allow time for a behavioural change to take place.	Observations, control groups and interviews can be adopted as measurement techniques.
4 - Results	At this level the business outcomes (such as production, quality, turnover and so on) of a training programme are measured. It is essential to separate the business outcomes which occurred due to the training and the outcomes caused by other reasons. It is important to allow time for results to occur.	Control groups can be used.

Source: adapted from Kirkpatrick (1959; 1996)

Appendix 2: Phillips Model

Phillips' model (Phillips, 2003 and Phillips, 2007) is a widely used model to measure ROI in training and HR development; it introduces a new ROI level beyond the four levels suggested by Kirkpatrick. Phillips (2007) notes that even though level 5 is the ultimate level of evaluation, the levels comprise a chain of impact, therefore impact occurs throughout the chain and the learning that occurs throughout the process is applied when implementation takes place and drives ROI.

LEVEL		DESCRIPTION AND MEASUREMENT
0 Inputs/Indicators		<ul style="list-style-type: none"> At this level, inputs (number of programs, attendees, audience, costs, and efficiencies) are measured. Interviews and questionnaires can be used. Selecting the right people and setting objectives is important.
Similarities with Kirkpatrick's model can be observed	1 Reaction	<ul style="list-style-type: none"> At this level, reaction to experience, content, and value of the program is measured. Staff satisfaction with the programme needs to be identified and feedback gathered. Surveys and questionnaires can be used. Positive reaction³¹ does not mean that learning has occurred (Bassi et al, 1997, p.119)
	2 Learning	<ul style="list-style-type: none"> At this level, the changes in participants' knowledge, attitudes and skills are measured. Tests and self-reporting can be used. Learning check can be helpful. Positive changes in learning do not guarantee successful implementation (ROI Institute, 2004) Learning³² improvement does not correlate to behavioural changes; learning can be related to some but not others (Bassi et al, 1997)
	3 Application and Implementation	<ul style="list-style-type: none"> At this level, the progress post-program is measured, including the use of knowledge, skills, and contacts. Changes in the ways staff approach work are observed Changes in performance are monitored Frequency and use of skills are useful measures

³¹ For literature overview on trainee's reaction see Bassi et al (1997), p. 120

³² For literature overview on trainee's learning see Bassi et al (1997), p.123

		<ul style="list-style-type: none"> • Self-reporting and surveys (in order to identify the obstacles and areas where support is needed). • Even though successful implementation might have occurred, it does not guarantee a positive <i>business impact</i>.
	4 Impact and Consequences	<ul style="list-style-type: none"> • At this level, changes in business impact³³ variables such as output, quality, and time are measured (depending on the business area which the programme was chosen for). • Data can be obtained from company statements, control group can be used. • Measurement focus: improved quality, improved production, decreased costs, increased job satisfaction, reduced problems or accidents, increased sales. • Even if the business impact is positive the costs of an HR programme might have been too high (ROI Institute, 2004)
	5 ROI	<ul style="list-style-type: none"> • Costs are compared to the benefits of the training programme • Can be expressed in BCR or percentage form • This stage completes the evaluation cycle

Source: adapted from Phillips (1996; 2007) and ROI Institute (2014)

³³ Bassi et al (1997) divide the training impacts into outputs and outcomes. Outputs are associated with short-term benefits such as trainee reaction, knowledge and skills gain. Outcomes are long-term benefits and include profit, customer satisfaction, productivity increase; they are derived from the outputs.

Appendix 3: Application of Phillips Model

LEVEL OF PHILLIPS MODEL	MUTUAL AIM	HEI'S AND COMPANY'S ROLE
0 Inputs/indicators	<i>To identify the PG programme that will help achieve desirable outcomes</i>	<p><u>HEI</u></p> <ul style="list-style-type: none"> • A HEI can assist a company to choose the most suitable programme which will maximize the desirable outcome in terms of education, training or both. • Tailor-made options can be discussed³⁴ • Costs associated with the programme need to be communicated/negotiated <p><u>Company</u></p> <ul style="list-style-type: none"> • Identifies the employee(s) who need particular type of training/education via a HEI • Identifies a list of the most suitable HEIs which will provide the desirable outcomes in terms of training, education or both • Identifies the desirable learning outcomes to the employee's job • Identifies the training budget
1 Reaction and planned action	<i>Company's employee(s)' satisfaction with the PG programme</i>	<p><u>HEI</u></p> <ul style="list-style-type: none"> • A HEI can work alongside the company to identify the weaknesses of a programme and its strengths and best practice. • Feedback can be gathered about students' satisfaction with the programme and university facilities (e.g. module evaluation) <p><u>Company</u></p> <ul style="list-style-type: none"> • Identifies employee's satisfaction with the programme including programme meeting their expectations, learning environment and university facilities • Communicates the positive and negative feedback to the HEI • Identifies possible ways/plan for employee(s) to use the knowledge acquired
2	<i>Positive change in company's employee(s) knowledge and</i>	<p><u>HEI</u></p> <ul style="list-style-type: none"> • A HEI can obtain the data from a company to estimate the success of learning and changes in employees knowledge and skills

³⁴ A discussion on tailor-made PG programmes (in particular, MBA) adjusted for specific industry requirements, can be found here: The Independent (2011)

Learning	<i>skills</i>	<u>Company</u> <ul style="list-style-type: none"> Carries out activities to measure knowledge and skills after the PG programme. They can refer to practical skills, attitudes and behaviours and include inter-personal skills
3 Application and implementation	<i>The knowledge acquired at the PG programme has been implemented/is being implemented</i>	<u>HEI</u> <ul style="list-style-type: none"> A HEI can communicate with the company to identify how the PG programme provided changes the employees' behaviour and if the knowledge and skills are being used <u>Company</u> <ul style="list-style-type: none"> Discusses implementation of skills/knowledge acquired in HEI Observes an employee use the knowledge/skills gained during the PG programme Observing behavioural changes
4 Business impact	<i>The knowledge employee(s) acquired at the PG programme has been implemented and has brought positive business impact</i>	<u>HEI</u> <ul style="list-style-type: none"> A HEI can gather a company's feedback on the impact of a PG programme provided on its business operations <u>Company</u> <ul style="list-style-type: none"> At this stage a company measures the impact the programme had on its business operations in terms of quality, production, costs and so on depending on the area The business impact occurred can be communicated to the HEI
5 ROI	<i>The benefits of training/education at PG programme outweigh the costs of the PG programme and associated expenses</i>	<u>HEI</u> <ul style="list-style-type: none"> A HEI can communicate with the company regarding the final ROI evaluation <u>Company</u> <ul style="list-style-type: none"> At this stage a company estimates the costs of PG programme and associated expenditures vs the benefits the programme provided
<p><i>Post-programme delivery interactions:</i></p> <ul style="list-style-type: none"> Best practice Further engagement opportunities 		

Appendix 4: Tools Map

The map below shows what tools are available within this toolkit to support each evaluation level.

STAGE	WHAT TO IDENTIFY/MEASURE/EVALUATE?	HOW TO IDENTIFY/MEASURE/EVALUATE? (TOOLS AVAILABLE)
<i>Pre-programme delivery</i>		
Level 0	<ul style="list-style-type: none"> • Identify the development needs • Identify the programme 	<ul style="list-style-type: none"> • Evaluation Checklist • Strategy Planner • Development Plan
<i>Post-programme delivery</i>		
Level 1	<ul style="list-style-type: none"> • Employee's reaction to the programme 	<ul style="list-style-type: none"> • Evaluation Checklist • Measuring Reaction Tool
Level 2	<ul style="list-style-type: none"> • Changes in employee's knowledge/skills/attitudes/behaviour 	<ul style="list-style-type: none"> • Evaluation Checklist • Measuring Change Tool
Level 3	<ul style="list-style-type: none"> • Application of learned/newly acquired knowledge/skills/attitudes/behaviour 	<ul style="list-style-type: none"> • Evaluation Checklist • Application and Implementation Tool
Level 4	<ul style="list-style-type: none"> • Business impact of the learned/newly acquired knowledge/skills/attitudes/behaviour 	<ul style="list-style-type: none"> • Evaluation Checklist • Business Impact Evaluation Tool
Level 5	<ul style="list-style-type: none"> • ROI • Intangible benefits 	<ul style="list-style-type: none"> • Evaluation Checklist • ROI Evaluation Tool • Employee Self-Reporting Form – Intangible Benefits
Reflection	<ul style="list-style-type: none"> • Best practice • Challenges • Cooperation opportunities 	<ul style="list-style-type: none"> • Evaluation Checklist • Evaluation Reflection

The 'Employee as Student' Toolkit supports higher education institutions (HEIs) to measure and demonstrate the value of postgraduate programmes when used as a development option by organisations.

The toolkit offers tools to support HEIs to work with employers to calculate the return on investment from placing employees onto postgraduate programmes. It also supports a training evaluation exercise to be conducted so as to interrogate various stages of the postgraduate programme process.

The toolkit and tools are available from:

<http://www.derby.ac.uk/engineering-technology/pss/toolkit/>

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