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Applying work motivation theories to articulate the challenges of providing effective doctoral supervision

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Universities in the United Kingdom face numerous demands regarding provision of quality research education to increasing numbers of doctoral students. One challenge is the recruitment of suitably qualified, skilled academics to take on their supervision and subsequently provide a high quality student experience. Understanding what motivates supervisors is central to facing this challenge. However, little theory underpins the supervision processes and even less pertain specifically to the issues of supervisor motivation.

The paper addresses this short fall by exploring and applying work motivation theories to the higher education postgraduate context. It considers goal setting and social cognitive theory, as used in the wider area of work social-psychology, to lay a new theoretical approach that enables *motivation to supervise* to be better articulated and assessed.

The content of the paper resides within the theme "Theoretical frameworks of learning and teaching in higher education. In taking this novel approach to understanding supervision in higher education, the paper will inform academic developers facing the current challenges in strategic decision making that relate to research education and student supervision. It will interest to those participants involved in academic supervisor training in terms of programme content and it has relevance for post graduate supervisors, at all levels, in terms of their own performance and career objectives. Finally, it has an application for policy makers as the work fits into the new and emerging political landscape surrounding doctoral/research education in the UK and internationally.

Key words: postgraduate supervision, goal setting theory, social cognitive theory.

Introduction

Universities in the UK face numerous demands in providing quality research education to increasing numbers of doctoral students (Joint Funding Councils, 2003; Quality Assurance Agency for Higher Education (QAA), 2004; Taylor & Beasley, 2005). One challenge is the development of a critical mass of suitably qualified, skilled staff to take on their supervision responsibilities (Aspland, 1999). This is a challenge shared in higher educational institutions (HEIs) internationally. In the United States, for example, the majority of university staff do not take on doctoral

supervision responsibilities, the "burden" of supervision being shouldered by the few (Crosta & Packman, 2005). Inequities are also recognised in New Zealand (Melrose, 2001) where workload policies for postgraduate supervisors have been developed to address this. Therefore, although this paper presents an aspect of postgraduate supervision from the UK perspective alone, it does so in the hope that this will be compared and contrasted with other national contexts, creating a dialogue between educational cultures to benefit and meet the challenges of a common problem.

Inequity in the allocation of supervision responsibility may be attributed to several factors. The discipline of study, staff experience, status and length of tenure are relevant (Crosta & Packman, 2005) as are structural issues related to the functioning of, and allocation of supervisor responsibility through, institutional networks, postgraduate committees for example. However, staff members still have an active role in deciding to take on responsibilities for supervising doctoral students, a conscious behaviour triggered by a range of motivational factors. These factors are also of importance as they may influence the quality and skill of supervision, as ultimately assessed through timely completion of students' doctoral journeys.

The importance of effective doctoral supervision and the student-supervisor relationship to student success is widely recognised (Ives & Rowley, 2005; Pearson & Brew, 2002). In the UK, this has been shown in the recent codes of practice relating to HEI research programmes generally (Joint Funding Councils, 2003; QAA, 2004). This relationship is a complex, variable and negotiated feature of students' postgraduate experiences (Grant, 2003). The supervisory relationship and its impact on student outcomes is influenced by numerous factors (e.g. supervisor style, seniority, gender)(Darwin, 2000; Grant, 2003; Mackinnon, 2004; Delamont, 1998; Gurr, 2001; Gatfield & Alpert 2002; Grant, 2003; Whisker, 2004; Smeby, 2000; Heath, 2002; Ives & Rowley, 2005) but student and supervisor motivations within this relationship are key. To date, the student motivation has taken centre stage, their motivation being linked to an intrinsic interest in a subject, and personal development, for example (Leonard *et al.*, 2005). This tendency for research into doctoral supervision to focus on the student voice within the relationship means that, despite the potential importance of supervisor motivation, little is known of supervisor motivations to take up the other half of this dyadic relationship. This paper hopes to address this imbalance. To achieve this, a sound theoretical framework is required.

The theoretical underpinning of research into postgraduate supervision in general is limited and the area of supervisor motivation is no exception. As a robust theoretical framework is required, which is lacking in the academic supervisor arena, one must look further a field. This paper proposes that supervisor motivation is considered through a socio-psychological lens related to the theories of work motivation.

This theoretical paper also underpins an empirical research project currently underway. In this study, staff motivations are explored and related to willingness to supervise and current involvement in supervision. Academic staff members are asked to think about ways in which the university might enhance their motivation and how their motivations may influence their supervision practice. The underlying objective of this research is to develop strategies with which staff motivation may be optimised in order to recruit more staff to supervision and maximise their performance within them.

Motivations behind taking on supervision responsibility

Work motivation in socio-psychology arenas is defined as

"a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behaviour and to determine its form, direction intensity and duration (Pinder, 1998; p11)*".*

The work-related behaviour of interest in the academic arena is the intention of university staff members to take on doctoral supervisory responsibility, their subsequent effort and levels of performance as supervisors and the duration of their continued participation in these activities.

A recent review of the plethora of motivational theory in the *Annual Review of Psychology* identified Goal Setting Theory and Social Cognitive Theory as of the most contemporary importance (Latham & Pinder, 2005). It follows that these two theories may have some use in framing work motivation in academic supervisors and orientating future research direction. This paper will present how these theories may be applied to the context of the supervisor and, based on this application, provide some recommendations on potential strategies to improve supervisor motivation in the future.

Goal setting theory of motivation

Goal Setting Theory proposes that workers set goals and subsequently act in a manner so as to achieve these. It focuses mostly on the relationship between the goals workers set themselves and their eventual performance (Locke and Latham, 2002). Goal setting is thought to improve performance through a number of processes that include the worker exerting a:

- greater focus on actions required to achieve the goal;
- greater effort being put into the task;
- greater levels of persistence;
- stimulation of the use of existing skills or the development of strategies with which to achieve the goals set (Locke & Latham, 2002).

It may be proposed, therefore, that making supervisor responsibility a clear work goal for academic staff will stimulate these processes. Hence, supervisors may actively seek out supervision responsibility from their research committees if supervision is set as a clear career goal/objective. They may also focus more on their students giving them greater attention and be unlikely to abandon students if they become problematic. Further, supervisors may show increased reflexivity and be open to new means of improving their practice. However, whether or not setting supervision as a clear goal for academics does leads to the above processes and performance as a supervisor, will depend on the nature in which the goal is presented. It is also dependent on the characteristics of the individuals themselves (See Table I).

Table I: Characteristics of goals and the employee required to optimise motivation and performance

To optimise workers' motivation and performance, work related goals should be:
- understandable;
- sufficiently complex and challenging. This must be balanced against whether goals are perceived as attainable and are within the workers' abilities.
- set by the workers themselves;
- linked to implementation intentions that detail "when, where and how" the goal may be achieved;
- compatible with those of the organisation.

Goals setting is also more likely to motivate the processes associated with higher performance, if workers:
- have higher levels of self efficacy. This can be helped through training and setting high goals that signal high expectations of employees.
- have a strong commitment to the goal. This is enhanced if workers see the goal as compatible with their personal goals or if they perceive the goals as important to them. This can be stimulated if the goal is legitimised by authorities;
- actively seek feedback on attaining the goal;
- if external (e.g. monetary) incentives are available (Latham & Pinder, 2005; Locke & Latham, 2002).

In the UK, however, supervision as a goal for academic staff lacks many of the criteria thought to optimise worker motivation and performance. For example, it is not compatible with the organisational goals of the university. At an external level, this is because postgraduate supervision responsibility generally does not contribute to the evaluation of the university or of its individual members in the national governmental research assessment exercises of all HEIs (RAE, 2008). At an internal level, supervision responsibility is not an explicit criterion for individual career development or progression. This means that taking on supervision responsibility is not compatible with the personal goals of individuals wishing to climb the academic career ladder. Further, supervision responsibility is often not a self imposed goal as taking on these duties may often be more to do with staff goodwill, or the insistence of line managers, rather than a personal career objective.

Many supervisors have no formal training in supervision and hence may not appreciate the complexity or challenge of the task, the pedagogic underpinning to the processes of supervision and be unaware or unwilling to introduce new methods into their practice. Novice supervisors on the other hand may find the task daunting and unattainable, especially if faced with recent detailed and complex codes of practice released in the UK (QAA, 2004). The responsibilities may also be seen as unfeasible if considered alongside other teaching and research commitments. Formal feedback mechanisms on a supervisor's performance are limited and may only transpire in a negative format when a student fails or makes an official complaint. Finally external incentives (monetary or otherwise) are not widely associated with supervisory responsibilities.

Many universities in the UK may be aware of these shortfalls. However, evidence is lacking as to the extent to which these problems exist nationally and the degree and manner in which these issues are being addressed.

Possible solutions to improving supervisor motivation

Taking the theoretical standpoint of goal setting, recommendations can be proposed which may optimise supervisor motivation and hence recruitment to and performance of this role. Postgraduate supervision responsibility should be an explicit goal, compatible with the overarching goals of the university and personal goals of the individual. This may be achieved if supervision responsibility is established as a measure of esteem in the external evaluations of the HEI (RAE, 2008). Supervision responsibility should also be an explicit goal during staff appraisals and be part of career progression criteria.

Adequate feedback mechanisms between students, supervisors and their peers need to be in place. Feedback between supervisors may take the shape of supervisor support groups or mentorship schemes in which experienced and novice supervisors are matched in supervisor teams (Taylor and Beasley, 2005). Student feedback is also essential and annual student-supervisor evaluations of the supervisory process may help supervisors receive student feedback in an unconfrontational manner. Alternatively, expectation scales (Lawson, 2006), completed jointly by student and supervisor may be of use. These review the expectations of both parties, making explicit the processes involved in the relationship.

All supervisors should be encouraged to complete formal supervisor training to maximise feelings of self efficacy and competency in successful supervision. These programmes should provide a balance between allowing the role to be seen as challenging but simultaneously as attainable. Practical implementation strategies on when and how to supervise may be mixed with discussion of the pedagogic underpinning and complexity of the role.

Finally, as programme management and administrative duties may be rewarded with extrinsic rewards in the form of financial/incremental incentives, so too could postgraduate supervision be linked to similar incentive schemes.

Whilst Goal Setting Theory is useful in articulating some factors that may encourage academics to be supervisors, it may be criticised for focussing on cognitive processes of the supervisor alone, largely ignoring the social context in which these processes take place (Hockey, 1996). An alternative work motivation model, social cognitive theory, provides some balance.

Social cognitive theory
A social cognitive approach to work motivation proposes that an individual's behaviour is moulded through reciprocal interactions between the intended behaviour, cognitive processes inherent in cost/benefits analyses, personal and environmental factors (Bandura, 2001).

Cognitive processes

Central to the Social Cognitive theory is the "response consequence" whereby individuals weigh up the costs and benefits of their intended behaviours (Bandura, 2001). They make these judgements based on the consequences of their own previous experiences. In applying this theory to the context of the postgraduate supervisor, it may be hypothesised that academic staff are motivated to take on supervisory responsibility after undertaking a costs/benefits analysis of this behaviour. However, little is known about these perceived rewards and costs or how explicitly these decisions are made.

In order to flesh out theoretical understanding of the costs and benefits, one might consider factors identified in workplace literature in which processes of mentorship (rather than the HEI academic supervisor) are explored in greater depth. It may be proposed that mentorship in industry fulfils similar functions to the academic postgraduate supervisor, i.e., the guidance of a less experienced colleague. If the doctoral supervisor role is equated to the mentorship position in industry, factors found to motivate staff in the latter environment may provide insight into the motivators of university academic staff.

Allen *et al.* (1997), in an investigation of motivation to become an industrial mentor, divided the benefits of this role into *other* and *self focussed* factors (Table II)

Table II: Other and self focussed motivators to take on mentorship responsibility

Other focussed motivations
The desire of the mentor to:
- help others;
- build a competent workforce;
- pass on information.

Self focussed motivations
The desire of the mentor to :
- increase personal learning;
- improve own job performance;
- get useful work related information from protégé;
- experience feelings of gratification;
- build loyal support networks;
- fulfil career aspirations;
- achieve peer recognition;
- achieve *generativity* related to the mentor feeling rejuvenated as a result of contact with the protégé. (Ragins & Scandura, 1999; Van Emmerik, 2005; Allen *et al.*, 1997).

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Although little is known of doctoral supervisors' motivations, there are early indications that the perceived benefits are not dissimilar to those perceived by industry mentors. Hockey (1996), for example, in a small scale qualitative study in a UK HEI, identified what could be classified as key self focussed motivations in PhD supervisors. These included academics being updated in their own fields through students' research, engagement in stimulating intellectual dialogue with students, networking opportunities with students who represented academics of future, joint

publications and boosts to supervisors' self esteem if students performed well. *Other focussed* motives related to a commitment to preparing future generations of academics and/or desires to perpetuate a particular paradigm/methodology. For some supervisors, motivations had a functional theme including fulfilment of contractual obligations and the expectations of peers and managers. There was also a desire to enhance departmental reputations through larger numbers of PhD students.

The costs associated with supervision are less well explored. Those costs mentioned in the mentorship literature may again have some application in the supervisor context. Fears of being displaced by the research student or that poor students will reflect negatively on the supervisor, are examples (Allen, 2003; Ragins & Scandura, 1999; Allen *et al.*, 1997). Other concerns relate to workload pressures, a potential energy drain and poor interpersonal relationships with the student. The potential of workload to be a de-motivating factor in academic life in general has been recognised (Winter, 2000; Winter & Sarros, 2002).

Social cognitive theory proposes that the above perceived costs/benefits of a particular behaviour may be learned from an individual's own previous experiences. These may also be learnt vicariously from observing others. This has been demonstrated in the mentorship literature where both previous experiences either as a mentor (own experience) or as a protégé (vicarious learning) have been associated with willingness to mentor (Ragins & Scandura, 1999). It was also found, however, that those workers with no mentoring experience expected more costs and fewer benefits than those with this experience. The experience as a protégé was particularly relevant and authors suggested that efforts be placed into developing protégés to be the mentors of the future (Ragins & Scandura, 1999). Applying this to the role of postgraduate supervisor means that the benefits/costs of taking on supervisory responsibility may be learnt from a supervisor's own experiences as a doctoral supervisor (or perhaps as supervisors at a different level). However, new or potential supervisors may make similar evaluations having learnt the costs/benefits of supervision vicariously either through observing the practice of current supervisors or in fact having observed their own supervisors when they were still doctoral students themselves (Delamont *et al.,* 1998).

Personal factors
A social cognitive approach to work motivation also proposes that personal factors interact with the cost/benefit analyses when behaviours are explained. These personal factors remain to be explored in academic supervisor context. Again, clues to the potential nature of these factors lies in the mentorship literature where prosocial personality traits (other-orientated empathy; helpfulness) have been related to willingness to take on mentorship responsibility (Allen, 2003). Age is another factor as meeting the expectations of colleagues was found to motive younger supervisors trying to establish their careers rather than influence older, established academics (Hockey, 1996).

Environmental factors
Environmental factors also interact with personal and cognitive processes to motivate behaviour. The university environment may therefore have an impact on decisions to take on supervision responsibility. One key organisational factor is *role clarity*. Winter & Sarros (2002) see this as a central motivating factor in academic work

generally. The ad hoc means by which supervision is often allocated in university departments, and the lack of internal university or national guidelines on the role of the supervisor, prior to QAA guidance, has not encouraged this clarity.

Other key environmental factors include organisational support for employee learning. This has been shown to encourage mentorship activity (Allen *et al.*, 1997). In the university context, organisational support of staff learning and development is usually encouraged but may be inhibited if the research culture is underdeveloped, especially in newer universities, where support for doctoral supervisors and their students may be less forthcoming (McMichael, 1993).

More possible solutions to improving supervisor motivation

From the standpoint of social cognitive theory, in order to motivate academic staff in the supervisory role, the benefits of supervision should be highlighted and strategies provided to overcome the potential personal costs. Formal training programmes are one location to achieve this. For example, an emphasis may be placed on the benefits of being a supervisor in terms of developing synergistic relationships between the supervisor and student (Styles & Radloff, 2001). Strategies to overcome the costs of the role should also be presented. However, it is equally important that the cost itself is addressed and minimised. Workload, for example, is a key cost. Although time management skills may be taught as a strategy to deal with this, reducing the teaching load of academic staff through increased self directed and virtual learning is one, albeit contentious, solution. Furthermore, structured systems could be borrowed from those developed in New Zealand in which workload is classified into the differing components of academic life. Hereby, credit is given for supervision responsibility, postgraduate supervision being equated to a module or hours of undergraduate teaching (Melrose, 2001).

Training programmes attract both experienced and novice supervisors. As newer supervisors are inclined to dramatise costs over benefits of the role (Ragins & Scandura, 1999), efforts to emphasise benefits and cope with costs, should be particularly directed at this latter subset of supervisors.

Role clarity is central to motivation (Winter & Sarros, 2002). It is paramount that supervisor training programmes make the supervisor's role as explicit as possible. This is a challenge as the nature of the role is hard to define and is performed by many experienced supervisors at an intuitive level. Efforts have been made into making supervision practice explicit (Pearson & Brew, 2002; Hockey, 1997), with underlying objectives of developing role clarity within training programmes. The UK codes of practice (QAA, 2004) also now articulate the supervisor role in greater clarity. Such guidelines need to filter down to departmental levels in the form of disciplinary specific documentation.

Finally, organisations that provide training programmes have been shown to be motivate staff to take on mentorship responsibilities (Allen *et al.*, 1997; Lycke *et al.*, 1998). This also supports calls for formal doctoral supervisor training in the university context (QAA, 2004).

Universities need to be aware of other ways in which academic staff learn the costs and benefits of supervision informally. Many develop expectations of the supervisor role from having fulfilled a similar role although in another context (e.g. at an undergraduate level or as an industry/practice mentor). They should be encouraged to transfer positive experiences from these contexts to their current role as postgraduate student supervisors.

For many novice supervisors, perceived costs and benefits are learnt vicariously from observing existing departmental supervisors or indeed their own supervisors when students themselves. The university should therefore advocate support groups and mentorship schemes in which individuals act as second or criterion supervisors on supervisory teams (Taylor and Beasley, 2005). Here supervisors learn vicariously from their peers whilst simultaneously receiving feedback on their own practice. Further, universities should create a culture supportive of, and seen to extrinsically reward, supervision. In doing this, those not involved in supervision are able to see the benefits afforded to others in taking on this role and be motivated to follow in their footsteps. Similarly, the university could concentrate on growing doctoral students within a research culture in which they are expected and prepared as supervisors of the future.

Research requirements

This paper has introduced motivation theory into the field of postgraduate supervision to articulate issues currently challenging UK universities. This was done to address the lack of theoretical underpinning in this area. However, there is also little empirical evidence. Whilst much of the above discussion has hinged on the premise that work motivational theory can be transferred uncritically into the postgraduate supervision context, it must be acknowledged that all good theories need to be applied and tested.

The paper has also borrowed from research evidence within the industrial workplace and the mentorship roles within it. The premise has been that these latter roles have much in common with the academic postgraduate supervision role. However, there are differences. The student is more autonomous of the supervisor, for example, than is the protégé of the mentor in industry (Vilkinas, 2002). The transferability of motivational factors relevant in industry into the academic arena needs again to be explored.

To test the applicability of goal setting theory, for example, one needs to address questions such as "Do academic staff see postgraduate supervision responsibility as a clear and explicit career goal?"; "What do they perceive to be the nature of this goal?" and "Do the process said to be stimulated by goal setting apply equally to academia". In terms of social cognitive theory, the extent to which costs/benefits of mentorship can be applied to postgraduate supervision should be explored and mediating personal and organisational factors considered.

The effectiveness of the formal of training programmes, mentorship schemes, peer support groups and changes in university structures, proposed here to increase supervisor motivation, recruitment and performance, needs to be empirically investigated. The extent to which universities in the UK are addressing the challenges

of motivating their staff to take on and perform well in their supervision role is required as is an exploration of novel strategies to achieve this.

Conclusions

Universities need to recruit supervisors to cope with increased numbers of postgraduate particularly doctoral students. However, challenges exist in finding academics to accept these responsibilities. Inequities in the distribution of supervision responsibility have other implications also. For those who carry these responsibilities, work overload may strain the all important student-supervisor relationship. Supervisors stretched beyond capacity are also unlikely to remain motivated or able to provide sufficient or appropriate quality supervision (QAA, 2004).

There are also implications for those who do not have supervision responsibility as they loose development opportunities and the synergy that can build through the student–supervisor interactions (Hockey, 1996; Styles & Radloff, 2001; Mackinnon, 2004).

The application of these work motivational theories to postgraduate supervision has meant a clearer articulation of the issues facing universities and for theoretically defensible solutions to these challenges to be offered. It remains for these solutions and the processes linked with them to be tried and tested in the interests of both post graduate supervisors and, in the end, their students.

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