'Virtual' mentoring: can the principle of cognitive pairing increase its effectiveness?

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Abstract

This paper is based on the experiences of completing a virtual mentoring programme within the higher education sector that used the principle of 'cognitive pairing' to enable the rapid establishment of high quality mentoring relationships. Although not originally designed as a research study, it was subsequently felt that the benefits of 'cognitive pairing' were significant enough to be promulgated. The paper briefly summarises research in the field of matching mentors and mentees by cognitive style preference and defines the principle of 'cognitive pairing'. It then describes the instrument used for this research, Think Smart™ (Beddoes-Jones 2002), and its suitability for this programme. The aims of the mentoring programme and its design are outlined and the results discussed with reference to Kirkpatrick's 4 levels of training evaluation (Kirkpatrick 1979 and 1994) and Clutterbuck's measurements of mentoring success (Clutterbuck 2003). The effectiveness of using the principle of matching preferences in cognitive style in order to establish high quality 'virtual' relationships is considered, before concluding that using the principle of cognitive pairing within 'virtual' mentoring relationships can lead to both sustainable relationships and financial benefits.

Key Words: matching, virtual mentoring, higher education, ThinkSmart, cognitive pairing

Introduction and Background

By 2002, the University of Huddersfield had identified a general lack of commercial awareness and business focus among their staff at all levels of the University. After some consideration, it was decided that a virtual mentoring programme could offer a solution and funding was accessed via the Higher Education Funding Council for England (HEFCE).

The mentoring programme had six aims:

1. To develop and enhance the management skills of the mentees
2. To introduce "process" thinking and behaviours to University staff
3. To foster open and transparent "process sensitive management" within the University
4. To increase the involvement of staff in the achievement of corporate University-wide objectives (rather than just departmental objectives)
5. To create a culture of continuous improvement
6. To create partnerships between the University and external organisations

In addition, some mentees had previously identified personal objectives in terms of wanting to increase their own skills base.

Mentoring is a well-known concept within the business and educational fields and mentoring programmes have been used across the world, although with varying degrees of success. The word 'mentor' originates from the Greek Mentor, who Odysseus entrusted with the teaching of his son, Telemachus, whilst he was at the Trojan Wars. Mentor was more than a teacher. He was half-man, half-god, wisdom personified (Peterson, 1989). However, the meaning has changed as its use in business has evolved. A mentor is now commonly

described as a 'critical friend' or guide who is "responsible for overseeing the career and development of another person outside the normal manager/subordinate relationship": Clutterbuck and Sweeney (1997), cited in Harrington (1999). Clutterbuck's definition emphasises the developmental role of the mentor, within a supportive and empowering relationship. For Clutterbuck the mentee takes responsibility for their own learning and career development, rather than being "taught" in the way that Mentor taught Telemachus. The nature of the dyadic relationship is therefore critical to the success of a mentoring programme. Alred and Garvey (2000) emphasise the importance of establishing trust within the mentoring dyad where a strong inter-personal relationship provides a "safe place". Clutterbuck emphasises the need for a supportive and empowering relationship. Peterson (1989) states that for a successful mentoring relationship it is necessary to create a positive relationship between mentor and mentee.

The university involved in the mentoring programme realised that in order to create these high-quality and sustainable dyadic relationships, incorporating the elements of trust, support and empowerment highlighted above, they would need to consider carefully the factors that contribute to successful mentoring dyads. Indeed, their previous mentoring programme had failed due to the poor sustainability of the mentoring relationships. The university was also aware that as the key aim of the programme was to transfer knowledge and skills from experienced external commercial managers to university staff, many of the mentors would necessarily be senior managers, probably not all would be locally based and that the mentoring relationships would therefore need to be sustained over both time and distance. How the mentors and mentees would be matched would therefore be critical. Successful matching is considered to be particularly critical in 'virtual' relationships (Single and Muller 1999). Stokes et.al (2003) concluded, as part of their study on the factors affecting the success of e-mentoring relationships, that matching the dyads successfully at the start of the programme leads to significant transfer of knowledge and information. Armstrong, Allinson and Hayes (2002) cited research examples that demonstrate that forced mentoring relationships are not always as successful as those that develop more informally and suggest that matching the mentor and the mentee in some way might reduce some of the problems experienced.

How to match mentors and mentees successfully is an ongoing issue. Various methods are used; Single and Muller (1999), for example, describe different methods of bi and uni-direction matching in their study on e-mentoring. In uni-directional matching, the mentee usually describes their preference for a mentor; in bi-directional matching the preferences of both the mentor and mentee are matched. Often, these preferences cover such elements as race, gender, personality, skills match etc.

After some reflection, the university and its consultant considered the potential value of bi-directional matching by cognitive style. Messick (1976) defines cognitive style as consistent individual differences in preferred ways of processing information whilst Beddoes-Jones (2003) defines it as: Differences and similarities in the ways people think, some of which are habitual preferences and some of which may be actively disliked. Armstrong et. al. argue for cognitive style as a means of matching mentoring dyads, citing, amongst others, research by Triandis (1960) who held the view that cognitive similarity in the way dyads evaluate events increases communication effectiveness and mutual liking and Witkin (1977) who highlighted the tendency of people matched in cognitive style to like each other more and make better progress in achieving interaction goals. Armstrong et. al. also cited research which demonstrated that cognitive dissimilarity can have the opposite effect, i.e. mismatching cognitive style can lead to conflict. This principle of 'cognitive pairing': the pairing of dyads by cognitive style was therefore selected as a way forward.

Think Smart as a cognitive style instrument

There are many dimensions of cognitive style, measured by a variety of cognitive style instruments. For this university mentoring programme, the consultant recommended the cognitive style instrument Think Smart™ developed by Beddoes-Jones in 2001. Think Smart is a short on-line instrument measuring ten independent dimensions of cognitive style using 74 item statements to which the respondent is asked to Strongly Agree, Agree, Sometimes Agree, Disagree or Strongly Disagree. The responses to the statements are aggregated to generate a personal cognitive profile and report. Table 1 describes the dimensions measured within Think Smart. The Think Smart report identifies for which dimensions the respondent has a High, Moderate or Low preference. It also indicates the implications for these preferences within the workplace, in terms of preference of communication style, approach to problem-solving and ways of relating to other people.

Sensory Focus - Exploring sensory representational systems
Visual thinking: the use of pictures, diagrams and visual imagery internally and externally.
Auditory thinking: a focus on words and language, listening and talking things through.
Intuitive thinking: relates to the use of feelings, emotions and to gut feel intuitions.
People Focus – Exploring interactions with people
Conformist thinking: relates to a desire to fit in, an avoidance of confrontation, and processing through agreement.
Challenging thinking: dislikes being told what to do, will challenge and confront, processes through disagreement.
Task Focus - Exploring approaches to tasks and problem solving
Logical thinking: thinks systematically and sequentially, completes one task at a time, structure and order are very important.
Creative thinking: creative, multi-tasks, has an untidy workspace, thinks 'backwards' and needs the opportunity to be 'creative' at work.
Troubleshooting thinking: focuses on problems and potential problems, makes contingency plans, is risk adverse and is likely to worry.
Simplicity thinking: will simplify complex issues, keeps things simple and prefers things to be easy.
Complexity thinking: enjoys the challenge of difficulty and is motivated by complex issues.

Table 1: Cognitive and Behavioural Traits within Think Smart

Think Smart was selected for three key reasons: firstly, it uses a short, on-line questionnaire with a report immediately generated in real time. Secondly, it clearly indicates personal preference levels for ten dimensions of cognitive style and thirdly, it is cost effective at less than twenty pounds per person for an individual report. The decision was therefore taken to use the cognitive style preferences measured by Think Smart to match the mentors and mentees by highest cognitive style preference where possible. The principle of deliberately mis-matching cognitive style preferences was considered but rejected as it was agreed that potentially this could lead to difficulties within the communication style and processing preferences of dyads.

Method

Over 50 dyads were involved in the mentoring programme. The mentees were self-selected from within the University and their roles ranged from departmental staff to Vice-Chancellor. The mentors were all volunteers who came from a variety of business backgrounds, primarily at senior management level and therefore offering a range of experience and skills. The vast majority of mentors lived at some distance from the University. This meant that virtual mentoring was the norm during the programme.

Every mentor and mentee completed Think Smart as part of their initial induction and their Think Smart profile was used as a key element of the dyad matching process. Firstly, those mentees who had requested development in a specific skill were matched with the appropriate mentor, using a skills matrix, but care was also taken to match by cognitive preference. Those mentees who had not requested a skills match were matched solely by cognitive preference. The highest preference was identified for each participant and then individuals were matched with those who had a similarly high preference. However, the potential for conflict in the case of cognitive dissimilarity was also taken into account. The Think Smart profile was also used to ensure there was no cognitive mismatch, i.e. a mentor was not matched with a mentee who had a low preference for a cognitive style for which they had a strong preference or vice versa.

Three workshops were then held: one for the mentors only, one for the mentees only and the final workshop for the matched dyads. This was the first time the mentors and mentees met. The mentors and mentees therefore met face-to-face once at the start of the programme during the workshop. This is not uncommon in virtual mentoring relationships (Zack 1993) where face-to-face communication helps to establish a shared, agreed context. For this programme, the participants' Think Smart profiles were used as the basis for establishing this shared context. The first two workshops explained the programme aims and the mentoring model, based on Clutterbuck's definition of mentoring. In the third workshop, the dyads were encouraged to discuss their own Think Smart profiles in order to identify their shared values and to develop their own outcomes. The APAR model (Table 2) for each dyad was then discussed with reference to their shared cognitive values and preferred communication styles. During this workshop the dyads were also encouraged to decide their own subsequent communication mode and frequency.

A:	Aims
P:	Planning
A:	Action
R:	Review

Table 2: The APAR Model

The programme was reviewed on an ongoing basis. All three workshops were evaluated and contact was maintained with the dyads throughout the programme. At the end of the mentoring programme, success or failure was considered on the basis of:

1. Sustainability of the dyadic relationships – percentage completion of the programme
2. Bottom-line financial results – cost savings made and additional income generated
3. Mentee satisfaction both anecdotally and by interview

Results

The six aims of the university identified before the programme were all met in terms of enhancement of business skills, the introduction of different ways of thinking, increased involvement in university-wide objectives and the development of partnerships with external organisations. In addition, the specific outcomes of the mentoring programmes were also achieved. Firstly, all the dyads completed the one-year programme. Indeed many relationships continued after the end of the formal programme. Each dyad reported that they had found their mentoring relationship successful and many commented on how they seemed to share the same values as their pair. Secondly, there were many reported examples of mentee satisfaction:

- An academic Head of Department developed a marketing strategy and learned to use project management tools and techniques
- The creation of a successful new team, with a shared common purpose, a common language and common tools
- Successful management of an under-performing team member
- Addressing the behaviours of a destructive team member whilst maintaining the success of the project
- Developing sufficient self-confidence as a mentee to become a mentor
- One quote from the feedback: *"As we hadn't met …and I didn't really know my proposed mentor, it was lucky that we hit it off straight away. I think we were chosen carefully to work together and whoever did it was successful!"*

Discussion

For the university the mentoring programme was viewed as successful, particularly compared with the previous programme in which the mentoring dyads had not been matched and all of the dyad relationships failed. The success of the programme can be critically evaluated in two ways: firstly as a part of a training evaluation, considered against Kirkpatrick's 4 levels and secondly as a study into mentoring using Clutterbuck's five areas of measurement.

Kirkpatrick (1979 and 1994) conceived a model of training evaluation comprising four levels. Level 1 identifies participants' immediate responses. Level 2 identifies new participant learning, Level 3 identifies behaviour change (and is also described as transfer of learning) and Level 4 identifies organisational results including perceived financial benefits. This particular project remit was overt regarding the transfer of learning from Mentor to Mentee at Levels 2 and 3, and also regarding the focus on Level 4, organisational benefits. Throughout the year-long programme, results and feedback were periodically obtained from participants with a more comprehensive evaluation on its completion.

Clutterbuck identifies five areas against which mentoring research should be measured: agreeing a definition of mentoring, taking into account any variables, clarity of process, success against outcomes and finally that of relevance. These are now considered individually:

1. With reference to a definition of mentoring, within this programme Clutterbuck's own definition was used and clearly understood by all participants through the workshops.
2. Clutterbuck then considers the contextual variables, i.e. matching the dyads, taking into account differences in race, age or gender and considering how this might affect the outcomes of the research. The programmes designers were aware of these variables; previous experience had suggested to them that placing female mentors with male mentees was not always successful, for example. The decision was therefore taken to match the dyads by age, gender and race at the initial sorting (although in practise these higher education staff tended to be predominantly white, middle-aged and usually male) and take these variables out of the equation, before matching by cognitive style.
3. In terms of clarity of process, the workshops made the process and guidelines clear, although inevitably different dyads interpreted the process to meet their own expectations.
4. Clutterbuck states that measurement of success against outcomes can be difficult, as different dyads often develop different outcomes over time, some moving into more personal issues and some remaining focused on work-related tasks. This programme took as its main measure of success two clear outcomes: the sustainability of the relationships over the year-long programme, and a quantifiable impact on organisational benefits, both of which were considered successful.
5. Clutterbuck's final measure is that of relevance. The purpose of the programme was to improve the skills levels of the mentees. It appears to have been successful in achieving this and therefore succeeds in terms of relevance for the mentees and the university as client. Due to the success of this mentoring programme, a new programme has just been agreed focusing on teacher skills, for which the principle of cognitive pairing will once again be utilised.

Perhaps one of the most satisfying results of the programme and of the study was the emphasis the dyads placed on the success of their relationships. Using the principle of cognitive pairing, matching by highest cognitive style preferences led to a strong feeling within the dyads of "shared values". This possible correlation between preferences of cognitive style and attributes that individuals value at work is an area worthy of future research.

Conclusion

Although not extensively-researched, within the field of virtual mentoring, the matching of mentors and mentees seems to be a critical success factor within distance and virtual mentoring programmes. The matching of the dyad by cognitive style preference could offer one means of enhancing the likelihood of success. The experience of this particular mentoring programme, its success in sustaining long-distance mentoring over time, in meeting the programme aims and in meeting the criteria for successful mentoring indicate that using the principle of cognitive pairing can increase the effectiveness of virtual mentoring, a conclusion which is consistent with previous research in this area.

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