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Hello readers

Welcome to the 5th issue of EWOPin-PRACTICE with papers on the application of Work and Organizational Psychology.

It has been a busy time for EAWOP since the previous edition of in-Practice. We have held the widely acclaimed 1st practitioner WorkLab, in Helsinki, and another successful Summer School and are about to enjoy our bi-annual congress in Munster, Germany and WorkLab 2013 in Amsterdam.

This edition offers six excellent papers representing a range of Work and Organizational Psychology (WOP) practice in Europe. These papers follow a theme about the quality of Human Resource Management (HRM) and development supporting leaders, managers and workers in organizations. Further, there is a strong reflexive component to the articles encouraging us to spend time looking at our own professional practice.

The edition opens with an intriguing study conducted by Mare Teichmann and Liina Randmann examining the evidence-base for HRM practices across Europe, and in particular a knowledge-base comparison between HR Practitioners and non-HR professional (such as book keepers and accountants) in Estonian. This paper is followed by an excellent reflexive account of a study of HRM strategies from six UK uni-

versities written by Kathryn Waddington and Julie Lister. Next, Diana Rus explores some of the content from the 1st practitioner WorkLab building on a workshop conducted by Professor Beverly Alimo-Metcalfe. Diana examines leadership behaviours that are likely to engage workers in difficult economic climates; and ones that will not. Kimberley Breevaart and Arnold Bakker follow with a valuable piece about how leaders can influence their followers' work engagement. The theme of development is picked up in the next paper by Velli Parts and Mare Teichmann specifically looking at Non-Technical Competencies for engineers. Finally, Laura Liguori offers us a valuable account of attachment theory applied to organizational life and the role of the manager/leader as potential care-giver. This paper, along with the others will cause you to pause and reflect on your own and others' practice to consider how you can add value to your own workplace offerings and solutions. I would like to thank the authors for their insightful contributions to in-Practice and look forward to further papers being presented for our next edition.

Hopefully these articles will inspire you and make you wish to comment and reflect. Please contact the authors directly by email to continue the discussion; or address your thoughts to myself; your editor. With the authors' permission I will summa-

rise these discussions for you in the next edition of in-Practice.

In-Practice is for you and also made by you. Think about writing for the journal yourself. The philosophy of the journal is to publish papers about the practice of WOP in Europe. We are interested in articles describing practices, procedures, tools, or even changes in organizational procedures stimulated by shifts in national economies and organizational processes. We want to know much more about professional activities across Europe, thus we are looking for a contribution from you.

Are you an expert in Organizational Development? Training? Work stress interventions? Is there a successful project that you have led, or contributed to, that you would like to share with others? Here you can find the right place to present and discuss these types of experiences. As for length, a two-three page contribution is perfectly OK; or more if you wish.



A handwritten signature in black ink that reads "Angela Carter". The script is cursive and fluid.

Professor Angela Carter
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The format for the papers is described in the style guide associated with this page. If you would like to discuss your ideas for a contribution or send me an outline I would be happy to comment on this and assist in its preparation.

Would you like to comment on topics from the 1st WorkLab (see <http://www.eawop.org/worklab-2012> for an account and contributions) or look ahead to those of “The good, the bad and the ugly of leader behaviour” that form part of WorkLab 2013 (<http://eawop.org/news/2nd-eawop-worklab-2013>). Or perhaps suggest topics for future WorkLabs? If you would like to meet us and discuss these ideas in person we are holding a WorkLab reunion on Friday 24th May 2013 at the Munster congress, in the entrance hall of the Munster Palace at 18.00.

Best wishes for spring; and some warmer weather. Enjoy in-Practice and ... don't forget ... I look forward to your contribution.

MYTHS AMONG PERSONNEL (HR) PROFESSIONALS

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Abstract

In this paper we share our experience and examine some myths that exist among personnel (HR) professionals. In order to get an overview how deep is the gap between academic knowledge and everyday truths regarding personnel management we carried out the study in two phases. In the first phase we interviewed outstanding Estonian personnel managers as an expert group, and the second phase interviewed personnel professionals and non-HR professionals from different occupations (engineers, bookkeepers, lawyers, civil servants, and teachers). We explored issues of knowledge in the field by look-

ing at the levels of agreement regarding the quality of research evidence in Work and Organizational Psychology (WOP). The study revealed that the work done in many personnel management fields is based on similar myths that exist among non-personnel professionals.

Background

The past decade has seen a divide develop between academic knowledge and everyday truths regarding personnel management, and as a result differences have developed in the practical everyday work of human resource (HR) employees. Well-known publications of human resource management (HRM, such as *Human Resource Management and Human Resource Magazine*) act as a bridge between knowledge and practice. These journals attempt to intermediate, reflect, and rephrase major academic positions, based on empirical studies and scientific fact, for those working in the personnel field. Unfortunately, these efforts sometimes end up looking like a fun-house mirror rather than a true reflection of the evidence that they are trying to represent. The aforementioned publications and personnel management training textbooks and handbooks fail to address some of the academic knowledge that is vital to HR work. Analysing the content of articles published over five years, researchers in the USA

(Rynes, Giluk, & Brown, 2007) reached the conclusion that topics addressed in publications and books that were geared towards practitioners addressed far less academic studies and literature. The authors' describe that most of the material concerned rotating topics *du jour* (such as emotional and social intelligence, 360° feedback) while knowledge necessary to personnel work (such as employees' mental abilities, personalities, and setting goals; topics that are directly tied to and influence work and productivity) were addressed remarkably little. For example, the role of personality in choosing employees was addressed by three articles (0.4% of all articles published) in *Human Resource Magazine* and by two articles (1.2%) in *Human Resource Management*. Another negative trend affecting practices in HR is the quality of supporting evidence in articles and books geared towards practitioners. Many articles are based on individual experiences of practitioners; which leads to generalisations being made based on limited evidence. As a result of this trend, divergent and incompatible knowledge is widespread among personnel managers resulting in decisions being made based on poor quality, or unproven knowledge.

Current research

In order to get an overview of the evidence-base used in WOP in European countries, the European Network of Work and Organizational Psychology Professors (ENOP) carried out a study among the top specialists in WOP in 14 countries (Guest & Zijlstra, 2012). This study explored levels of agreement on the quality of the research evidence base using a pan-European sample of 75 senior academic WOP psychologists. In Estonia this study

was broadened by adding 15 of most outstanding Estonian personnel managers to the expert group. This work was the first phase of the study that we describe in this article.

In the second part of our study we examined two samples: a group of HR professionals and a control group of professionals from a variety of different occupations. We interviewed 63 HR professionals (58 females, five males, with an average age 32.4 years). The control group consists of 64 non-HR professionals from different occupations such as engineers, book-keepers, lawyers, civil servants, and teachers (56 females, eight males, with an average age 31.9 years). We proposed the same eight statements to both samples asking if they agreed or disagreed with each statement (e.g., "Money does not motivate an employee to boost their productivity"). These statements were taken from the misunderstandings of research evidence ("myths") that had vividly occurred in the first part of interview study. Both parts of Estonian study were carried out by the Department of Industrial Psychology at Tallinn University of Technology.

Results

Our study shows there were few differences between the appreciations of research evidence between the two samples. That is that both groups were likely to make judgements based on a general understanding of WOP than a specific knowledge-based known to their profession. With reference to Table 1 below it is apparent that in accepting or rejecting proposed statements HR professionals did not use or did not have the professional knowledge in their own field.

Table 1. Personnel professionals' and non-personnel professionals' judgements

	Sample1	HR group	Sample2	Non-HR group
Statements	Agree (%)	Disagree (%)	Agree (%)	Disagree (%)
Money does not motivate an employee to boost their productivity.	33.4	66.6	15*	85*
It's not possible to use a test to gauge an employee's integrity in order to help decide whether to hire him or not.	63.9	36.1	65	35
Work stress is the primary reason for employees falling ill.	47.2	52.8	75*	25*
Including employees in the decision-making process is vital to improving work productivity.	83.3	16.7	95	5
Satisfaction with one's work guarantees greater productivity and more loyalty to an organisation.	94.4	5.6	85	15
Charismatic leaders are not as good.	5.6	94.4	0	100
Labour unions conduct negotiations about wages instead of employees.	13.9	86.1	15	85
It is not possible to account and to prove the profitability of personnel selection.	33.3	66.7	35	65

*Statistically different from the HR group (Sample 1) at $p < 0.05$

Table 1 shows that there are a number of embedded attitudes (myths) that are not evidence-based. Four statements were judged, by the majority in both samples, adequately:

1. Money does not motivate an employee to boost productivity (66.6% disagree HR; 85% disagree non-HR);

6. Charismatic leaders are not as good (94.4% disagree HR; 100% disagree non-HR);

7. Labour unions conduct negotiations about wages instead of employees (86.1% disagree HR; 85% disagree non-HR);

8. It is not possible to account and to prove the profitability of personnel selection (66.7% HR disagree; 65% disagree non-HR).

In contrast there were three statements in which majority from both samples judged *inadequately*:

2. It's not possible to use a test to gauge an employee's integrity in order to help decide whether to hire him or not (36.1% disagree HR; 35% disagree non-HR);

4. Including employees in the decision-making process is vital to improving work productivity (16.7% disagree HR; 5% disagree non-HR);

5. Satisfaction with one's work guarantees greater productivity and more loyalty to an organisation (5.6% disagree HR; 15% disagree non-HR).

One statement did show a significant difference ($p < 0.05$) between the judgments of HR and non-HR samples:

3. Work stress is the primary reason for employees falling ill; (47.2% HR; 75% agree non-HR).

The prevailing view among non-personnel professionals was (incorrect) that work stress was the primary reason for employees falling ill.

Discussion

The results of ENOP WO Psychologists' study shows that there were only seven of the 24 core findings on which over 75% of the participants agreed that there was good-quality evidence (Guest & Zijlstra, 2012). It is concluded, in agreement with Briner and Rousseau (2011), that there is some way to go before WO Psychologists can begin to feel confident about the quality of much of their research evidence (Guest & Zijlstra, 2012).

Based on results of the current study, four

statements were judged in both samples adequately, and there were three statements in which both samples judged inadequately. One statement did show a significant difference ($p < 0.05$) between the judgments of HR and non-HR samples i.e. "Work stress is the primary reason for employees falling ill". We have to conclude that personnel professionals' knowledge has not progressed far as 37.5% of judgments made by personnel specialists were not supported by evidence. Most intriguing was the finding that there was not much difference between HR and non-HR samples by their level of knowledge.

Next we will examine, in turn, each of the statements we used in the study.

Myth 1 – Money does not motivate an employee to boost their productivity.

This statement can be found in just about every HR management handbook or management training course. Empirical studies done in countries with a high standard of living confirm this statement. But, studies that have been carried out in countries that do not have such a high standard of living and quality of life (for example Eastern European countries) reveal that money is actually a very strong motivator. It seems that money loses its power as a motivator when the standard of living and quality of life are about equal to the employee's expectations. As long as that balance does not exist, money is an important motivator in improving work productivity. Even in the USA, studies reveal contradictions in employees' statements regarding money as a motivator and their actual behaviour – employees talk about money as the least important motivator but their actual decisions and choices tell

a different story (Rynes, Gerhart, & Parks, 2005; Rynes, Schwab, & Heneman, 1983).

Myth 2 – It’s not possible to use a test to gauge an employee’s integrity in order to help decide whether to hire him or not.

Integrity tests are a type of personality test and can successfully predict whether a person will start stealing, or missing work on false pretexts (Ones, Viswesvaran, & Schmidt, 1993; Ones, Viswesvaran, & Reiss, 1996). In terms of their ability to predict work productivity, integrity tests are only slightly less effective than tests of work-specific knowledge and trial assignments. To predict potential work motivators and work behaviours, organisations don’t necessarily need to work out their own organisation-specific integrity tests. Even general integrity tests can reveal whether an employee will behave in accordance with an organisation’s standards and interests.

Myth 3 – Work stress is the primary reason for employees falling ill.

Statistics on employee illnesses do not support this statement in any European country. Work stress is directly related to an employee’s productivity with companies likely to lose 5-10% of their profit due to work stress (European Commission, 1999; Cooper, 2011). Therefore, reducing work stress can mean more productive work is being done; with fewer errors or sub-standard products being produced, and friendlier customer service. The indirect role played by work stress in psychosomatic illnesses in employees has been proven, but it is quite certain that work stress is not the primary reason employees get sick. People can fall ill even when they feel no stress at all with common colds and ailments, and musculo-skeletal injuries.

Myth 4 – Including employees in the decision-making process is vital to improving work productivity.

Setting work-related goals and giving employees’ feedback on their productivity are more necessary and effective methods to improve productivity than including them in the decision-making process (Locke, Feren, McCaleb, Shaw, & Denny, 1980; Locke & Latham, 1990; Wagner, 1994). Work productivity is boosted by specific goals (with set deadlines) that are meaningful and challenging (Latham, 2006). However, instructions to “work better” are actually more likely to decrease motivation and productivity.

Myth 5 – Satisfaction with one’s work guarantees greater productivity and more loyalty to an organisation.

Satisfaction with one’s work does have a positive (but weak) correlation with productivity, but it is not the major factor that affects performance. Work productivity indicators are actually more closely tied to the relationship the employee has with their direct supervisor (Gerstner & Day, 1997). When employees sense that they are being treated fairly and relationships are positive and supportive, much better work results are seen (Greenberg, 1990).

Myth 6 – Charismatic leaders are not as good.

There are clearly different views on charisma, mainly due to the fact that charisma possesses a different meaning for practitioners than it does in academic literature. Practitioners relate charisma with charm and mystery and attribute all-powerful, superhero characteristics to charismatic people. Academic literature views charisma more broadly and generally sees such people as transforming leaders. The academic literature also dif-

ferentiates two types of charismatic leaders: those who are self-centred or those who are more socially oriented. The former are described as manipulative leaders who are trying to achieve their own personal goals and who, in the long run, could be dangerous to an organisation (Howell & Shamir, 2005). Socially oriented leaders direct their efforts towards achieving common goals and towards protecting the interests of the organisation (and its employees) (Judge & Piccolo, 2005).

Myth 7 – Labour unions conduct negotiations about wages instead of employees. According to the Estonian Statistical Office (2009) 6% of all organizations are unionised and 13.3% of organizations have Works Councils elected by employees. Trade Union members make up only 7.7% of the whole Estonian workforce in 2010 (Source: OECD Statistics). Therefore, it is usual for employees to represent themselves without an intermediary; undertaking individual negotiations and entering into private agreements. Personal and sometime informal arrangements (so-called I-deals, Rousseau, 1995) are based on the employee's personal "value" for the organization and ideally, satisfy the needs of both parties in the employee-employer relationship. Therefore, wages and working conditions may vary from other colleagues who are performing the same job. With the help of I-deals employees have significantly greater opportunity to determine their own wage and working conditions.

Myth 8 – It is not possible to account and to prove the profitability of personnel selection. Already decades ago there was strong scientific evidence to prove that a profit of personnel selection is accountable and can be related to organizational performance (Schmidt & Hunter, 1998).

In conclusion, the martyr syndrome is rampant among Estonian HR specialists; although it is hard to pinpoint the cause and the effect here. HR textbooks, handbooks, and periodicals say that a personnel employee's ideal role within an organisation should be that of a business partner. In reality this ambition is rarely met, and therefore personnel professionals feel that they are poor victims ("we are so small and the bosses are so big; they don't listen, they hurt our feelings"). Therefore, HR professionals feel the need to prove their worth within organizations. However, it would never occur to non-HR professionals (such as book-keepers, lawyers, and marketing specialists) to try to prove their added value in the company and be seen as a business partner. If it does become necessary to prove to management what kind of added value human resources brings, it would be quite easy to reach a conclusion based on evidence from facts, studies, and other knowledge. Our study in Estonia revealed that the work done in many HR roles is based on similar myths that exist among non-personnel professionals. Our results reveal that the knowledge of HR in Estonia was marked by confusion and in majority cases were not based on scientific evidence.

References

- Briner, R.B., & Rousseau, D.M. (2011). Evidence-based I-O psychology: Not there yet. *Industrial and Organizational Psychology, 4*(1), 3-22.
- Brockner, J., & Greenberg, J., (1990). The Impact of Layoffs on Survivors: An Organizational Justice Perspective, in J. Carroll (Ed.), *Advances in Applied Social Psychology Business Settings*, Lawrence Erlbaum Associates, Hillsdale, NJ.
- Cooper, C.L. (2011). Enhancing mental capital and well-being at work. *Creating Value through Occupational Psychology*, Annual Conference of The British Psychological Society, Division of Occupational Psychology.
- Gerstner, C.R., & Day, D.V. (1997). Meta-analytic review of leader-member exchange theory: correlates and construct issues. *Journal of Applied Psychology, 82*(6), 827 - 844.
- Greenberg, J. (1990). Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts. *Journal of Applied Psychology, 75*(5), 561-568.
- Guest, D., & Zijlstra, F. (2012). Academic perceptions of the research evidence base in work and organizational psychology: A European perspective. *Journal of Occupational and Organizational Psychology, 85*(4), 542-555.
- Howell, J.M., & Shamir, B. (2005). The role of followers in the charismatic leadership process: Relationships and their consequences. *Academy of Management Review, 30*, 96–112.
- European Commission (1999). Guidance on work-related stress. "Spice of Life – or Kiss of Death?"
- Latham, G.P. (2006). *Work motivation: History, theory, research and practice*. Thousand Oaks, CA: Sage.
- Locke, E., Feren, A., McCaleb, V.M., Shaw, K.N., & Denny, A.T. (1980). The relative effectiveness of four methods of motivating employee performance. In K. D. Duncan, M. M. Gruneberg, & D. Wallis (Eds.), *Changes in working life*. London: Wiley.
- Locke, E., & Latham, B.V. (1990). *A theory of goal-setting and performance*. Englewood Cliffs, NJ: Prentice Hall.
- Ones, D.S., Viswesvaran, C., & Schmidt, F.L. (1993). Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology, 78*(4), 679–703.
- Ones, D.S., Viswesvaran, C., & Reiss, A.D. (1996). Role of social desirability in personality testing for personnel selection: The red herring. *Journal of Applied Psychology, 81*(6), 660–679.
- Rousseau, D.M. (1995). *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements*. Thousand Oaks, CA: Sage.
- Rynes, S.L., Giluk, T.L., & Brown, K.G. (2007). The very separate worlds of academic and practitioner periodicals in human resource management: Implications for evidence-based management. *Academy of Management Journal, 50*(5), 987–1008.
- Rynes, S.L., Gerhart, B., & Parks, L. (2005). Personnel psychology: Performance evaluation and pay-for-performance. In S. Fiske, D. L. Schacter, & A. Kasdin (Eds.), *Annual Review of Psychology, 56*, 571– 600. Palo Alto, CA: Annual Reviews.
- Rynes, S.L., Schwab, D.P., & Heneman, H.G. (1983). The role of pay and market pay variability in job application decisions. *Organizational Behavior and Human Performance, 31*, 353–364.
- Schmidt, F.L., & Hunter, J.E. (1998). The Validity and Utility of Selection Methods in Personnel Psychology: Practical and Theoretical Implications of 85 Years of Research Findings. *Psychological Bulletin, 124*(2), 267-274.
- Wagner (1994). Participation's effect on performance and satisfaction: A reconsideration of the research evidence. *Academy of Management Review, 19*(2), 312–330.

HUMAN RESOURCE MANAGEMENT (HRM) STRATEGIES AND ACADEMIC ENGAGEMENT IN UK UNIVERSITIES: REFLECTIONS ON AN ACADEMIC-PRACTITIONER STUDY

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Abstract

In this paper we present and discuss findings from a small-scale mixed methods study exploring Human Resource Management (HRM) strategies and academic engagement in six universities in England. A collaborative academic-practitioner model of research was adopted, with the explicit intention of generating research findings of interest and value to HR practitioners, managers, and researchers. Key findings included: a) some recognition by HR directors that the profession has been slow to provide metrics to evaluate/demonstrate HR 'added value'; and b) a perception by academic staff of HR as part of 'management armoury', and the means by which unpopular initiatives are implemented; rather than a strategic driving force. Our identities and synergies as reflective practitioners and reflexive researchers are an important aspect

of our academic-practitioner model. We will therefore reflect upon the meaning of these findings with regard to evidence-based HR practice. We argue that reflective practice is important both for the role of HRM in the management of toxic emotion in the workplace, and the potential for the development of ethical HRM practice and organizational compassion.

Background to the study

The initial impetus for our research was Guest and Clinton's (2007) study into HRM and university performance in the UK. Their study was carried out in the context of two UK government-led initiatives. The first was a financial incentive scheme, offered to universities if they could demonstrate progress in the development of an HR strategy. The second was a review of employee engagement, which also made the case for establishing causal links between high levels of employee engagement, individual well-being, and organizational performance (MacLeod & Clarke, 2009).

Through their HR strategies, developed under the government's financial incentives, many universities in the UK located the leadership of staff development, engagement and organizational commitment initiatives in their HR departments.

In organizational performance terms, it was crucial that HR departments ‘deliver’ in terms of reaching the staff (the key drivers of organizational performance). Guest and Clinton’s research used survey and focus group methods with a sample of predominantly HR Directors. They found no direct association between measures of HR activities and a variety of standard indicators of university performance such as financial indicators, student satisfaction scores and research ratings.

Our study examined Guest and Clinton’s findings further with a sample of senior university leaders, Heads of Department (HoDs), academics and researchers. The research aims were to: a) explore the degree of engagement of academic staff with universities’ HRM strategies and associated HR-driven initiatives; and b) ascertain reasons for the levels of engagement reported.

Theoretical and organizational context

The organizational context of this study was HRM in UK universities, where Ulrich’s (1997) ‘business partner model’ has gained prominence. HR business partnering is a process whereby HR professionals work closely with business leaders and/or line managers to achieve shared organizational objectives. In particular this involves designing and implementing HR systems and processes to support strategic business aims. This may involve the formal designation of ‘HR business partners’; HR professionals embedded within the business, sometimes as part of a wider process of restructuring of the HR function (CIPD, 2012). Ulrich’s model represents a shift from an administratively focused personnel function, to a more

business-like HR function and associated notions of employee engagement (Alfes, Truss, Soane, Rees, & Gatenby, 2010; Pynes, 2009).

For the purposes of our study we initially defined engagement as the alignment and ‘connectivity’ of HR function and academic functions relating to leadership, staff development, recognition and reward. However this functional, operational definition is also located within a broader theoretical context of employee engagement, which is gaining critical importance; particularly in the domain of positive organizational psychology (POP) (e.g., Bakker & Leiter, 2010; Sweetman & Luthans, 2010). The emphasis in POP is on positively oriented human resource strengths and psychological capacities that can be developed and managed effectively. Alfes et al. (2010, p. 5) define engagement as: ‘being positively present during the performance of work by willingly contributing intellectual effort, experiencing positive emotions and meaningful connections to others’. Ironically though, as Shuck and Reio (2011) note, when practitioners turn to academic colleagues for strategies to develop an engaged workforce, ‘they are increasingly met with a gap in research to help guide their practice’ (p. 421).

Academic-practitioner research

In an attempt to bridge this gap in research a collaborative academic-practitioner approach was adopted in order to do research that would have practical relevance for HR practitioners and academics. In Work and Organizational Psychology (WOP) the notion of a gap is often seen to lie between academic scholars and practitioners (Anderson, 2007; Gelpert,

2006). Our approach was slightly different. We took the view that *individually we each brought different and unique blends of academic-practitioner skills and experience*. In other words we did not simply see one of us as ‘the academic’ and the other as ‘the practitioner’. Our identities and synergies as reflective practitioners and reflexive researchers are important aspects of our approach to academic-practitioner research, which we define further below.

Reflective practice has many meanings, ranging from professionals engaging in individual introspection, to engagement in critical dialogue with others (Finlay, 2008). *Reflexive* research practice is about attending to thoughts, values, feelings, actions and identity, and their effect

on others. Being reflective and reflexive, and then describing it to others - as we are doing in this paper - is not necessarily easy. Waddington (2010, pp. 312-313, citing Cunliffe, 2003) identifies reflexive principles, which we embedded into our academic-practitioner model:

- Acknowledging the constitutive nature of our research conversations;
- Adopting multi-perspective practices;
- Questioning and challenging our own intellectual assumptions;
- Making sense of actions in practical and responsive ways;
- Constructing emerging practical theories rather than objective truths.

In practice, reflective and reflexive principles were used in a cyclical manner, summarised below in Figure 1.

Figure 1: Reflective and reflexive cycle



Study design

This was a small-scale descriptive research study that used a mixed-methods approach to collecting, analysing and integrating qualitative and quantitative data. Ethical approval was granted by City University London, and data collection took place between March and July 2010 with a representative sample of six universities. Kathryn interviewed six HR directors (HRDs) and Julie interviewed six Pro Vice-Chancellors (PVCs). In UK universities PVCs provide academic leadership in specific areas of strategy and policy (e.g., research and enterprise), and act as deputies to the Vice-Chancellor (equivalent to the European title of Rector). Interviews lasted 45-90 minutes and were digitally recorded and transcribed using high quality voice recognition software. Together, we carried out focus group interviews in five out of the six participating universities, each lasting 60-90 minutes and typically involving six to ten academic and research staff. In addition, an on-line quantitative questionnaire survey (which included opportunity for free text qualitative comment) was sent to 120 academic HoDs at the six research sites.

The qualitative interviews and focus groups took place during a field visit to each of the participating institutions. The online survey drew on Guest and Clinton's (2007) questionnaire, and qualitative find-

ings from our fieldwork, reflecting HoDs' impressions and opinions of HRM function and effectiveness. The survey was administered via email using the *Bristol Online Survey* tool (<http://www.survey.bris.ac.uk>), and consisted of a rating scale of 56 statements and three opened-ended questions relating to: a) HR policies and practices; b) HR effectiveness; and c) HR influence (see Waddington & Lister, 2010). Template analysis was used as a framework to facilitate the integration of qualitative and quantitative data. Briefly, template analysis is the process of organising and analysing data according to themes which are further refined as text is analysed (see King, 2012).

Summary of key findings

The full research report and results can be found in Waddington and Lister (2010). In this paper we summarise and reflect upon key findings and cross-cutting themes relating to: a) academic perceptions of HR; b) status, visibility and influence of HR strategy; c) academic values; and d) academic-practitioner crossover.

Results from the quantitative survey with HoDs indicated that HR practices such as appraisal, recruitment and staff development were generally perceived as effective. A notable exception was in the area of managing poor performance (see Table 1 on the next page).



Table 1: Perceptions of effectiveness of HR practices

Please give your opinion, as far as you are able to, of the effectiveness of the following broad range of HR practices with regard to the way they are currently implemented in your university			
Options were: not at all effective/not very effective/fairly effective/very effective/don't know			
	% overall not effective	% overall effective	% don't know
Recruitment and selection of academic staff	16	81	3
Ability to attract top quality staff	47	50	3
Staff development for academic staff	19	78	3
Academic leadership development	28	66	6
University leadership development	31	53	16
Appraisal	12	88	0
Processes of employee involvement e.g. consultation, staff surveys	31	69	0
Succession planning	56	31	13
Reward systems	47	44	9
Managing poor performance	72	22	6
Discipline	53	38	9
Attendance/absence management	37	50	13
Ability to retain top quality staff	34	63	3

However HoDs' perceptions of HR influence upon university performance supported Guest and Clinton's (2007) findings that

there is little association between measures of HR activity and standard indicators of university performance (see Table 2 below).

Table 2: Perceptions of HR influence upon university performance

Please indicate the extent to which you consider the HR function in your university is able to influence the following			
Options were: no influence/small influence/sizeable influence/large influence/don't know			
	% overall little influence	% overall larger influence	% don't know
The quality of teaching	84	13	3
The quality of research	88	9	3
The quality of senior university management and leadership	63	34	3
The ability to retain staff	59	38	3
The university's financial position	59	34	7
The quality of the HR function	32	66	12
The quality of student outcomes e.g. grades, completion rates, employment rates	94	3	3

The survey response rate was low, at 27% (N= 32), which although disappointing, was not entirely unexpected, as all of the universities in the study had indicated they were also undertaking a range of on-line staff surveys. More generally, survey response rates are declining over time as a consequence of the increasing popularity and ease of electronic distribution of surveys (Anseel, Lievens, Schollaert, & Choragwicka, 2010).

Key findings from the qualitative data included some recognition by HR directors that the profession has been slow to provide metrics to evaluate or demonstrate HR 'added value' in core areas of university business. For example as one HR Director (HRD) reflected:

"I have been trying to provide a vehicle by which people become better leaders and managers but my knowledge of the deliverables around what makes a better teacher is non-existent... One of the failures that I have got is the inability to demonstrate what works; there is no good evidence that I have managed to have a 10% improvement in X or Y, I can't show that and that's is a failure and a disappointment to me". (HRD interview)

Some senior academics expressed a degree of concern about HR departments becoming populated by people who do not understand universities. For example during one interview, a PVC raised concerns about the relevance of Ulrich's (1997) 'business partner model':

"I have to say I have some concerns about this [the Ulrich model] because

I don't think HR issues in academic departments are functionally equivalent to HR issues in the service areas. And, I have to say, that I'm not sure that enough people in HR have much experience of academic departments and how they operate... leading academics is difficult for us as PVCs, and we are academics". (PVC interview)

Focus group data and qualitative comment in the on-line survey suggest that academics perceive HR as part of 'management armoury', and the means by which unpopular initiatives are implemented, rather than a strategic driving force. There was an underlying sense of disruption and threat. For example:

"I have heard people say that academic staff are an endangered species here, they are seen as a problem... there is a view that academics have become some kind of beast that has to be controlled by HR... and I think the reason for this is there was also a view that the HR function needed to be professionalised... and it now feels like HR is the tail wagging the dog... there's a bit of treading on toes, it feels like they are muscling in on areas traditionally held by academics". (Academic focus group)

"HR is not perceived in a positive light. The organization has gone through extensive change, which was not handled appropriately and proved to be extremely disruptive and has had a negative impact on how the organization is perceived from within. HR is valuable in as much as they provide a supportive/informative role, not a cen-

tral role to the organization”. (HoD survey comment)

On the other hand, academics valued HR for its advisory/support role:

“HR has been my ‘saviour’ - I found myself managing a team that had been cobbled together by somebody else and there were a lot of issues and resistance in the team. I felt like I had been thrown in at the deep end but every time I needed help and they were there for me and enabled me to stay well and truly within the law”. (Academic focus group)

We also asked HRDs and PVCs about the extent of collaboration between the HR department and academic HR specialists within their university. It appeared that collaboration was very rare, and a variety of reasons were given which included: academics not being invited to contribute; academics being invited to contribute, but not wishing to participate; academics interested in theory and not practice; HR not wishing to invite scrutiny which would delay implementation of pragmatic and timely solutions; academics consider it ‘unseemly’ to offer the advice within the institution that they may offer outside (to industry and commerce, for example):

“Indeed, when you have the leading X professor in the UK working for you and you’re talking about the X position of British institutions, you know, he can tell you whether you’re right or wrong in three minutes. Interestingly enough, they are not very often consulted by universities, their own experts, in that sense”. (PVC interview)

“There is no evidence to me that ‘Management’ or ‘Law’ are managed any better because of their specialisation in management and law because of course they are specialisations are in the theory of it rather than in the practice of it”. (HRD interview)

There were some notable exceptions, for instance where HR directors worked with and/or consulted with colleagues in HR related faculties/schools or vice versa. These collaborations tended to be based upon existing relationships and informal networks:

“There are some linkages so I know that I will phone somebody up in HR but that’s more because I know that person and I have respect for them and I will say what do you think about? But I think I’m using her to test my idea ... and there are a few people in there [the business school] that we use as a sounding board because of their management experience and one of those is from HR”. (HRD interview)

As the analytic template developed it became clear that certain integrative cross-cutting themes seemed to pervade much of the data. King (2012) suggests that one way to conceptualise integrative themes is ‘as undercurrents running through participants’ accounts; often, perhaps, not addressed explicitly but very apparent to a careful reader (p. 432, emphasis added). These themes and undercurrents became apparent in reflective and reflexive conversations (see Figure 1 above) that took place during data analysis. We also shared our reflections with the research steering group, and at conferences, as a means of ‘exposing our thinking’.

There were two themes of particular interest to us as reflective practitioners and reflexive researchers working in universities. First was the lack of engagement between academics who generate research-based evidence in HRM and their practitioner colleagues. Second was the underlying notion of HR departments as repositories of toxic emotion (see Gallos, 2008). Therefore we now reflect upon the meaning of our findings with regard to evidence-based HR practice and the management of toxic emotion at work.

Reflecting upon findings

We have reflected (and continue to reflect) upon our research at many points during the study. We have had critical conversations about our engagement with each other as collaborative researchers, academics and practitioners, and about what impact the findings will have for HR practitioners. Our initial reflections at the beginning of the study were:

Kathryn: The bridge between research and practice should be strong enough to support two-way traffic and wide enough to give academics and practitioners space to stop, look, listen, think and talk together, and create shared understandings and measures of effective collaboration.

Julie: My primary interest is what research on bridging the academic practitioner divide can teach practitioners about the values and motivation of academic staff and the implications of this for leadership and management in higher education.

In our initial reflections we talked in terms of gaps and bridges, and this is mirrored in the literature (Anderson, 2007; Bar-

tunek, 2007; Gray, Iles, & Watson, 2011). Nevertheless we also take the view (as discussed earlier in the paper) that individually, we each bring different and unique blends of academic-practitioner skills and experience. Looking out from our individual perspectives, but looking together, we have been able to synergise theory and practice in: a) applied WOP, healthcare and nursing (Kathryn); and b) HRM, management, strategy and planning (Julie). Notably, evidence-based practice is central to both healthcare and HRM, albeit arguably more fully articulated and developed in the former (Guest & Zijlstra, 2012).

Evidence-based management generally, and evidence-based HRM specifically, is characterised by four key features: a) use of the best available scientific evidence from peer-reviewed sources; b) systematic gathering of organizational facts, indicators and metrics to better act on the evidence; c) practitioner judgment assisted by procedures, practices and frameworks that reduce bias, improve decision quality and create more valid learning over time; and d) *ethical considerations* weighing the short- and long-term impacts of decisions on stakeholders and society (Rousseau & Barends, 2011, p. 224, emphasis added). We will not focus in depth or detail on the current debates and discourses in the field of evidence-based HRM; nor is it our intention to focus on similar debates in the field of WOP, as others have addressed these issues comprehensively (e.g., Briner & Rousseau, 2011; Guest & Zijlstra, 2012). Instead, we reflect further upon the insights, paradoxes and puzzles that have emerged from exposing our thinking, revealing, challenging and unsettling our assumptions.

Reflecting further

In our reflections about reflective practice it became apparent that we were coming from different perspectives and assumptions. For Kathryn, as a healthcare professional and nurse, reflection is a core aspect of her academic and research practice (e.g., see Molloy & Waddington, 2011; Waddington, 2010). For Julie, as a HRM practitioner and academic, reflection is a relevant, but less prominent aspect of her practice. In order to try and articulate the reality of ‘doing reflective practice’ we will use the above points b) – systematic gathering of organizational facts, indicators and metrics to better act on the evidence; and c) – ethical considerations – as our starting points for further reflection in this paper.

Ethics and evidence in HRM

Because of the potential of HRM policy and practice to influence the lives and well-being of organizational members, the profession arguably has a special status which elevates the desirability of ethical, evidence-based practice relative to that of other managerial domains. A HoD referred to perceptions of HR in the following terms: *‘HR is essentially used to implement unpleasantness’*. They went on to talk about senior management *‘taking HR out of the drawer’* when there was something unpleasant to implement, then putting it away afterwards. This reflected an underlying perception and sense of HR as a *‘tool in the management armoury’*. An armoury is a supply of weapons for defence or attack, and this is a striking metaphor with which to think about notions of harm, minimizing harm, and ethical HRM.

Wilcox (2012) considers the potential for

moral agency in HRM practice, that is, an individual’s ability to make moral judgments based on some commonly held notion of right and wrong. She concludes that this ability to make moral judgements is contingent upon ‘managers being able to create for themselves relational spaces that allow for critical reflection and conversation’ (p. 95). Critically reflective conversations are an important element of professional/peer supervision (as distinct from managerial supervision), which Tehrani (2010) suggests may be helpful on promoting personal and professional development and growth.

However, the sensitivity and confidentiality of much that falls within the HRM remit may also constrain opportunities for such conversations. For example, as in a previous study by Tehrani (2011) an Absence Co-ordinator comments:

“Some managers do not see why I cannot tell them what is in a GP’s report, particularly where an absence is having an adverse impact on productivity, or there is a belief that the employee is “swinging the lead”. At times I feel totally alone, having to deal with difficult situations which I cannot share with anyone”. Tehrani (2011, p. 55)

Sensitivity of subject matter can mean that conversations have to take place ‘up’ the chain of command, where there is no formal supervision, or any other form of external support. HR practitioners may be reluctant to instigate such conversations because of the potential for conflict. That is, the person who is a source of support and guidance may also evaluate and judge the HR practitioner’s potential and

future career through appraisal and line management responsibilities. Perhaps this scenario implies a particular need for high-quality leadership and support within HRM teams as, uniquely, HR practitioners cannot take their concerns externally.

The potential for ethical and evidence-based HRM is dependent upon the organizational context. In other words the institutional features, organizational values, climate and core business. The organizational context of our study was universities, all of whom had business schools/management faculties where HRM was taught and researched. There was recognition by HR directors that the profession has been slow to provide metrics to evaluate/demonstrate HR 'added value'. Historically, HR has been perceived as having 'Cinderella' status – in other words not fully integrated into the core business (Pynes, 2009). Lack of power and influence, together with perceptions of HR as a 'tool in the management armoury' may also conspire against the best efforts of HR directors to implement what they know to be evidence-based practice.

HRM and toxic emotion

The undercurrent of some of the negative perceptions of HRM and its role in 'implementing unpleasantness' is an aspect of managing toxic emotions at work. In the current climate of austerity, HR practitioners are often 'bearers of bad news', and Gallos (2008) cautions:

“Handling strong emotions in the workplace—dealing over time with others' frustration, anger, and disappointment resulting from organizational life in a competitive world of scarce resources

and nonstop change—can be hazardous to body and soul”. Gallos (2008, p. 354)

Frost (2003) used the term toxic emotion to describe the ways that organizations, during their day-to-day course of conducting business, generate a certain amount of emotional pain or 'toxicity':

“The word *toxicity* may sound overly dramatic applied to aspects of organizational life, but in many ways it is uniquely appropriate. It suggests elements that can poison, whether a person or an entire system; toxins spread and seep, often undetected, in varying degrees”. Frost (2003, p. 5; emphasis in original)

HR practitioners handle toxic emotion, and this can come at a cost to their well-being. For example Tehrani (2010) examined the effect that working with distressed employees, clients and members of the public had upon practitioners working in HR, Occupational Health, Counselling and Police Family Liaison. Two hundred and seventy-six professionals completed the Goldberg short-form anxiety and depression questionnaire and the Carer Belief Inventory (CBI) (Goldberg et al., 1988; Tehrani, 2007; cited in Tehrani, 2010). The CBI measured four positive and nine negative attitudes and beliefs, using a five-point scale, with additional questions on supervision, other sources of support and coping strategies. Mean scores for positive items for the HR group were compared with the scores of the other groups 'which showed that they had a statistically significantly lower level of positive growth compared with other groups' (Tehrani, 2010,

p. 134). The study concludes that it is important to provide practitioners who deal with distressed or traumatised clients with the time and opportunity to reflect on their experiences: ‘This reflection through professional or peer supervision helps them to learn and become more competent in their profession’ (p. 137). The implications for practice are clear: meaningful reflection is crucial in order to instil compassion – the antidote to toxic emotion – into HRM practice.

Strengths and limitations of the research

This was a small-scale descriptive study in six universities in the UK at a time of turbulence in the higher education sector caused by the economic downturn and cuts in public funding. Therefore, our findings may not be generalisable or applicable to European counterparts. In addition, the higher education landscape is a rapidly changing one, and this study may simply be a ‘snap shot in time’. The sample was made up of HR directors, senior university leaders, academics, researchers and HoDs, and the voice and perspective of frontline HR practitioners is absent. It was an exploratory study, and does not make a significant contribution to measures of employee engagement or metrics for evidence-based HRM. Furthermore, some of the questions we needed to ask in order to ‘get underneath’ Guest and Clinton’s (2007) findings – that there was little evidence of a positive link between HRM and university performance – might cause unease. Firstly, participants might have worried that they were exposing fissures between different groups in their university. Secondly, participation in the study could have been interpreted as an invitation to criticise the HR function. Both

of these factors could have been potentially divisive, serving to reinforce notions of an academic-practitioner divide.

Nevertheless we contend that the study has given a worthwhile insight into the perception of HR departments within universities. Participants raised some valid and interesting questions on the appropriateness of the Ulrich (1997) business partner model in universities, relating primarily to the nature of universities and the variable nature of academic disciplines and academics. We also suggest that our collaborative academic-practitioner approach has great value and relevance for the HRD agenda regarding role of ‘scholar-practitioner’ (Ruona & Gilley, 2009). This approach is also highly relevant in addressing the ‘practitioner-researcher divide’ in WOP and the incongruence between strategic management research undertaken by academics and that used by practitioners (Anderson, 2007; Bartunek, 2007).

Future directions for HR academic-practitioner research

We asked HR directors for their views upon the potential value and application of a collaborative academic-practitioner model, citing this study as one such example. Their views were unanimously positive and favourable, for example:

“I think it is a mustif you don’t do it from that joint perspective, people with different perspectives between them and seeing what’s between them joins up the whole I think is the way to go. I think part of my struggle is that I am doing it [change management] from HR perspective not from that joint

perspective and I think I would have a lot more credibility if I had a joint perspective". (HRD interview)

In particular, there is also potentially useful information within this paper that might enable HR directors and practitioners to:

- Develop innovative interdisciplinary 'academic-HR practitioner partnerships';
- Generate opportunities for research and evaluation;
- Enable HR practitioners to contribute to developing the theory, scholarship and evidence-base of HRM.

Arguably our findings run counter to the emphasis on positively oriented human resource strengths and psychological capacities found in the POP and employee engagement literature. On the other hand, our findings also reflect the realities of HRM where practitioners are indeed the 'bearers of bad news' and toxic emotion handlers. There is thus a need to design HRM strategies and interventions that address these darker issues, and which also instil compassion into HRM practice and research.

Concluding reflections

We conclude the paper with some reflections on the collaborative aspects of our work, and give a brief indication of the next phase in the study:

Kathryn: I think that one of the reasons the academic-practitioner approach to this research has worked is because of the relationship we have established over time. We first worked together at City University London when I was a HoD and Julie was working in HRM, so our col-

laboration in this study has strong roots. We trust each other's judgement, respect each other's perspective and experience and, paradoxically, feel comfortable with the discomfort of exposing our thinking and revealing and challenging our assumptions.

Julie: For me, this research is about connecting HRM practitioner and academic communities. Thinking now as someone with a presence in both of those communities I can see how challenging it can be from a practitioner perspective to have one's thinking exposed and subject to scrutiny. But it is crucial for practitioners and the wider HR profession to create time and space for reflective practice and peer supervision in order promote ethical, compassionate and evidence-based practice.

Finally, we remain curious about the lack of 'academic-practitioner' collaboration between university HR Departments and WOP, and HRM academics. There is a paradox in that knowledge transfer in these fields has an external engagement, to industry and commerce for example, but the same knowledge is not transferred and often fails to engage internally. This is the focus of the second phase of our study, which involves exploration of the barriers and enablers to academic-practitioner collaboration, and identification of case studies of good practice.

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References

- Alfes, K., Truss, C., Soane, E.C., Rees, C., & Gatenby, M. (2010). *Creating an Engaged Workforce*. London: Chartered Institute of Personnel and Development.
- Anderson, N. (2007). The practitioner–researcher divide revisited: Strategic-level bridges and the roles of IWO psychologists. *Journal of Occupational and Organizational Psychology*, *80*, 175-183.
- Anseel, F., Lievens, F., Schollaert, E., & Choragwicka, B. (2010). Response rates in organizational science, 1995-2008: A meta-analytic review and guidelines for survey researchers. *Journal of Business and Psychology*, *25*, 335-349.
- Bakker, A. E., & Leiter, M. P. (Eds.) (2010). *Work engagement: A handbook of essential theory and research*. Hove: Psychology Press.
- Bartunek, J. (2007). Academic-practitioner collaboration need not require joint or relevant research: Toward a relational scholarship of integration. *Academy of Management Journal*, *50*(6), 1323–1333.
- Briner, R. B. & Rousseau, D. M. (2011). Evidence-based I-O psychology: Not there yet. *Industrial and Organizational Psychology*, *4*, 3-22.
- Chartered Institute of Personnel and Development (CIPD) (2012). *HR and business partnering*. Available at: <http://www.cipd.co.uk/hr-resources/factsheets/hr-business-partnering.aspx>
- Finlay, L. (2008). Reflecting on ‘reflective practice’. *PBPC Paper 52*. The Open University. Available at: <http://www.open.ac.uk/opencetl/resources/pbpl-resources/finlay-l-2008-reflecting-reflective-practice-pbpl-paper-52>
- Frost, P. J. (2003). *Toxic emotion at work: How compassionate managers handle pain and conflict*. Boston, MA: Harvard Business School Publishing.
- Gallos, J. V. (2008). Learning from the toxic trenches: The winding road to healthier organizations—and to healthy everyday leaders. *Journal of Management Inquiry*, *17*(4), 354 – 367.
- Gelpert, G. A. (2006). But what does it mean in practice? The Journal of Occupational and Organizational Psychology from a practitioner perspective. *Journal of Occupational and Organizational Psychology*, *79*, 153-160.
- Gray, D. E., Iles, P., & Watson, S. (2011). Spanning the HRD academic-practitioner divide: Bridging the gap through mode 2 research. *Journal of European Industrial Training*, *35*(3), 247-263.
- Guest, D. E., & Clinton, M. (2007). *Human resource management and university performance*. London: LFHE.
- Guest, D. E. & Zijlstra, F. R. H. (2012). Academic perceptions of the research evidence base in work and organizational psychology: A European perspective. *Journal of Occupational and Organizational Psychology*, *85*, 542–555
- King, N. (2012). Doing template analysis. In C. Cassell & G. Symon (Eds.), *Qualitative organizational research: Core methods and current challenges* (pp. 426-450). London: Sage.
- MacLeod, D., & Clarke, N. (2009). *Engaging for success: Enhancing performance through employee engagement*. London: Office of Public Sector Information.
- Molloy, K., & Waddington, K. (2011). Learning about leadership through critical reflection and practitioner-academic co-inquiry, *European Work and Organizational Psychology in Practice*, *4*, 18-30.
- Pynes, J. E. (2009). *Human resources management for public and nonprofit organizations: A strategic approach* (3rd Ed). San Francisco, CA: Jossey-Bass.
- Rousseau, D. M. & Barends, E. G. R. (2011). Becoming an evidence-based HR practitioner. *Human Resource Management Journal*, *21*(3), 221-235.
- Ruona, W. E. A., & Gilley, J. W. (2009). Practitioners in applied professions: A model applied to human resource development. *Advances in Developing Human Resources*, *11*(4), 438–453.

Shuck, B. & Reio, Jr., T. G. (2011). The employee engagement landscape and HRD: How do we link theory and scholarship to current practice? *Advances in Developing Human Resources*, 13(4), 419-428.

Sweetman, D., & Luthans, F. (2010). The power of positive psychology: Psychological capital and work engagement. In A. E. Bakker, & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 54-68), Hove: Psychology Press.

Tehrani, N. (2010). Compassion fatigue: Experiences in occupational health, human resources, counselling and police. *Occupational Medicine*, 60,133-138.

Tehrani, N. (2011). Compassion fatigue and human resource professionals. In N. Tehrani (Ed.),

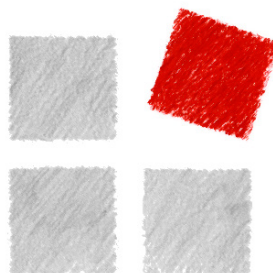
Managing trauma in the workplace: Supporting workers and organisations (pp. 51-62), Hove/New York: Routledge.

Ulrich, D. (1997). *Human resource champions*. Boston, MA: Harvard Business School Press.

Waddington, K. (2010) 'Organisational gossip, sense-making and the spookfish: A reflexive account'. *International Journal of Management Concepts and Philosophy*, 4(2), 311-325.

Waddington, K., & Lister, J. (2010). HRM Strategies and Academic Engagement. London: LFHE. Available at: <http://www.lfhe.ac.uk/research/smallprojects/finalreportcity.pdf>.

Wilcox, T. (2012). Human resource management in a compartmentalized world: Whither moral agency? *Journal of Business Ethics*, 111, 85-96.



LEADING FOR ENGAGEMENT AND PERFORMANCE

EAWOP WORKLAB 2012

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Abstract

This article aims to open up a discussion on the role of leadership in organizations based on the contribution of Professor Beverly Alimo-Metcalfe at the first EAWOP WorkLab held in October 2012 in Helsinki. In this article, I examine some current organizational and leadership challenges, introduce the concept of engaging leadership and discuss its role in creating and embedding an organizational culture of engagement and high performance. I will conclude with some nudges for leaders interested in developing their leadership capabilities.

Introduction

The first EAWOP WorkLab held in October 2012 in Helsinki was successful in bringing together a mix of practitioners and scientists interested in furthering their understanding of the current state of the art on leadership and decision-making in organizations. The talk of Professor Beverly Alimo-Metcalfe on engaging leadership was timely given the ever-

increasing challenges organizations are facing in the currently volatile economic environment. In this article I will examine some current organizational and leadership challenges, introduce the concept of engaging leadership, and, discuss its role in creating and embedding a culture of engagement and high performance. I will conclude with some nudges for leaders interested in developing their leadership capabilities.

Organizational and leadership challenges

In the current economic environment mired by uncertainty, organizations are faced with ever more complex challenges that many are poorly equipped to handle. Judging by the popularity of news articles, blogs and tweets on leadership, it appears that, at least in popular opinion, leadership is seen as being instrumental in helping organizations deal with such challenges. Research on leadership tends to confirm that leaders play a disproportionate role in shaping the course of their organizations (e.g., Bono & Judge, 2004; Yukl, 2009). But what are some of these challenges that organizations are dealing with and how does leadership come into play?

Some typical examples of organizational challenges would be: a) finding ways to accelerate the rate of innovation to capture or create a greater market share in

an environment where competition is relentless; b) finding ways to deal with disruptive technologies; c) creating new business models; and d) crafting and implementing strategies that will ensure the organization's long-term survival and profitability. Adding to these challenges is the fact that many organizations have seen their revenue shrinking. To cut costs, some have chosen massive restructuring programmes, while others have implemented a hiring stop, and yet many others have cut budgets for everything ranging from the procurement of new IT systems to employee development programmes. In short, a large number of companies feel pressured to maintain or increase effectiveness with a dwindling amount of resources. That is, they need to do more with less.

Adapting to these challenges does, however, intensify the already existing pressures on employees and leaders alike. Employees are faced with increasing workloads, changing job-demands, increased job uncertainty and a need to innovate and react speedily to change. These added pressures are bound to undoubtedly take a toll on their motivation, well-being and ultimately performance. For instance, the Global Workforce Study 2012, performed by Towers Watson among 32,000 employees across 30 countries, provides a strong argument for the link between engagement and organizational performance. One of the main conclusions of the study was that: "When engagement starts to decline, companies become vulnerable not only to a measurable drop in productivity, but also to poorer customer service and greater rates of absenteeism and turnover"(2012 Global

Workforce Study, p. 5). More importantly, in a separate analysis of 50 global companies, Towers Watson found that companies with low engagement scores had an average one-year operating margin just under 10%, whereas those with high "sustainable engagement" scores had an average one-year operating margin of 27%. These results are nothing short of staggering. Moreover, they mirror a state of affairs we have more than once encountered in our own work. For instance, a medium-sized manufacturing company, we were working with, was dealing with increasing quality problems in its products. In the months prior to these problems occurring, the company had laid-off part of its workforce and had increased the working hours of the remaining staff. Upon talking to a number of employees, it turned out that they felt disillusioned and disengaged from their jobs. One of the most common complaints centered around the increasing amount of stress on the job and the fact that their direct supervisors did not seem to acknowledge, let alone, show appreciation for good performance; focusing instead only on the mistakes that had been made. It should come as no surprise that individual performance did indeed suffer.

As a result, leaders face the critical task of increasing effectiveness, while at the same time sustaining employee motivation, maintaining well-being and creating the conditions necessary for innovation and collective learning (e.g., Yukl, 2009). In other words, leaders need to be able to find the sweet spot that allows them to get more out of their staff, while at the same time, not damaging motivation or employee well-being.

Unfortunately, many organizations seem to pursue increased effectiveness at the cost of employee motivation and well-being. Whereas this strategy may deliver short-term results, it will also ensure that these benefits are short-lived and, in fact, will wreak havoc in the long-term. To this end, research has clearly demonstrated that employee well-being is positively related to commitment (Ryan & Deci, 2006), creativity and performance (Ilies, Morgeson, & Nahrgang, 2005), and negatively related to absenteeism, and turnover (Wright & Bonnett, 2007).

This current gloomy state of affairs raises serious questions about the nature of leadership and the management of human capital in organizations. I believe that there are ways in which organizations can build leadership capacity that would enable them to craft a work-environment in which employees not only perform better but also experience higher levels of engagement and well-being. In the next section I will briefly introduce the concept of engaging leadership and discuss its role in creating organizational cultures that drive engagement and performance.

Engaging leadership

Over the past decade, an increasing number of leadership researchers (e.g., Mintzberg, 1999; Tourish & Vatcha, 2005) have started to question the effectiveness of 'established' leadership models such as those espoused by theories of transformational/charismatic and transactional leadership. One of the main points of criticism has rested on the passive role afforded to followers in these models. As such, followers have tended

to be seen as relatively powerless pawns on a stage where leaders pulled all the strings.

In contrast, more recent theories of leadership such as servant-leadership (e.g., Nuijten, 2009) and engaging leadership (e.g., Alimo-Metcalfe & Alban-Metcalfe, 2001) have shifted the focus from the leader as distant hero to conceptualising leadership as a dynamic, collective process where influence and learning happen bi-directionally. Importantly, in these models, leadership is intimately tied to learning and growth for the individuals involved (i.e., leaders and followers) as well as for the organization at large (e.g., Fletcher, 2004).

One of the central tenets of these newer leadership models is that engagement is crucial for performance. Whereas this may sound mundane to most practitioners, up until recently, leadership research has been lagging in empirically establishing this link between engagement and performance. More importantly, recent research has shown that the fundamental requirement for engagement is meaningful work (e.g., Amabile & Kramer, 2011). That is, people that find their work to be meaningful and see themselves making progress in their work tend to be more engaged and as a result tend to perform better.

Hence, one of the primary functions of the leader is to help employees find meaning in their work and assist them on their path to becoming better at their jobs and to grow as individuals. An equally important point that tends to often be overlooked is that leaders should 'first do no harm'. In this context, it means that leaders should refrain from (inadvertently) stripping work

of its meaning. For instance, managers that ignore employee suggestions or ideas, micro-manage, provide controlling feedback or fail to keep people informed about important changes, are reducing employee influence and reduce meaning, thereby negatively influencing performance (e.g., Amabile & Kramer, 2011).

According to Alimo-Metcalfe and Alban-Metcalfe (2002; 2003) there are three key principles to engaging leadership that help leaders imbue work with meaning and thereby, promote employee engagement. First, the focus is no longer on the leader being the heroic figure that saves the day, but rather on the leader enabling others to develop and display leadership themselves. Engaging types of leaders are open, transparent individuals that dare to be humble and vulnerable. In short, leaders are seen as both servants and partners (e.g., Nuijten, 2009). Second, leadership is seen as a social process that is distributed. The dominant theme is one of collaboration, team-based working and connectedness. Engaging leaders are those that are able to connect people and ideas through a shared vision and that empower others to execute this vision. This requires that leaders are willing and able to see the world through the eyes of others and are willing and able to take on board others' ideas and concerns. In short, they listen to others and include others' concerns in their decision-making. Third, engaging leaders encourage others to challenge the status quo and ensure that an environment is created in which these mavericks are valued and their ideas are taken into account. Hence, they serve as role-models in building a culture that supports

learning and development. This is a culture in which failure is not a dirty word as long as people learn from their mistakes. This is also a culture in which innovation and entrepreneurialism are desired and valued.

Importantly, empirical evidence suggests that engaging leader behaviours not only have a positive effect on employee morale and well-being, but also on long-term employee productivity (e.g., Alimo-Metcalfe et al., 2007). Therefore, being humble, listening to others and helping others develop, does not only pay off in terms of so-called soft factors such as engagement and well-being, but also in terms of actual performance.

Nudges for developing leadership capabilities

As a leader interested in developing your leadership capabilities what are some of the things you can do? Below I will list some questions that you can use to gauge your leadership behaviors against the framework of engaging leadership.

- In how far am I really listening to my employees? (e.g., do I understand their point of view?)
- Am I really as accessible as I think I am? (e.g., is my office door open; when people come into my office do I keep glancing at my computer screen or do I really engage in a conversation?)
- In how far do I help my employees learn and develop on the job? (e.g., do I provide them opportunities for growth; do I ensure that they have the resources necessary to do their jobs?)
- In how far do I really encourage dissent? (e.g., how do I deal with people that disagree with me; do I follow up on ideas provided by others?)

- In how far am I honest and open? (e.g., can I honestly admit mistakes and vulnerabilities?)

Organizations that invest in developing engaging leaders who are focused not only on the short-term bottom-line but also on the long-term development of their employees are better positioned to craft high-performance work environments that not only spur financial growth but also imbue work with meaning. This in turn, can help them successfully weather current challenges and be better prepared for any challenges the future may bring.

References

- Alimo-Metcalfe, B. (2012). *Engaging Leadership*. Presentation held at the EAWOP WorkLab, October 2012, Helsinki.
- Alimo-Metcalfe, B., & Alban-Metcalfe, R. J. (2001). The development of a new Transformational Leadership Questionnaire. *Journal of Occupational and Organizational Psychology, 74*, 1–27.
- Alimo-Metcalfe, B., & Alban-Metcalfe, R. J. (2002). The great and the good. *People Management, 8*, 32–34.
- Alimo-Metcalfe, B., & Alban-Metcalfe, R. J. (2003). Under the influence. *People Management, 9*, 32–35.
- Alimo-Metcalfe, B., Alban-Metcalfe, R. J., Bradley, M., Mariathasan, J., & Samele, C. (2007). *The impact of leadership factors in implementing change in complex health and social care environments: NHS plan clinical priority for mental health crisis resolution teams (CRTs)*. Department of Health NHS SDO, Project 22/2002.
- Amabile, T., & Kramer, S. (2011). *The progress principle: Using small wins to ignite joy, engagement, and creativity at work*. Boston: Harvard Business Review Press.
- Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership: A meta-analysis. *Journal of Applied Psychology, 89*, 901-910.
- Fletcher, J. (2004). The paradox of post heroic leadership: an essay on gender, power and transformational change. *Leadership Quarterly, 15*, 647-661.
- Ilies, R., Morgeson, F. P., & Nahrgang, J. D. (2005). Authentic leadership and eudaimonic well-being: Understanding leader-follower outcomes. *Leadership Quarterly, 16*, 373-394.
- Mintzberg, H. (1999). Managing quietly. *Leader to Leader, 12*, 24–30.
- Nuijten, I. (2009). *Servant-Leadership: Paradox or diamond in the rough? A multidimensional measure and empirical evidence*. Rotterdam: Erasmus Research Institute of Management.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality, 74*, 1557-1586.
- Towers Watson Global Workforce Study 2012: <http://towerswatson.com/assets/pdf/2012-Towers-Watson-Global-Workforce-Study.pdf>
- Tourish, D., & Vatcha, N. (2005). Charismatic leadership and corporate cultism at Enron: The elimination of dissent, the promotion of conformity and organizational change. *Leadership, 1*, 455-480.
- Wright, T. A., & Bonett, D. G. (2007). Job satisfaction and psychological well-being as no additive predictors of workplace turnover. *Journal of Management, 33*, 141-160.
- Yukl, G. A. (2009). *Leadership in organizations*. Upper Saddle River, NJ: Prentice Hall.

HOW LEADERS INFLUENCE THEIR FOLLOWERS' WORK ENGAGEMENT

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Abstract

Because of the worldwide economic crisis, an increasing number of organizations have to deal with financial problems. This has forced organizations to reorganise their structures and processes, and has led to a growing global competition. It seems evident that in such a situation employee work engagement is crucial. In this article, we address the role of leaders in inspiring their employees. We specifically focus on the impact of transformational leadership on employees' work environment and work engagement. Using specific examples, we provide leaders and coaches with tools to enhance employee work engagement within a short time period.

Work Engagement

Work engagement is a positive, work-related, motivational state of mind that is characterized by vigor, dedication and absorption (Bakker & Leiter, 2010; Schaufeli & Bakker, 2004). Vigor refers to high energy levels during work, and the mental resilience to cope with difficult situations. Dedication refers to being enthusiastic about work; engaged employees are proud of their work and inspired by their daily tasks. Finally, absorption refers to concentration during work and immersion in work activities. Work engagement differs from job satisfaction, because the latter is a less active state. Satisfied employees are content with their situation and therefore do not feel the urge to act or change anything. In contrast, engaged employees are very active and take the initiative whenever necessary. This suggests that engagement may be of crucial importance for organizations in the current, turbulent economic times.

Importance of Work Engagement

There are several reasons why engaged employees are important for organizations. First, research has shown that engaged employees perform better compared to non-engaged employees. For example, a study by Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009)

showed that financial returns were higher on days that employees were more engaged. Second, engaged employees have better health; both mentally and physically. Research has shown that engaged employees less often have a cold and report fewer head- and back-aches compared to non-engaged employees (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001). This means that engaged employees can use all their energy during their work. Third, engaged employees are less often absent and are more committed to the organization (Halbesleben & Wheeler, 2008; Schaufeli, Bakker, & Van Rhenen, 2009). Finally, work engagement is of high importance to organizations because engaged employees influence the work atmosphere in a positive way – engagement is contagious. Engaged employees transfer their enthusiasm to others; causing colleagues to become engaged as well and perform at a high level (Bakker & Xanthopoulou, 2009).

Transformational Leadership and Work Engagement

The leadership style used by leaders can have a profound influence on employee work engagement. Some leadership styles undermine employees' motivation and well-being, while other styles contribute to motivation and well-being (Einarsen, Aasland, & Skogstad, 2007). Here, we focus on transformational leadership, because this leadership style has the potential to influence employee work engagement. Transformational leadership consists of four dimensions: a) idealised influence; b) inspirational motivation; c) intellectual stimulation; and d) individual attention (Bass, 1985). Idealised influence means that leaders are role models/men-

tors to their employees and employees trust and respect their leaders. Inspirational motivation refers to leaders inspiring their employees with their vision of the future. Leaders are optimistic about the future and create a team spirit that transcends employees' self-interest. Idealised influence and inspirational motivation together are also called charisma. Leaders, who use intellectual stimulation, encourage their employees to approach existing problems in a different way and to come up with new ideas, even if these ideas differ from the leaders' ideas. This is also promoted by providing employees with individual attention and by delegating tasks that match employees' needs and abilities. Finally, transformational leaders acknowledge that every follower is unique, has specific needs, and needs attention. By using transformational leadership, leaders give meaning to the work and make employees feel that they contribute to the organization in an important and meaningful way by performing their work well. This ensures that employees are more dedicated to their work and perform their work with more energy and enthusiasm; in other words, they are more engaged. Furthermore, transformational leaders may influence their followers' work engagement because their own enthusiasm, optimism and positive attitude may cross over to the followers.

Research has shown that transformational leadership can be trained. In 1996, Barling, Weber, and Kelloway developed a transformational leadership training that consists of two phases. Phase 1 consists of a group session in which leaders are provided with information about transformational leadership and its consequenc-

es. This session is followed by phase two; which consists of four individual sessions. During these sessions, plans are developed to use the learned behaviours in real life; leaders receive feedback about their leadership style and their progress is monitored. An empirical evaluation of the training indicated that employees in the intervention group rated their leaders as more intellectually stimulating, charismatic and as providing more individual attention than employees in the control group (in which the leaders did not receive any training). Thus, leaders can be trained to show transformational leadership behaviour effectively and in a relatively short time period.

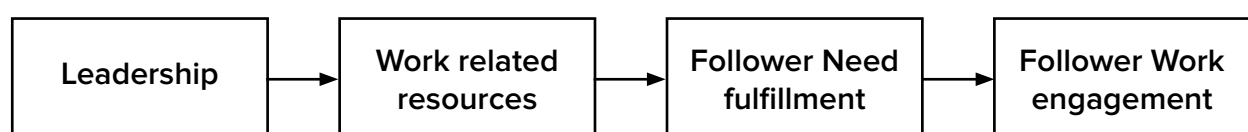
Leadership, Resources and Work Engagement

Besides the direct effect of transformational leadership on followers' work engagement, leaders may also influence their followers' work engagement through their impact on the work environment (see Figure 1). In their position of power and as role models, leaders have an important influence on the availability of resources at work. Job resources are all aspects of a job that: a) stimulate personal growth and development; b) contribute to the achievement of work goals; and/or c) reduce the unfavorable impact of job demands (Bakker & Demerouti, 2013). Examples of job resources are autonomy, opportunities for development, performance feedback, and

skill variety. Research has shown that such job resources promote followers' work engagement (e.g., Halbesleben, 2010). Job resources are intrinsically motivating because they stimulate employees' personal growth and development. In addition, job resources are extrinsically motivating because they contribute to the achievement of goals. Job resources seem to fulfill important psychological needs. Research has shown that people have three basic needs that, when fulfilled, positively affect motivation and well-being. These are: the need for autonomy, competence and relatedness (Deci & Ryan, 1985). For example, employees' need for competence will be fulfilled when they are provided with challenging but feasible tasks that contribute to their development. Further, employees' need for relatedness will be fulfilled when they receive support from their supervisor or colleagues. Below, we give some examples of how leaders can stimulate the availability of specific job resources.

Leaders may influence the available job resources in the work environment in different ways. For example, leaders can provide their employees with social support by means of a weekly, informal meeting. For example, leaders free up one hour of their time for a meeting that is not obligatory and the topic of the meeting is not pre-determined. Everyone attending the meeting is allowed to discuss the problems they face in their work and ask for

Figure 1. Overview of the effects of leadership on follower work engagement



advice about how to cope with these problems. Leaders may also encourage their employees to work together to increase social support. For example, leaders may stimulate their followers to jointly divide the tasks that need to be performed each week. In this way, followers can divide the workload in such a way that those with a low workload can help their co-workers with a high workload. Not only does this increase social support between employees, it also creates an optimal workload. In a relatively simple way, social support can also be influenced by creating a place where colleagues can meet more privately to talk about the things that preoccupy them.

A way in which leaders may influence their followers' opportunities for development is by delegating tasks that match the needs and abilities of employees. Furthermore, leaders can use employees' potential for development by involving them in the decision-making process. Specific actions to contribute to followers' development can also be taken. For example, employees who want to practice their presentation skill can be provided with the opportunity to practice these skills. This can start with a presentation for one or two colleagues that give feedback afterwards, followed by a presentation for a small group of colleagues. Eventually, the leader may provide the follower with more responsibility and the opportunity to present in front of the entire team on a regular basis. Another example is that employees' organisational skills can be developed by having them organise a team-development day. Finally, leaders can present their followers with a problem and give them the opportunity to come up with and try different solutions to

this problem. Afterwards, followers report on and discuss the effectiveness of their solutions with the leader. Hereby, leaders stimulate their followers to think differently and to use a variety of skills.

Feedback provided to employees can be influenced by the leader by organising monthly meetings in which employees discuss what they have been doing, what went well and what could have gone better and what could be done differently in the future. This can be discussed with the leader, who may ask further questions and give advice. These meetings can also be held with the entire team, in which several cases are discussed. In this way, employees have to opportunity to learn from each other. What did someone else do differently and did it work? What were the results of this approach and what can I learn from it?

We have given an impression of what leaders can do to enhance their followers' work engagement and create a resourceful work environment. Importantly, every profession has its own specific job demands and resources. For example, social support may be much more important for a nurse working at the oncology department compared to a painter creating art. Depending on the importance of specific job resources for a certain profession, leaders can take several steps to promote these resources.

References

Bakker, A.B., & Demerouti, E. (2013). Job Demands – Resources theory. In C. Cooper, & P. Chen (Eds.), *Wellbeing: A Complete Reference Guide*. Chichester: Wiley-Blackwell.

Bakker, A.B., & Leiter, M.P. (Eds.) (2010). *Work engagement: A handbook of essential theory and research*. New York: Psychology Press.

Bakker, A.B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor-partner interdependence model. *Journal of Applied Psychology*, 94, 1562–1571.

Barling, J., Weber, T., & Kelloway, E.K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology*, 81, 827-832.

Bass, B.M. (1985). *Leadership performance beyond expectations*. New York: Academic Press.

Deci, E.L., & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Demerouti, E., Bakker, A.B., De Jonge, J., Janssen, P.P.M., & Schaufeli, W.B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment, & Health*, 27, 279-286.

Einarsen, S., Aasland, M.S., & Skogstad, A. (2007). Destructive leadership behaviour: A definition and

conceptual model. *The Leadership Quarterly*, 18, 207-216.

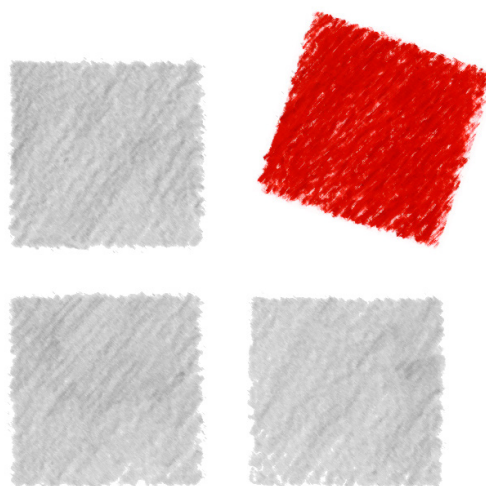
Halbesleben, J.R.B. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In M.P. Leiter & A.B. Bakker (Eds.). *Work engagement: A handbook of essential theory and research*. New York: Psychology Press.

Halbesleben, J.R.B., & Wheeler, A.R. (2008). The relative roles of engagement and embeddedness in predicting job performance and intention to leave. *Work & Stress*, 22, 242-256.

Schaufeli, W.B., & Bakker, A.B. (2004). Work engagement: The measurement of a concept. *Gedrag en Organisatie*, 17, 89-112.

Schaufeli, W.B., Bakker, A.B., & Van Rhenen, W. (2009). How changes in job demand and job resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, 30, 893-917.

Xanthopoulou, D., Bakker, A.B., Demerouti, E. & Schaufeli, W.B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Organizational and Occupational Psychology*, 82, 183-200.



DEVELOPING A MODEL OF NON-TECHNICAL COMPETENCES FOR ENGINEERS

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Abstract

Current paper focuses on the question “*What are the non-technical competences (NTC) needed for engineering professional work?*” Based on theoretical study we draw a heuristic model of NTC for engineers and test it empirically. There are six domains of NTC for engineers: a) Professional ethics competences; b) Personal competences; c) Interpersonal competences; d) Leadership, management, and administrative competences; e) Innovation and entrepreneurial competences; and f) Law and legal system competences. Analysing the correspondence between NTC use in everyday professional work, and NTC competences developed in university study indicated several gaps. Supporting engineers’ Personal competences up to the highest level is especially important as these are used on a daily basis. Young engineers entering the workforce also need extra training to develop their Interpersonal competences.

Introduction

Engineering is a key factor in innovation and is vital in addressing the global issues and challenges that societies currently face. The profession of engineering and the roles of engineers have changed rapidly over the past few decades. Engineers are expected to have an understanding of relevant environmental, social, economic, and cultural contexts in addition to strong technical knowledge and skills (OECD, 2011). Engineers themselves acknowledge the need for a new kind of engineer, one who can think broadly across disciplines (Chan & Fishbein, 2009; Grasso & Burkins 2010; Grimson, 2002; Ravenstein, De Graaff, & Kroesen, 2006; Sheppard, Macatangay, Colby, & Sullivan, 2009).

Preparing future engineers is prioritised in several European Union (EU) countries, including Estonia. At the same time, there is lot of discussion about the graduate competence gap in Europe and elsewhere; i.e., a mismatch between the competencies engineering graduates acquire during their studies and the competences employers expect from graduates. Numerous studies demonstrate that the employability gap originates from both deficiencies in technical/subject specific skills and, more importantly, from deficiencies in general and social skills (Bakar & Ting, 2012; Barte & Yeap, 2011; Beard, Schwiég-

er, & Surendran, 2007; Brown, Lee, & Alejandre, 2009; Carter, 2011; Conlon, 2008; Markes, 2006; Saravanan, 2009; Spinks, Silburn, & Birchall, 2007).

The relation between education and world of work is now conceptualised through competence-based education. Tertiary education degree programmes in vocationally focused disciplines like engineering have always aimed to produce graduates equipped with competences appropriate for employment (Coll & Zegwaard, 2006). For now, there exists considerable consensus that the modern engineering profession requires not only technical excellence, but also some additional, non-technical competences (NTC). In recent years engineers' educators and professional bodies have accepted the challenge of teaching NTC. Unfortunately, no agreement has been reached regarding what exactly the non-technical skills and/or competences are in their deeper content. On-going debate clearly shows that different researchers and educators understand this issue differently and are offering different "packages" of engineers' non-technical skills and/or competences.

The problem facing many of the approaches to engineering NTCs is that the competence models used in the engineering literature follow different theoretical approaches to competence and the exact content of each engineering NTC is vague and undefined. The current challenge engineers, employers, and engineers' educators are facing is getting a thorough understanding about "What exactly are the NTCs needed for engineering professional work?" This was the main research question leading the studies conducted in

the department of Industrial Psychology at TUT.

First, this article introduces the results of these studies, on the basis of which the model of NTCs for engineers was developed. Second, as the aim of competence based education is to prepare students with competences appropriate for employment we focus on correspondence between the NTC engineers use in their everyday professional work, and the NTC competences developed in university by teaching special NT subjects. Altogether we aim to map the NTCs needed in engineering work and the preparation of future engineers in Estonia.

Concept of competence

Competence is about mastery in relation to specified goals, outcomes or standards. The concept of competence was originally developed in psychology to refer to an individual's ability to respond to certain demands placed on them by their environment (Sampson, 2009). Whereas R.H. White is credited with the introduction of the term competence in 1959, David McClelland (1973) proposed competence testing instead of intelligence testing as the critical differentiator of performance. A clear and coherent definition of competence is needed when one wants to develop a competence model. Unfortunately, this is not as straightforward as it may seem, as the lack of a generally accepted operational definition of competence/competency is widely acknowledged (e.g., Garavan & McGuire, 2001; Winterton, 2009). The lack of consensus originates in the diversity of disciplines in which the concept is developed and applied: law, clinical psychology, vocational

counselling, education, training, and management (Voskuijl & Evers, 2012; p.149). The confusion and inconsistent usage of the term competence derives from differences in systems, structures and cultures of Human Resource development and vocational-educational training in different countries (e.g., USA, UK, France, Germany and Austria) (Delamare-Le Deist & Winter-ton, 2005).

Theoretically, there are several competing approaches in the literature; for example in Work and Organisational Psychology (WOP) two main approaches are distinguished: the competency or the person-based approach; and the competence or job/work based approach (Voskuijl & Evers, 2012; p.150).

The competency approach finds its origin in the USA where competency is mainly defined as any characteristics relating to superior performance. In this approach competency equals the basic features of a person that are associated with excellent or superior performance in a situation. This worker-oriented perspective is based on the seminal work of McClelland (1973) who found that academic aptitude and knowledge content tests, as well as school grades and credentials; did not predict job performance or success in life, and were often biased against minorities. This approach is concerned with the input of individuals in terms of behaviour, skills, or other underlying personal characteristics of job holders that are causally related to superior performance in a job or situation (Boyatzis, 1982; Spencer & Spencer, 1993). Person-based competency frameworks are widely adopted in business organizations where consultants have de-

veloped a variety of ‘unique’ competence systems which have found their way into use with larger client organizations.

The competence or the job/work-based approach is widely used in the EU. This approach is task centred and focuses on the purpose of the job or occupation (i.e. on output), rather than the job holder (Voskuijl & Evers, 2012; p. 150). The origin of the model is the foundation of scientific management, and subsequent development of the National Vocational Qualifications. Competences in terms of the occupational standards models used in many EU countries are described as being the minimum standards of performance (known as threshold performance) and the characteristics required by job holders that are assumed to exist when standards are met (ibid).

Roe (2002) defines competence as a “learned ability to adequately perform a task, duty or role”, relating to a specific type of work. Competence integrates several types of knowledge, skills, and attitudes in a dynamic way, and should be distinguished from abilities, personality traits, and other more stable characteristics of the individual (ibid.). The latter can be seen as the basis for what the individual learns and how well they perform. There’s enough research evidence that learning process and performance also depend on personal and situational factors and on time. Thus, dispositions cannot be equated with knowledge, skills, and attitudes that are learned qualities. Competence is a “proximal antecedent” of performance but whether a competent person performs well also depends on other factors, including motivation, current state (e.g., being in good health or not, energetic

state, level of vitality) and the opportunity to perform (ibid.). While the presence of a high level of competence is a prerequisite for good performance, it does not guarantee adequate performance.

While the terms competence and skills are often used simultaneously, they should be treated as distinctive terms. Skill concerns the execution of a single task, while competence deals more with the execution of a whole series of different tasks in a certain domain, all of them performed well and in an integrated manner (Coll & Zegwaard, 2006). People demonstrate competence by applying their competencies in a goal-directed manner within a work setting (Kurz & Bartram, 2002; p.226). Therefore, competencies relate to the behaviours that underpin successful performance; they are the “behavioural repertoires” that people use in order to meet their objectives. The questions we want to ask are: how do people go about achieving the required outcomes; and what enables competent performance?

Engineering competence

Engineering competence is defined as the application of relevant skills and knowledge in solving problems of interest to an engineer. Engineering competences can be divided into technical competences and non-technical competences. The first are based on technical knowledge, understanding, and skills (i.e., made up of competences in basic and engineering sciences), and therefore are called “technical competences” (TC). “Non-technical engineering competences” (NTC) describe the broad field of competences relevant to professional work in the engineering domain. They are different from

transferable competences as they are context-specific, that is they are applicable in the context of the engineering profession (although in a rather general way; they are not specific to a concrete occupation). Non-technical engineering competences are defined in the current work as “a specific range of non-technical knowledge, skills, and attitudes/value system needed to adequately perform the professional work and professional roles of an engineer.”

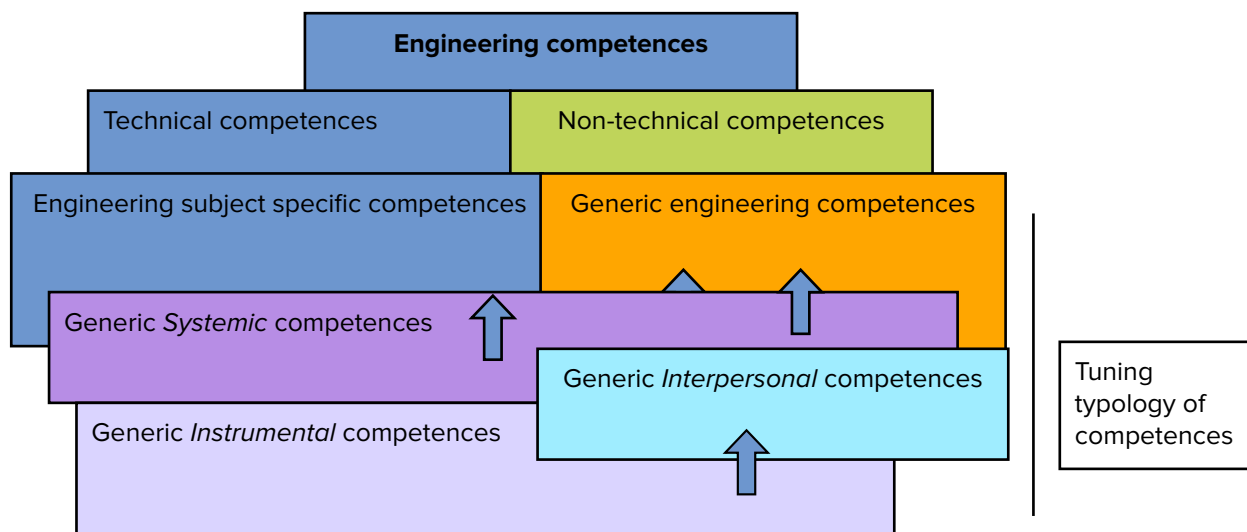
According to Tuning-AHELO model engineering competences are divided into subject-specific competences and generic competences (OECD, 2009; 2011). Subject-specific engineering competences are made up of competences in basic and engineering sciences as well as competence in engineering processes. Generic (or general academic) competences are divided into *generic engineering competences* (competences important to graduates across all different engineering fields) and *generic competences* (also named transferable competences/skills or general competences/skills). To elaborate: there are three types of generic competences:

- *Instrumental competences* refers to cognitive abilities, methodological abilities, technological abilities and linguistic abilities;
- *Interpersonal competences* refers to individual abilities relating to the capacity to express one’s own feelings, critical and self-critical abilities, and social skills relating to interpersonal skills (e.g., used in team working) or the expression of social or ethical commitment that facilitates processes of social interaction and co-operation;

■ *Systemic competences* refer to abilities and skills concerning whole systems. For example, the combination of understanding, sensibility and knowledge that allows one to see how the parts of a whole relate and come together; capacities that include the ability to plan changes to make improvements in whole systems and to design new systems. Systemic competences require as a base the prior acquisition of both instrumental and interpersonal competences; and are used for the attainment of both TCs and NTCs.

We choose to position our research to the Tuning-AHELO model (hereafter “the model”) as it is the most recent attempt to define engineering competences and compiles prior work on learning outcomes/competences in the field of engineering. In the model, TCs are engineering subject specific competences, and NTCs are generic engineering competences, and include generic interpersonal and generic systemic competences. The relationships between the aforementioned competences are depicted below in Figure 1.

Figure 1: Positioning of Non-Technical Competences in relation to engineering subject specific and generic competences as suggested by the Tuning-AHELO model



Developing model of non-technical competences for engineers

Creating a competence model for an occupational group is of value if it’s useful and applicable for a broad audience (i.e., all the relevant groups that hope to benefit from it). First, the model should be capable of being utilised by and provide benefit to specialists that address the

competences of engineers in their everyday work; such as WO Psychologists and human resource management (HRM) specialists, as well as the educators of engineers. In curricula development, learning objectives are essentially competences, and engineering organizations can specify or update professional qualifications, to include those: a) concrete competences

(and sub-competences) already required of their engineers; and b) areas of competence and professional requirements that reflect both the current and future needs in the working world,

Second, the model should cover/include competences for engineers in various career levels: such as: a) competences that entry-level professional engineers use in their everyday work; b) competences used by engineers with longer work experience; and c) competences used by engineers with management responsibilities at various management levels within an organization.

Third, the model of NTC for engineers should be of help to analyse and design

engineering curricula in Higher Education Institutions (HEIs) for entry-level engineers and for developing supplementary training programmes for engineers at different career stages.

We conducted two studies to develop and test the model of NTCs for engineers. First, we identified the ideal NTCs for engineers on the basis of a comprehensive review of research literature, visions of the engineers of the future, analysis of qualification criteria for engineers prescribed by professional bodies, and expected outcomes of engineering graduate programmes (see Figure 2 below). The next step was empirically testing this model.

Figure 2. The Model of Non-Technical Competences for Engineers



There are six NTC domains in this model for engineers. Each domain, in turn, is divided into several competences and each competence consists of various competencies. The six domains of NTC are:

Professional ethics (E): competences that are an essential part of the education and everyday working of engineers. Providing knowledge of the relationship between science, technology, and the ethical prob-

lems of engineers in industry, helps engineers to deal with ethical issues within their professional practice. Three important components in this domain are:

- *Ethics of personality (E1)*: honesty and other ethical values, tolerance of differences, including cultural differences, following principles of ethical behaviour in general;
- *Professional ethics (E2)*: adhering to engineering ethical standards, such as knowing where assignments extend beyond an engineer's competence;
- *Social responsibility of engineers (E3)*: an engineer's responsibility to society (socially responsible behaviour) such as providing clearly understood information to the public that allows others to consider the impact of decisions related to science and technology on nature and the environment.

Personal (P): competences are the basis that allows individuals to act autonomously, manage their own lives, and situate their lives in a broader social context. Personal competences promote expected professional behaviour and productivity in engineers. Because they affect goal adoption, pursuit, and disengagement, they are critical for productivity in multiple life domains. The common thread among these attributes is self-regulation. Mastering self-regulation allows one to counteract undesired influences that may arise from within the person or from the environment and support volitional behaviour. The four competences in this domain are:

- *Flexibility (P1)*: adaptability, coming to terms with new or rapidly changing situations, objectively evaluating a situation and changing plans if necessary;
- *Stress tolerance and coping with*

stress (P2): coping with working in stressful situations (techno-stress), coming to terms with work stress and burnout;

- *Self-management (P3)*: setting personal goals and priorities, effective use of time, realistic evaluation of resources, adapting activities according to feedback, learning from mistakes, self-motivation and a positive, optimistic outlook on life, the ability to control one's emotions (self-control), calmness and balance, persistence in completing a task that has been started;
- *Learning skills and motivation (P4)*: understanding the importance of life-long learning, participating in supplementary training, curiosity forms the basis of continuous learning.

Interpersonal (IP): competences are the bases individuals use when engaging with others, and since they encounter people from a range of backgrounds, it is important that they are able to interact in heterogeneous groups. Skills of co-operation and collaboration, creating and maintaining relationships, influence, conflict resolution, and negotiation are needed for effective professional conduct in engineering. The competences in this domain are:

- *Communication (IP1)*: effective communication (face-to-face and in a virtual environment) that involves listening, providing feedback, using language that is appropriate to the situation, ability to speak before an audience, clear oral and written expression, and creating an atmosphere that is conducive to good communication;
- *Cooperation and creating relationships (IP2)*: the ability to create and maintain good relationships, empathy,

the ability to listen to others and take the needs of all parties into account, creating and participating in co-operation networks;

- *Negotiation and conflict management* (IP3): the ability to rephrase a problem, achieving solutions that are helpful to all parties, construction resolution of arguments, and achieve a consensus;

- *Influencing* (IP4): consciously creating a certain impression, inspiring, convincing, implementing, motivating, including, delegating, and display of mentorship and leadership behaviours.

Leadership, management and administrative (LMA): competences that provide a foundation for successfully handling work situations related to team, project, and division management, and other tasks and duties in the professional work of engineers. Competences in this domain include:

- *Project management* (LMA1): planning and implementing activities to achieve desired results while remaining within the limits of the given schedule, budget and other resources;

- *Leadership of an organization or unit/division* (LMA2): planning, organising, controlling, directing resources, coming to terms with crises, directing processes, administering, directing and encouraging results, delegating, knowing and influencing the culture of the organization, initiating and directing changes, including leading meetings;

- *Team leadership* (LMA3): creating and developing a team, initiating work, projects, being familiar with and influencing group processes, leading an in-

terdisciplinary and multicultural team.

Innovation and entrepreneurial (IE): competences that guarantee the success of engineers, depending on their ability to identify unconventional, emerging opportunities using entrepreneurial skills. Two competences in this domain are:

- *Creativity and innovativeness* (IE1): creating a vision and strategy for the development of new products/services, finding a solution to problems, generating new ideas and approaches, finding/seeing innovative solutions, striving towards innovation;

- *Entrepreneurship* (IE2): defining and recognising a market niche for new products and services, developing an idea into an actual product or service, being oriented to the needs of the client, developing products or services that suit the given market and product development, willingness to take risks, working in a focused and goal-oriented way, and finding resources to carry out ideas.

Law and the legal system (L): these competences are important in engineering as engineers should be aware of their rights and responsibilities, legal and social aspects of technology and its usage and possible legal consequences related to their productions. The primary value-added knowledge is related to understanding intellectual property and patent law. Engineers should also understand the legal landscape that they are bound to. Competences in this domain include:

- *Intellectual property law* (L1): copyright, patent law, brand law, trade secrets;

- *Commercial law* (L2): rights and re-

sponsibilities associated with leading a business;

- *Knowledge of legal issues in engineer's work (L3):* knowing legislation that pertains to one's work, work environment, and work safety.

These six domains of NTC are separate and yet have a shared component with their neighbouring and other competences. For example, knowledge and understanding about ethical principles is needed and engineers are expected to have professional ethics in situations when the requirements prescribed by law are open to interpretation. Also, for effective leadership and management good communication skills are essential, which fall under interpersonal competences.

Empirical Study

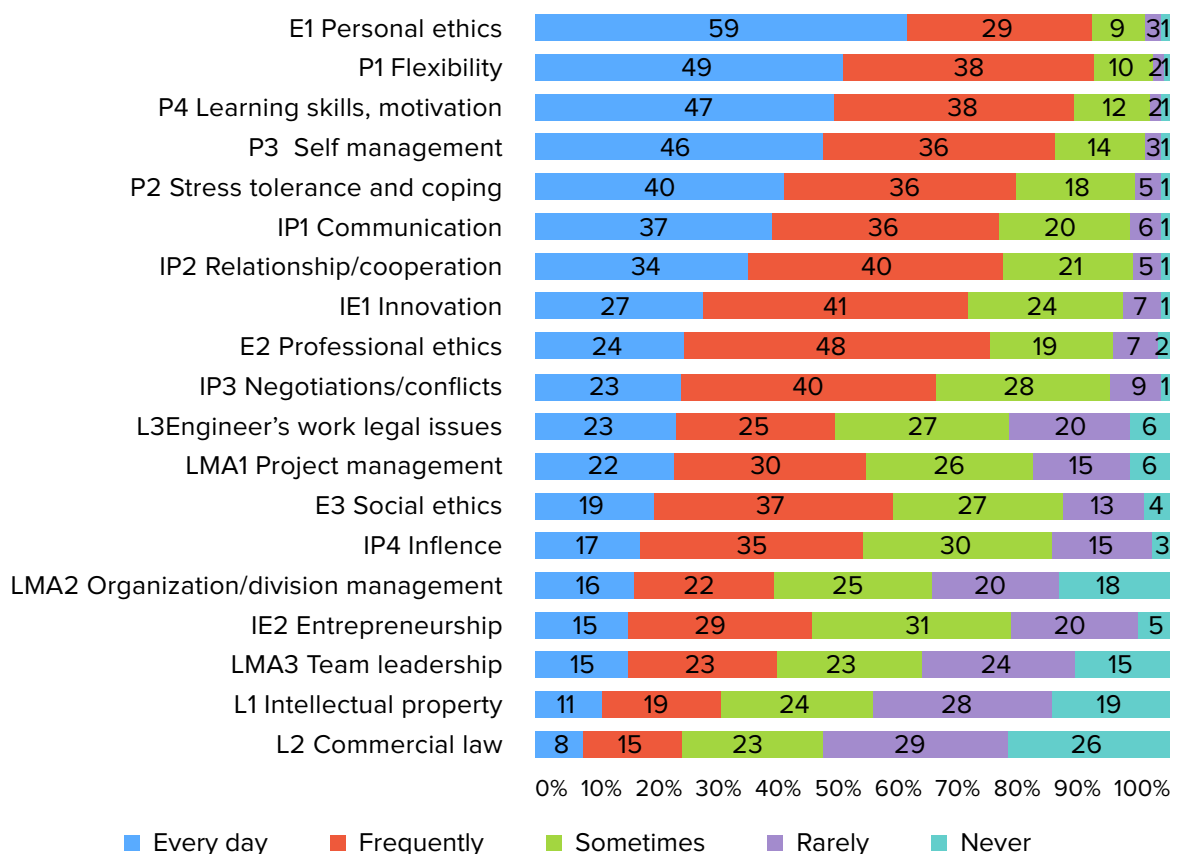
A web-based survey was conducted to empirically test the model of NTC for engineers. Altogether 1,011 engineers (681

males, 322 females and eight non disclosures) with an average age of 28.11 years (SD=7.60), and average professional engineering work experience 6.45 (SD=0.25) years participated in the survey. Of the respondents 44% had a Bachelor's degree, 34% a Master's degree, and 18% had graduated from high school. In addition, four respondents had completed their doctoral studies.

The questionnaire consisted of 19 items; each of them was an NTC name followed by a brief description (i.e., an explanation of the content-opening list of keywords). For example: Stress tolerance (tolerance of pressure, working in stressful situations, techno-stress, coping with occupational stress, and burnout).

Respondents had to estimate how often they used the 19 NTCs in professional engineering work. Figure 3 below shows the results with the most frequently used competences listed first.

Figure 3. Frequency of use Non-technical competences in engineering practice



It appears that approximately nine engineers out of ten use Personal ethics competences on a daily basis or frequently. In addition, more than 75% of engineers use all four Personal competences on a daily basis or frequently. Further, 40-49% of engineers report they are expected to be flexible, ready and motivated to learn new things, as well as cope with techno-stress, and come to terms with work stress on a daily basis.

Approximately 2/3rds of engineers use Interpersonal competences, Innovation and Creativity competences as well as Professional ethics competences on a daily basis or frequently. It appears that most engineers are daily or frequently required to think about honesty and other ethical values and follow principles of ethical behaviour in general. Good self-management skills are also required in the everyday work of an engineer.

Communication competencies, relationships and cooperation competences were reported by 70% of engineers on a daily basis or frequently. Further, half of the engineers use project management, influencing, and entrepreneurship competences as well as competences related to legal issues on a daily basis, or frequently. However, Leadership, Management and Administrative domain competences (LMA) were used by 41-51% of the engineers; while Intellectual property and business law competences were sometimes or rarely (with a small percent of engineers never having used them).

Innovation competences based on creativity and insightful thinking were reported by 41% of respondents frequently and by 27% of respondents on a daily basis.

The length of professional engineering work experience was positively and significantly correlated with using competences in all domains. The strongest correlations were found with Innovation/Entrepreneurial competences and LMA competences. It appeared that ratings of engineers without work experience (no work experience or work limited to a few months) were significantly lower in all six domains compared to ratings of engineers with work experience of more than five years. The ratings of engineers with one to five years of work experience were closer to the ratings of the more experienced engineers in the Personal competences domain. In IE and LMA competences domains the ratings of engineers with some work experience (1-5 yrs.) were similar to the ratings of inexperienced engineers but significantly lower than ratings obtained from more experienced engineers.

Competences developed by teaching Non-technical subjects in Engineering Curricula in TUT

In engineering education the traditional “knowledge-oriented” approach has moved towards developing degree programmes which focus on competence development. The aim is to make students as competent as is feasible in a given time-frame for their future role in society, by making optimum use of the interests and capabilities of the students (OECD, 2011).

The aim of competence-based education is to prepare students with competences appropriate for employment, work life, and professional career. It is argued that the development of generic competences or transferable skills is becoming more relevant for preparing students for their fu-

ture role in society in terms of employability and citizenship (Tuning, 2006). Thus, it is relevant to know whether NT subjects taught in the engineering curricula foster the generic competences needed for successful employment.

As previously stated, the model of NTC for engineers could be helpful to analyse engineering curricula in HEIs; exploring how many topics develop the NTCs that engineers need for their professional careers. Our empirical study of the NTCs engineers use in their everyday professional work can serve as starting point to estimate how well engineering curricula are in accordance with employment demands. An analysis of engineering curricula of the engineering faculties of TTU from the vantage point of NTCs indicated that:

- Although there is a large number of NT subjects, the content of those subjects and especially students' learning outcomes are not in accordance with general understanding of non-technical engineering competences;
- None of the curricula offer the possibility of the full development of non-technical engineering competences. Subjects were mainly electives for students, and for example, there is no one subject for developing leadership and managerial competences on either the undergraduate or postgraduate programmes.

In order to understand this further we undertook an in-depth content analysis of the aims, content and learning outcomes of NT subjects taught as compulsory subjects or electives to undergraduate and postgraduate engineering students. The research question guiding our study was

“Which NTCs are systematically developed by teaching NT subjects for engineering undergraduate and postgraduate students?” Answering this question will allow us to find the main gaps and suggest what NTCs are needed in professional engineering work in order to prepare engineering students in Estonia.

All engineering curricula in TUT include modules on: General Studies; Economics and Entrepreneurship; and Free electives. The purpose of teaching the General Studies module is to raise the overall educational level and to satisfy common educational needs of the students. Compulsory subjects in this module are Philosophy, Law and Sustainable Development, Science of Risk and Safety, and foreign language. First four subjects are aimed to develop students' general systemic competences; the latter aims to develop students' general instrumental competences (i.e., their language skills). There are few additional compulsory general subjects such as those that develop students' writing skills and ethical competences.

The purpose of teaching free electives is to allow students to choose courses according to their individual interests, planned career needs and trends in new technology. For example, some curricula offer Sociology, Psychology and Logic as optional general subjects.

The purpose of teaching the Economics and Entrepreneurship module is to provide students with knowledge of the basics of economics and business and to improve their knowledge and skills of entrepreneurship. In addition, Micro- and Macro-economics is a compulsory subject

for undergraduate students (developing their generic systemic and instrumental competences). On average, postgraduate engineering curricula contain two or three

subjects from the Innovation-Entrepreneurship (IE) competences or Leadership, Managerial and Administrative (LMA) competences domain (these are presented in Table 1).

Table 1. Law, IE, LMA competences and corresponding NT subjects taught in TUT

	NTC	NT subject
Law competences	Commercial law	Contract Law
	Intellectual property	Intellectual property
	Engineer's work legal issues	Grounds of Law
Innovation and Entrepreneurship competences	Innovation	Innovation and creative problem solving
		Product Development, Innovation and Product Development, Product Development and Design
		Innovation management
		Technological Innovation
		Research work and Innovation
		Research & Development and Innovation
	Entrepreneurship	Technology-based Entrepreneurship and Innovation
		Introduction to Entrepreneurship
		Entrepreneurship and Small Business Management
		Entrepreneurship and Business Planning
	Business Administration	
Leadership, Managerial, Administrative competences	Team leadership	Team Management in Developing Information Systems; Teamwork – project
	Organization/division management	Quality management, Project and Quality Management
		Organisational Behavior, Managerial Psychology
Project management	Project management	

Leadership, Managerial and Administrative (LMA) competences

Most engineering curricula include Project Management courses to develop these respective competences. The Quality Management course, in part, focuses on developing students' Organization/Division management competences. Only Faculty of Information Technology offers specific

subjects aimed to develop students' teamwork and team leadership competences. However, there are just a few curricula in different engineering faculties that offer Organizational Behaviour or Managerial Psychology courses. Thus, whereas Project Management competences are systematically developed, there are few engineering specialities where postgraduate

students are offered the opportunity to develop Team leadership and Organization/Division management competences.

Innovation / Entrepreneurship (IE) competences

Although creativeness and innovative solutions are seen as core in the engineering profession; only a few subjects specifically deal with developing students' creativity and innovative thinking (e.g., Faculty of Information Technology teaches innovation and creative problem solving, Technological Innovation). Product Development courses focus on basic knowledge about product development processes in enterprises and aim to educate students about principles and methodologies of modern product development. While the aims and content of Innovation Management are similar to Product Development courses (i.e., the subject aims to develop students' understanding of the process of innovation and product development in companies); the role of the state and wider socioeconomic context in innovation are given more attention. These courses also aim to prepare students for participation in product development team activities (such as Research and Development, R&D), and the development of elementary team leadership skills. Further, Research Work and Innovation, Research & Development and Innovation aim to develop students' skills for planning and realising independent research, R&D or innovation projects.

Subjects offered in TUT to develop engineering students' entrepreneurship competences aim to provide the knowledge and skills one needs to start new business venture (such as, understanding busi-

ness environment, evaluation of business opportunities, developing business ideas into business plan, financial planning, and solving problems related to starting one's own business). Creating an understanding about the essence of entrepreneurship, and providing knowledge that enables students to evaluate their potential for becoming entrepreneurs and to appreciate team working are valuable competences these courses aim to develop.

Law domain competences

These competences are developed by teaching Grounds of Law as compulsory subject to all engineering students. However, it would appear that the majority of engineering curricula do not contain subjects that would enable the development of commercial law and intellectual property competences. Only a couple of curricula in Faculty of Chemical and Materials Technology and in Faculty of Civil Engineering offer courses on Intellectual property and Contract Law respectively.

Table 2 overleaf describes the Interpersonal, Personal, Ethics competences and corresponding NT subjects taught at TUT. These are described below.

Interpersonal competences

Engineering curricula contain many subjects aimed seemingly to develop students' Communication competences; but the focus of those subjects is in fact on developing instrumental competences (such as language skills). Only a couple of curricula include optional subjects that aim to develop students' Interpersonal communication competence (Communication Psychology, Business Communication and Negotiations). The Faculty of

Social Sciences offers Communicational Psychology as a free elective that aims to develop a wider range of communication competences (e.g., listening, self-presentation, cooperation, team building, and conflict management). Interpersonal

competences related to effective communication skills and building and maintaining cooperative relationships as well as negotiation and conflict management and influence competences are not systematically developed in engineering curricula.

Table 2. Interpersonal, Personal, Ethics competences and corresponding NT subjects taught in TUT

	NTC	NT subject	
Interpersonal competences	Influence		
	Negotiations / conflicts		
	Relationships / cooperation		
	Communication		Communicational psychology Business Communication and Negotiations
			Human communication
			Estonian Language and Culture
			Giving Presentations in English
			Revision of Productive Skills in the Estonian Language
			Scientific Communication/Science communication
			Scientific writing
	Visual Communication I, II		
Personal competences	Flexibility	Self-management (Free elective)	
	Stress tolerance		
	Self management		
	Learning skills and motivation		
Ethics competences	Social ethics	Business ethics	
	Professional ethics	Ethics of engineering profession	
	Personal ethics	Social Skills and Ethics	

Personal competences

Only one subject, Self-management, is taught in TUT to systematically develop students' Personal competences. This subject is free elective (i.e., not included in any engineering curricula as compulsory or optional). The Self-Management course was specifically designed to diminish the student dropout rate, and many first-year students attend it.

Professional Ethics competences

Several engineering curricula include Ethics of the Engineering Profession as a subject which aims to develop students' Ethics of personality, Professional ethics, and Social ethics competences. Some curricula contain a Business ethics course focusing on ethical problems and dilemmas in the business context and issues of Corporate Social Responsibility. However,

these courses tend not to address specific engineering professional ethics questions and issues that engineers may encounter regarding their social responsibility. It appears, although many engineering curricula give students an opportunity to develop Ethical competences, the choice has to be made by students themselves which are the specific concerns requiring the development of Ethical domain competences.

In summary, it appears that the NTCs systematically developed by teaching (compulsory or optional) NT subjects for engineering students in TUT are: a) engineers' work legal issues; b) entrepreneurship competences; c) project management competences; and d) ethical competences.

Engineering curricula partially develop students' innovation competences, and team leadership competences. The latter is achieved mainly by using teamwork in achieving course's aims and therefore does not include thorough preparation for team leadership (e.g., influencing group processes, leading interdisciplinary and multicultural teams).

Supporting the development of following NTC of engineering students cannot be considered systematic in TUT: a) interpersonal and personal competences; b) organization / division management; and c) intellectual property and business law competences.

Discussion

On the whole, there appears to be an imbalance in the NTCs that engineers report using most in their professional work and the NT subjects offered to under- and post-graduate students during their stud-

ies. General subjects in engineering curricula are aimed to develop students' general understanding of the world including understanding of safety, and legal rights and responsibilities. Principles of project management, understanding the processes of product development, and principles of ethical conduct in engineering profession have been taught to engineers over the last 50 years.

However, the need to develop engineers' soft skills and their business focus to better serve the learners and their eventual employers (in business and/or industry) has been voiced for several decades. Engineers of the 21st century are expected to possess cross-functional inter-disciplinary knowledge, skills, and attitudes which extend well beyond the traditional scope of technological training. For some time, surveys have suggested that employers find engineering graduates weak in communication and associated professional skills; particularly creative thinking and innovativeness (e.g., Markes, 2006). Understanding the very nature of the organization and their contribution to its performance is also expected from engineers (Meier, Williams, & Humphreys, 2000, Ravenstein et al., 2006, Spinks et al., 2007). But, not possessing those qualities after under- and post-graduate training is not the fault of the student; but rather the question of adequacy of the professional skills requirements in the engineering curricula.

It is argued that knowledge, skills, and attitudes of the 21st century worker must be universally recognised, understood, and taught (e.g., Meier et al., 2000). To be successful, engineers of today can no longer be the isolated innovator; they

must consider also what personal skills are involved in the position, from working with others to successfully communicating ideas with environmental and social sensitivity (Grasso & Burkings, 2010; Wissey, 2000). Thus, developing NTCs adds value to the performance of engineers as well as supports their employability. The results of our studies suggest that the development of the competences in the Personal, Interpersonal, and Professional Ethics domains is highly recommended for competence-based engineering education. As engineering graduates estimate the level of their existing NTCs as lower than those needed in their current professional work; organizations should not expect high levels of these competences from newly recruited engineers.

Analyses of the responses of TUT alumni 18 months after their graduation demonstrated concerns with such competences as: social ones (e.g., teamwork, negotiations, self-assertion), self-expression, presentation, and foreign language. A considerable gap was found between the real competences of engineers and those competencies required for the job. Also, it appears that graduates do not fully perceive or underestimate the influence of NTCs on their employability. This may be that an understanding of the necessity for NTCs only develops after a graduate has already been hired and is working in that job. Of course, perhaps employers do not consider NTCs during their recruiting processes; but they certainly are required in everyday work. Therefore, sadly, when graduates start their professional careers they discover that the level of NTCs required and that they possess are unfortunately, different.

Most NT subjects in TUT are electives; so if the student does not choose the subject the development of specific NTCs is not supported. The gap in graduates' NTCs might be related to the fact that development of the Interpersonal and Personal competences of engineering students is not systematic during their studies and/or is missing. For example, there is no one subject designed for developing leadership and managerial competences at graduate or post-graduate levels. Certain teaching methods (such as project work and problem-based learning) used in technical subjects, are also supposed to support the development of students' personal, interpersonal and leadership competences. However, the attainment of these competencies seems doubtful when we look at the results of alumni surveys. Further, Intellectual Property Law competences were used by approximately half of the engineers we studied. As only a few curricula contain this subject, developing this competence is left on the shoulders of students and/or future employers.

Activities supporting the development of Personal competences up to the highest level are especially important as engineers reported using them practically every day. Young engineers entering the workforce require extra training to develop the Interpersonal competences. In, addition, innovation and creative problem solving is core to engineering. Therefore, we suggest, there should be special courses in engineering curricula to develop students' innovative thinking, creativity, and problem solving skills. At the moment, the aims, learning outcomes and content of subjects supposed to de-

velop students' innovation competences are focused on developing innovation process management competencies and not creativeness. We were pleased to see that developing students' entrepreneurship competences was regarded important in engineering studies with subjects such as Economics and Entrepreneurship emphasising the development of students' entrepreneurial skills.

The finding that inexperienced engineers use all competences less compared to engineers with five or more years' work experience indicates that undergraduate students have a somewhat vague picture concerning the everyday work of engineers. Not all NTCs are equally required during the initial period of an engineer's career; for example the development of managerial competences as well as those of business law will only be required as the engineer's career progresses. Additional training in developing organization/division management and team leadership competences, as well as knowledge of business law will be needed when an engineer is assigned managerial responsibilities as these competences are not systematically developed during graduate and post-graduate studies.

Conclusion

In everyday work, engineers use a broad range of competences simultaneously, and distinguishing one type of competence from another is quite abstract, even on the analytical level. However, the findings of this research are applicable to many areas of WOP; such as work analysis, recruitment, selection, training, development and the appraisal of engineers in companies.

There are many questions left for future research: How are different engineering competences integrated and used in practice? How do different competences or combinations of competences support each other and lead to successful performance? Which competences are the most crucial for success? Which competencies can compensate for the lack of one specific skill? However, these studies have established the need for continuous collaboration between universities and enterprises in order to develop the competences necessary for today's engineering work; and this need is becoming more and more urgent.

References

- Bakar, A.A., & Ting, C-Y. (2011, June 28-29) Soft Skills Recommendation Systems for IT jobs: A Bayesian Network Approach, 3rd Conference on Data Mining and Optimization (DMO), IEEE, 82-87, Putrajaya.
- Barte, G.B. & Yeap, G.H. (2011). Problem-based Learning Approach in Enhancing Engineering Graduates' Employability, IEEE Colloquium on Humanities, Science and Engineering Research (CHUSER 2011), 771-775, Penang.
- Beard, D., Schwieger, D., & Surendran, K. (2007, April 19-21). Incorporating Soft Skills into Accounting and MIS Curricula, ACM SIGMIS CPR conference on Computer personnel research: The global information technology workforce, SIGMIS-CPR'07, 179-185, St. Louis, Missouri, USA.
- Boyatzis, R.E. (1982), *The Competent Manager: A Model for Effective Performance*. John Wiley & Sons, New York, NY.
- Brown, Q., Lee, F., & Alejandre, S. (2009, April 26-30). Emphasizing Soft Skills and Team Development in an Educational Digital Game Design Course. ICFDG 2009, Orlando, FL, USA.

- Carter, L. (2011). Ideas for adding soft skills education to service learning and capstone courses for computer science students, 42nd ACM technical symposium on Computer science education, SIGCSE '11, 517-522, Raleigh: North Carolina, USA.
- Chan, C.D.A., & Fishbein, J. (2009). A Global Engineer for Global Community, *Journal of Policy Engagement*, 1(2), 4-8.
- Coll, R.K., & Zegwaard, K.E. (2006). Perceptions of desirable graduate competencies for science and technology new graduates, *Research in Science & Technological Education*, 24(1), 29-58.
- Conlon, E. (2008). The New Engineer: Between Employability and Social Responsibility European, *Journal of Engineering Education*, 33(2), 151-159.
- Delamare-Le Deist, F., & Winterton, J. (2005). What is competence?, *Human Resource Development International*, 8(1), 27-46.
- Garavan, T.N., & McGuire, D. (2001). Competencies and workplace learning: some reflections on the rhetoric and the reality, *Journal of Workplace Learning*, 13(4), 144 - 164.
- Grasso, D., & Burkins, M. (Eds.) (2010). *Holistic Engineering Education: Beyond Technology*, Springer.
- Grimson, J. (2002). Re-engineering the Curriculum for the 21st Century, *European Journal of Engineering Education*, 27(1), 31-37.
- Kurz, R., & Bartram, D. (2002). Competency and Individual Performance: Modelling the world of work. In Robertson, I.T., Callinan, M. & Bartram, D. (Eds.) Organisational effectiveness: *The role of Psychology*. Wiley, 227-258.
- Markes, I. (2006). A Review of Literature on Employability Skill Needs in Engineering, *European Journal of Engineering Education*, 31(10), 637-650.
- McClelland, D.C. (1973). Testing for competence rather than intelligence, *American Psychologist*, 28(1), 1-40.
- Meier, R.L., Williams, M.R., & Humphreys, M.A. (2000). Refocusing Our Efforts: Assessing Non-Technical Competency Gaps, *Journal of Engineering Education*, 89(3), 377-385.
- OECD (2009). A Tuning-AHELO Conceptual Framework of Expected/Desired Learning Outcomes in Engineering. www.oecd.org/dataoecd/46/34/43160507.pdf
- OECD (2011). *A Tuning-AHELO Conceptual Framework of Expected/Desired/ Learning Outcomes in Engineering*. Paris, France: OECD Publishing.
- Ravesteijn, W., De Graaff E., & Kroesen, O. (2006). Engineering the Future: the Social Necessity of Communicative Engineers, *European Journal of Engineering Education*, 31, 63-71.
- Roe, R.A. (2002). Competenties - Een sleutel tot integratie in theorie en praktijk van de A&O-psychologie (Competences - A key towards integration in theory and practice in W&O Psychology). *Gedrag and Organisatie*, 15(4), 203-224.
- Roe, R.A. (2002). What makes a competent psychologist? *European Psychologist*, 7, 192-202.
- Saravanan, V. (2009). Sustainable employability skills for engineering professionals. *The Indian Review of World Literature in English*, 5, 1-9.
- Sheppard, S., Macatangay, K., Colby, A., & Sullivan, W. (2009). *Educating Engineers: Designing for the Future of the Field*, San Francisco, CA: Jossey-Bass.
- Sampson, D. G. (2009). Competence-related Metadata for Educational Resources that Support Lifelong Competence Development Programmes. *Educational Technology and Society*, 12(4), 149-159.
- Spencer, L.M., & Spencer, S.M. (1993). *Competence at Work: Models for superior performance*. New York: John Wiley and Sons.
- Spinks, N., Silburn, N.L., & Birchall, D.W. (2007). Making it All Work: The Engineering Graduate of the Future, a UK Perspective. *European Journal of Engineering Education*, 32(3), 325- 335.
- Tuning (2006). An Introduction to Tuning Educational Structures in Europe: Universities' contribution to the Bologna Process. http://www.ihep.org/assets/files/gcftp-files/Tuning_Educational_Structures_in_Europe_Universities__contribution.pdf.

Voskuijl, O.F., & Evers, A. (2008). *Job analysis and competency modelling*. In S. Cartwright & C. L. Cooper (Eds.), *The Oxford handbook of personnel psychology*, Oxford, NY: Oxford University Press, 139-162.

White, R.W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66(5): 297–333.

Winterton, J. (2009) Competence across Europe: highest common factor or lowest common denominator? *Journal of European Industrial Training*, 33(8/9), 681–700.

Wissey, T.W. (2000). Enhanced skills for engineers. *Proceedings of the IEEE*, 88(8).



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ATTACHMENT THEORY: THE RELATIONSHIP BETWEEN HUMAN RESOURCES AND ORGANIZATIONS

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Abstract

In this article, Bowlby's attachment theory is related to the organizational context. I have highlighted how the influence and the importance of the relationship between the child and the caregiver (usually the mother-figure) can be compared to organizations and, in particular; the relationship between employees and managers. The purpose of the article is to provide you with an idea for reflection about the world of relationships within organizations.

Attachment theory and leadership

Attachment theory describes an innate predisposition in humans to establish emotional relationships with a reference figure (the caregiver); ensuring the continuity of care essential for psychophysical survival. This relationship performs the

essential function of protecting the person in dangerous situations. For, an adult working in an organization similar attachment relationships develop with internal company figures; offering a marked parallel between the child's relationship with the care giver and the adult one with their leader.

The author of attachment theory is John Bowlby (1969); and he states that picking up a baby who cries is the most appropriate reply, from the carer/mother, to the distress signals of a child. This is a supportive behaviour for the baby and encourages them to develop. Similarly, leaders in the workplace who wish to help employees who are in trouble, for various reasons, aims not to make the employee incapable of personal initiative. The leader will provide the employee with a little help to enable them to resume control over the situation that is causing them difficulty. This principle is often the basis of psychological techniques used within organizations to assist employees; such as mentoring and coaching.

Attachment theory and development of relationships

Bowlby understood that the harmonious development of personality depends pri-

marily on the formation of appropriate attachment to a caregiver figure. The infant and young child should experience a warm, intimate, and continuous relationship with their mother (or permanent mother substitute). Both carer and child should find satisfaction and enjoyment in this relationship; but if they do not this may have significant and irreversible mental health consequences (Bowlby, 1950; Bowlby, 1988; Van der Horst, Van der Veer, & Van IJzendoorn, 2007). This concept, applied to working life, suggests the development of a harmonious work identity relies largely on the presence of an appropriate emotional relationship with the leader. Further, Bowlby believes that 'proximity pursuit' is the most explicit manifestation of attachment. Childhood behaviours seeking proximity are observable such as: smiling, crying, following, approaching, and clinging. Each of these behaviours has the predictable outcome of increasing proximity with the caregiver. People have an innate predisposition to form relationships with the primary parental figures. The mother/ caregiver / close family members (and the relationship with them) gives a child a secure base from which they can go and explore the world giving them a safe base to return to. Personality development is affected by the experience of a solid, secure base. The healthy personality grows to rely on certain people (their base) and, at the same time, to have confidence in themselves and to give their support to others. However, when a child feels there is a threat their exploration will cease and the child promptly reaches for the mother/care giver to receive comfort and safety.

Extending Bowlby's ideas to an organi-

zational context the secure base is the leader and their relationship with them. Without the secure base, workers may develop situations of distress or psychological drift (also phenomena as occupational stalking and the horizontal mobbing). Employees who are more emotionally fragile, or do not have a solid character, are more prone to attacks by people how are emotionally stronger than themselves. Attacks made on an individual by a group is sometimes known as horizontal mobbing. This is not so much to do with incompatibilities within the work environment; but as a group reaction against stress in the work environment. Those individuals who are more fragile and less self-confident of themselves are ideal victims; and they may be used as a "scapegoat" on which to blame of issues of disorganization, inefficiency and failure.

Peoples' working lives are heavily influenced by the presence or absence of a secure leader. If the worker perceives their leader as a secure base this will instil trust and the formation of a secure base for themselves within the workplace, and for others. Thus, we can see that perceptions of attachment are critical for strong organizational relationships. However, the configuration of attachment relationships are fragile and subject to change; they emerge from a process of small adjustments that are constantly being made to individuals' internal working models and strategies in order to maintain a dynamic balance between self and context.

Aspects of the relationship with the caregiver are internalised and transformed into cognitive schemes, called the Internal Working Models (IWM). The IWM pro-

cess is related to the individual's perception and interpretation of events, allowing them to make predictions and create expectations about the things that are happening in their life. IWMs allow the individual to assess and analyse different alternatives of reality enabling them to select the action they perceive to be the best reaction to future situation. Thus, the IWM process allows the child, and then the adult, to predict the behaviour of others; especially in situations of anxiety or need. These predictions will drive individual's behavioural responses in a given situation. An example of this process is offered by the practice of mentoring. Mentoring is a training methodology which refers to a one-to-one relationship between a person with more experience (the manager) and one with less experience, a pupil (or worker); in order to develop in the latter not only skills, but also the ability to react and manage emotions and situations within the working environment. This relationship is accomplished by building a long-term relationship described as a Guided Learning Path; where the manager serves as a model to encourage the personal and professional growth of the pupil. To enable the mentoring relationship to be effective the relationship between mentor and pupil should be deep and confidential. The pupil must see the manager as a secure base where they can go to in the case of trouble. When the pupil has grown professionally and can act without the manager; they will always consider the mentor as a reference model. In this way the pupil does not become a copy of the manager, but a person with their own personal skills and original ways of acting and thinking. The influence of the manager acts only on the

basic knowledge of the organization and allows the pupil to develop a force that can successfully deal with organizational life.

As a child develops their interpersonal processes, such as the formation of psychic functions, they are dependent on inter-subjective encounters. So, a key element in this development is maternal sensitivity; that is the mother's capacity to implement the child's needs and to respond promptly to those needs when required. This theory is seen not only in relation to the parent-child dyad; but other powerful attachment relationships which exist in the context of a web of relationships. It is hard to appreciate the strength of these relationships unless we fully understand the context in which these relationships occur. Therefore, in order to fully understand the individual-organization relationships we must also obtain information about interactions between leaders, between leaders and individuals, and also between individuals and their colleagues.

The leader as a manager of attachment

The basic skills that are fundamental for a leader to positively advance an organization and to accommodate change are highly similar to that of the caregiver. They are:

- Sensitivity to be able to identify weaknesses and critical issues of the old cultural model (as in *maternal sensitivity*). Organizational culture is the soul of a company, the glue that gives meaning to actions. Culture consists of artefacts, norms, values, and beliefs that are an integral part of the organi-

zation. The leader must be sensitive to know how to build and manage the culture of an organization, and to understand the weaknesses and challenges that face the workers. The leaders' role is to enable change in a way that it has minimal negative impact on the workers (Lizza, 1985).

- Motivation to make the appropriate communications, and develop essential interpersonal and group relationships. (If communication is the essential prerogative of the relationship, motivation is the sine qua non condition of attachment). Thus motivation of employees is a critical factor for the success of an organization and their response to change. Motivation serves as a stimulus that determines the fielding of energies in order to realise a goal of need satisfaction. Thus, these are elements that are “internal” to person.

- Self-esteem, a sense of responsibility, and “representation” of work that matches with the “external” elements; such as organizational culture (which is managed by the leader) and the leader’s ability to motivate. It is crucial that leaders can motivate employees; by first establishing a relationship, and understanding their character and the things that are important to them. Once a strong relationship is built the leader will then be able to use the right motivational levers to motivate employees; such an economic incentive, a compliment, a bonus, professional recognition or a simple way of joking.

- Emotional strength to transfer security over future prospects (the ability to be secure base). It is important that a manager can sweep away fears of employees in order to increase the overall efficiency of the organization. Managers must set standards and operational levels to provide the tools necessary to create a positive environment that encourages cooperation, identification and resolution of problems.

- Ability to change cultural assumptions. As individual development is based on interpersonal processes, so the leader needs to act in relation to specific patterns of behaviour that aimed to change the IWM of individuals and thus benefit the organization.

- Depth of vision. The ability to assess adequately the cultural characteristics both inside and outside the organization; in order to build the best tools with which to manage attachment relationships. This means understanding the potential of workers, their aspirations and weaknesses, and to use this knowledge in the best way to build a strategy of effective action against competitors.

Conclusion

Leadership is an essential component of managing people (Human Resources); and successful leaders do this is partly by managing attachment relationships. I have shown that it is necessary that leaders know how to act as caregivers, seeing and monitoring what it is necessary to act for the sake of individuals’ and groups’ survival.

References

- Albanese, F (may 2012), *L'attaccamento nella relazione psicoterapeutica con adulti*, on www.psicoterapia.it.
- Bowlby J. (1950). *Maternal Care and Mental Health. The Master Work Series*. London: Jason Aronson
- Bowlby J. (1969). *Attachment and Loss, Volume 1: Attachment*. London, Tavistock.
- Bowlby, J. (1979). *The Making And Breaking Of Affective Bonds*. London, Tavistock.
- Bowlby J. (1988). *A Secure Base: Parent-Child Attachment and Healthy Human Development*. New York: Basic Books
- Cardani, M., Martone, A., Quintarelli, L., & Tassarotti, S. (2008). *Business Coaching. Una tecnica per migliorare le performance aziendali*, Italy, Ipsa.
- Cena, L., Imbasciati, A., & Baldoni, F. (2010), *La relazione genitore-bambino. Dalla psicoanalisi infantile alle nuove prospettive evoluzionistiche dell'attaccamento*, Milan, Spinger Verlag.
- Crittenden, Patricia M. (1997). *Pericolo, sviluppo e adattamento*, Milan, Elsevier.
- Donley, M. (1993, July). Le teorie dell'attaccamento e l'unità emozionale. *Terapia Familiare*, 42, 5-23.
- Ege, H. (2005). *Oltre il Mobbing. Straining, Stalking e altre forme di conflittualità sul posto di lavoro*. Milan: Franco Angeli.
- Gabassi, P.G. (2006). *Psicologia del lavoro nelle organizzazioni*, Milan: Franco Angeli.
- Geof, A., & Garvey, B. (2010). *Mentoring pocketbook 3rd Ed*, Alresford: Management Pocketbooks Ltd.
- Giachino, C. (2012). *La strategia di sviluppo prodotto: il DNA dell'azienda*. Torino: Giappichelli.
- Holmes, J. (1993). In J. Bowlby (Ed.) *Attachment Theory*. London, Routledge.
- Lizza, P.(1985). *La cultura aziendale. Profili di analisi e di management*. Milan: Giuffrè Editore
- Schein, E. (1985). *Organizational Culture and Leadership*. San Francisco: Jossey-Bass Publishers
- Lorenz, K. (1949). *L'Anello Di Re Salomone*, Munchen. Adelphi.
- Loriedo, C., & Picardi, A. (2000). *Dalla teoria generale dei sistemi alla teoria dell'attaccamento. Percorsi e modelli della psicoterapia sistemico-relazionale*. Milan: Franco Angeli.
- Mantovani, S. (1976). *Psicologia e Pedagogia*. Milan: Angeli.
- Meldolesi, G.N. (2011). *Panico, ossessioni e fobie: psicobiologia dell'ansia. Dalle origini del comportamento ai rapporti familiari*. Milan: Franco Angeli.
- Nesurini, M. (2007), *Good Morning Mr. Brand. Il senso, il valore e la personalità del brand*. Milan: Hoepli.
- Trentini, G. (2012). *Oltre il mobbing: le nuove frontiere della persecutività*. Milan: Franco Angeli.
- Van der Horst F.C.P., Van der Veer R., & Van IJzendoorn, M.H. (2007, December) John Bowlby and ethology: An annotated interview with Robert Hinde, *Attachment & Human Development*, 9(4), 321-335.



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