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This inaugural edition of MJET is dedicated to Alex Moon (1970 - 2010), the founding editor of the journal.

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Using a Student Mentorship Scheme to Develop and Raise Academic Attainment

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Abstract

This practice paper describes and evaluates a mentorship scheme used with undergraduate students on the sports rehabilitation programme at Middlesex University. The scheme commonly called MUSCLE (Middlesex University Sport-Student Centred Learning Experience) was developed to engage students across all levels of the programme in assuming responsibility for, and ownership of, their own learning and grade attainment profiles. In the context of this paper, student mentoring comprised graduate, third, and second year undergraduate students mentoring first, second and third year students respectively. MUSCLE mentoring groups addressed issues such as induction, examination and academic writing skills, and study techniques. The scheme was implemented in October 2007, following consultation with the academic staff and student engagement task force groups at the University. An integrated qualitative (using focus groups to gather experiences of mentors and mentees) and quantitative (using pre and post mentoring academic grade profiles) approach employing multi variant ANOVA analyses of preliminary data revealed that students achieved, on average, two grade bands higher in their final summative assessments when compared with students not enrolled on the scheme. The greatest impact on student grade attainment was evident in year one of study with a diminished but significant impact in years two and three. Male mentees achieve higher grades compared with their female counterparts. There were no significant differences between male and female non mentored students. Mentors and mentees reported feelings of self-empowerment and support, as a result of the scheme.

Keywords: muscle, mentorship, achievement, attainment

Background and Introduction

The higher education learning environment has moved from teaching to learning and from teacher management to student-centred learning and facilitation (Boud, 1995; Downing et al., 2007). Peer guidance and learner support are central to this change. There are a growing number of research publications supporting the use of peer learning, mentoring, and support within both undergraduate and postgraduate programmes (Biggs & Tang, 2007; Goleman, 2006). Peer mentorship is a powerful learning support mechanism that enables mentors and mentees to reflect on learning and discover the important learning elements for successful attainment (Biggs & Tang, 2007; Nash, 2003). Mentorship further engages learners actively with their

learning by focusing on what they learn and do (Edgerton, 1997). The mentorship process fosters academic attainment and directs intrinsic motivation, which has a transformative influence on learning (Cranton, 2006).

Students enrolled on the professional programme in sports rehabilitation and injury prevention at Middlesex University were encouraged to join a new student-centred mentorship scheme aimed at guiding student development, academic attainment, and personal growth through networking with other students, graduates, and professional staff. The scheme commonly known as MUSCLE (Middlesex University Sport-Student Centred Learning Experience) was developed to engage learners across all levels of the programme in assuming responsibility for and ownership of their own learning and grade attainment profiles. The scheme was implemented in October 2007, following consultation with the academic staff and student engagement task force groups at the University. Feedback from the National Student Survey (NSS) further suggested that a mentorship scheme would be useful to drive forward academic attainment and the student experience.

According to Nash (2003), mentoring is acknowledged as a dynamic, reciprocal relationship within a working environment, generally involving an individual with more experience (mentor) and a lesser experienced individual (mentee). The relationship is ultimately built on mutual trust and respect and should allow both to develop their respective skills whilst the mentoring relationship exists. Abrahams and Collins (1998) maintain that mentoring is a process driven by relationship attributes and outcomes.

A review of the criteria for mentorship suggested that the term proved to be a troublesome one involving a teaching role with respect to the mentor. To align the scheme within a learning framework it became important to define terms carefully and consider the desired outcomes of the scheme. Mentorship is more clearly defined as a facilitative process. Facilitation is an informal social process with the potential to enhance the learning skills of all participants. It can bring real benefits to students by enabling them to make sense of a new learning environment and by empowering them to develop the learning skills they need to succeed in life and study. Facilitation also benefits the facilitator by providing an opportunity to reflect upon action and academic skills (Freeman, 1995; Stefani, 1994). Whilst the scheme retained the term mentorship, the definition of the term supported a facilitatory as opposed to a teaching role.

The Need for Student Mentors

The support offered by HE institutions is primarily through advisors/directors of studies. Academic members of staff are often not completely in tune with their students. The issue of poor advisors/directors of studies is often brought up by students at various stages of their studies (Nash, 2003).

Downing et al. (2007) provide a clear delineation of the mentor's role and advise that mentoring is neither a counselling service, nor a drop-in advice centre, nor an academic tutor, nor the answer to all problems. It is, however, a carefully positioned component of the learning process that is useful for:

- Supporting the process of learning
- Taking the initiative and assisting student learning
- Understanding boundaries

- Creating a learning agenda
- Planning
- Process
- Maintaining and respecting privacy, honesty and integrity.

Those elements provide a structured approach in dealing with student issues and managing the learning support environments. MUSCLE mentoring groups addressed areas such as induction, examination and academic writing skills, and study techniques which positioned the scheme centrally within the learning cycle and further drove individual engagement and self-directed study. The process of mentoring has a triangulated influence on the mentor, the mentee, and the academic staff. The values and benefits of mentorship transcend the taught academic content and drill down into the skill sets necessary for academic success and potential employment (Downing et al., 2007).

The sports rehabilitation undergraduate programme comprises three years of professional study accredited by the British Association of Sports Rehabilitators and Trainers (BASRaT). The programme is designed as a composite of core clinical, professional and graduate skill modules leading to employment. Mentors work with mentees to develop and relate these modules and skills to professional practice environments. Mentorship involves a carefully aligned recording and reflection of mentor/mentee meetings and action plans to improve and/or enhance the mentorship process. Mentorship is about supporting the learning cycle and facilitating learning dynamics (Abrahams & Collins, 1998).

Methodology

Participants in the scheme were recruited from the undergraduate sports rehabilitation programme and were encouraged to join the scheme voluntarily. The scheme spanned all undergraduate years of the programme and attracted 145 participants which represented 62% of the total student population for the programme across the 3 years of implementation (2007 - 2010).

Year 1	**Year 2**	**Year 3**
N = 88 (Males 43 Females 45)	N = 40 (Males 27 Females 13)	N = 17 (Males 7 Females 10)

Table 1 : Demographic and gender composites per year cohort across three years of scheme implementation

During induction week, all sports rehabilitation students received a general briefing and overview of the scheme. The initial briefing outlines the structure and dynamics of the scheme and provides a brief framework of scheme objectives and developments, including expectations, roles and responsibilities of mentors. Parallel to the implementation of the scheme, all mentees and mentors are further asked to complete an individual learning plan (ILP). The ILP allows the learner to reflect upon past achievements, record preferred learning styles, and detail their goals for the coming academic year. The ILP provides important information regarding how learners perceived their learning and what expectations they set for the mentorship programme. A second meeting is convened following initial review of the ILPs to discuss the nature and effectiveness of mentorship. Mentees are carefully matched

and assigned to appropriate mentors based on the content and information detailed in the ILPs. First-year learners are assigned to mentors in the second year of study, whilst second year learners are mentored by final -year learners. The final-year learners were guided in their mentorship by graduates of the programme, currently engaged in postgraduate study and clinical practice. To establish a baseline analysis for the study, aggregated entry year grades were used per individual year cohorts. Participants were further interviewed in focus groups to record feelings, expectations and objectives.

Results

To consider change effects and scheme impact on student learning and academic development the study used a combined qualitative and quantitative analysis, drawing on baseline statistics and end of year grade profiles from the undergraduate student cohort (this excludes graduate mentors who were used to mentor the final year group). The data was tested for normality before being analysed using a multi variant ANOVA. The method allowed several variables to be compared with the students' overall grade as the main variable. This data was supported by qualitative narratives established during focus group interviews with mentors, mentees, and academic staff.

Quantitative Analysis

Mentored and non-mentored

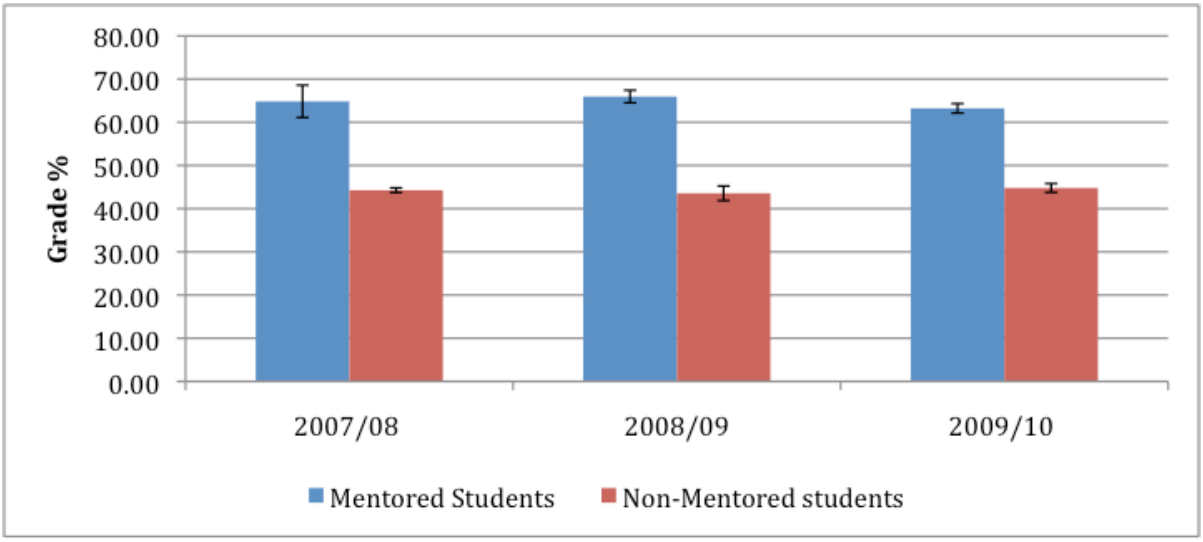

Figure 1: Comparison of mentored and non-mentored students per academic year of study

Figure 1 details the comparative analyses between the mentored and non-mentored students. The average grades, 07/08: 67.09% (mentored), 44.29% (non mentored), 08/09: 65.52% (mentored), 43.68% (non mentored), and 09/10: 65.43% (mentored), 44.78% (non mentored), are significantly higher in the mentored students (p=0.000). The MUSCLE scheme has had a reduced effect over the years, as the grade averages in year 08/09 and 09/10 are significantly less than 07/08 (p=0.002) and (0.035) respectively, but still remain significantly higher than their non-mentored counterparts.

Academic year differences

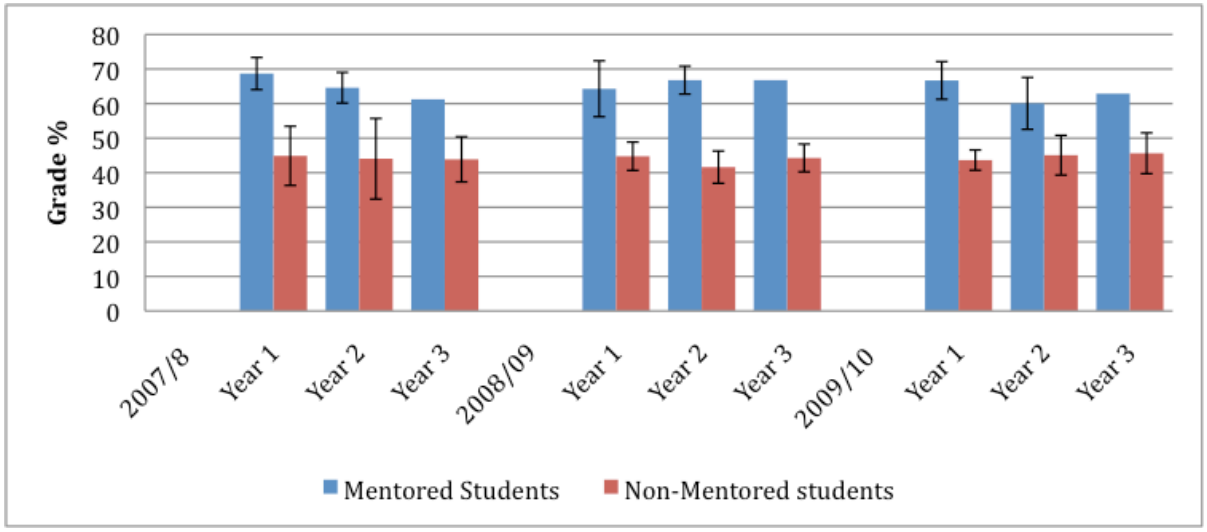

Figure 2: Inter-year comparative analyses for mentored and non-mentored students

Figure 2 provides analysis of cross-year scheme impact on student attainment. Non-mentored students retain a consistent grade profile of 40-50% across the years whereas the mentored students exhibit a two grade band increase in programme results (60-70%). There is no significant difference between the academic year grade average in the non-mentored students, year 1 (44.43%), year 2 (43.56%) and year 3 (44.63%), ($p=0.511$, 0.634 and 0.961), respectively. However, in the mentored students the grade averages are significantly higher for all years [year 1 (66.3%), year 2 (64.25%) and (63.85%)], with a significant difference evident between year 1 and the rest of the year groups ($p=0.000$). This indicates that the scheme has highest impact on grade attainment in year 1 with a diminishing but significant grade attainment profile in years 2 and 3.

Gender differences

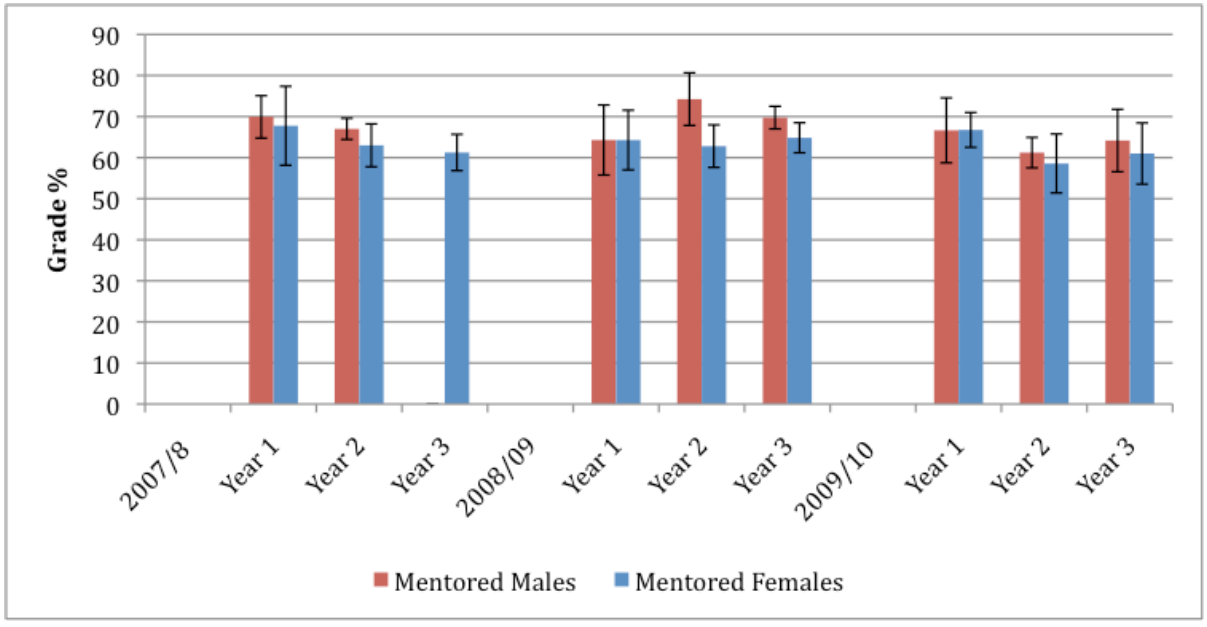

Figure 3: Gender comparisons of mentored students across academic years

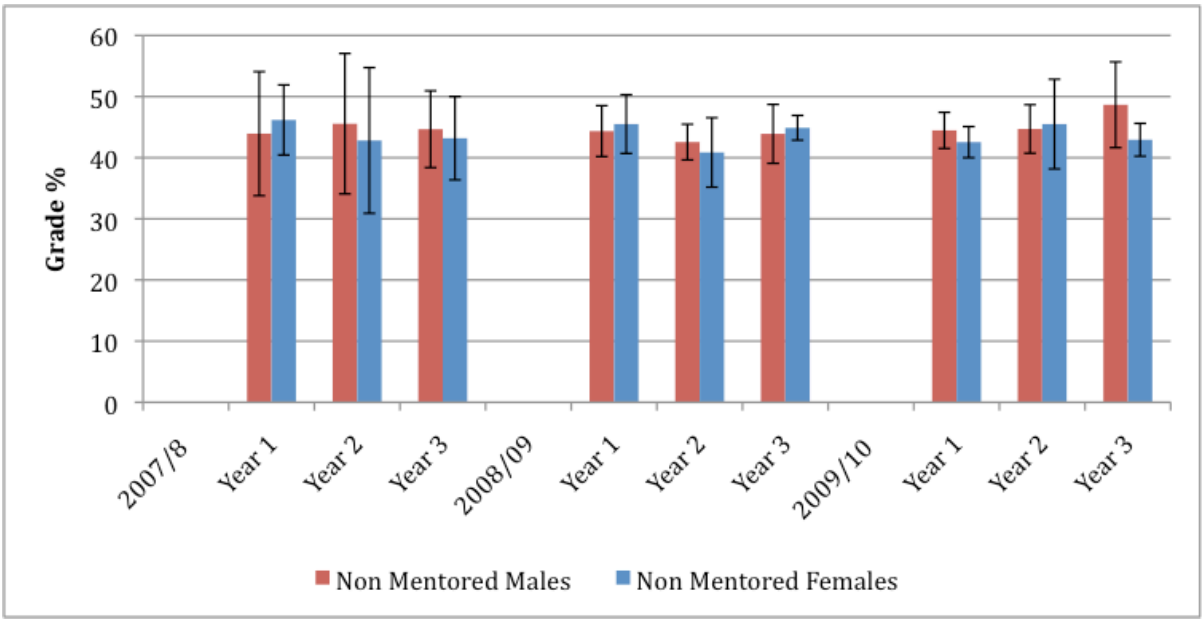

Figure 4: Gender comparisons of non-mentored students across academic years

Figures 3 and 4 illustrate gender effect differences for both mentored and non-mentored students across academic years. Using the non-mentored students as a baseline, grade percentages are higher in the mentored student groups. Gender differences for non-mentored students are non-significant (p=0.09) with grade averages of 44.78% and 43.72% respectively. The male and female differences for the mentored students are significantly different (p=0.044) with grade averages of 66.63% and 64.55% respectively. This indicates that although the grades of students on the mentorship scheme are significantly higher (p=0.00) the effect is greater in male compared with female students.

Qualitative Analyses

The qualitative analyses were conducted and reported during focus group activities. Two important focus group dynamics were used to develop the scheme experience. The first focused on the recognition of skills developed, whilst the second examined the learning experiences from mentorship. Differences in male and female responses are documented below:

Recognising the skills they've developed

> *'I have developed so many useful skills in doing this programme such as leadership, communication and listening skills.'*
>
> Second-year male student
>
> *'Given me more confidence, taught me to reflect and has been heaps of fun too.'*
>
> Second-year female student
>
> *'I felt self achievement and responsibility while talking to my mentees. I learned to be patient, and most importantly how to motivate and encourage my mentees as well as nurturing them '.*
>
> Third-year female student

'I think it has made me appreciate the knowledge I have and has helped me to be able to relay this to other people without telling them what to do or what to write. It has been very rewarding.'

Third-year male student

Learning from an experienced peer

'I feel like I have someone who knows what I am going through in terms of keeping on top of workloads, researching and revising.'

First-year male student

'I got the advice from someone who I felt knew things better than me and who I could trust'.

First-year female student

'She was a great help with the issues I have been concerned about. I feel a lot more confident about things now. She offered to meet me next week to assess whether I've been able to put in practice all the information she has given me.'

Second-year male student

Enhancing successful learning strategies

'It has been good because things I have suggested to help are time planning, getting organised, taking time out when you feel stressed – I've been following my own advice as well.'

Third-year female student

'Enhanced my learning and given me a wider understanding of the student experience. It has allowed me to share my knowledge and feel like I was doing something worthwhile.'

Second-year male student

'Improved my confidence, improved my communication skills and increased my knowledge of many academic areas (such as referencing).'

Third-year male student

Discussion

The results from this pilot study are pleasing and suggest that the MUSCLE scheme has impacted positively on both the mentors and mentees with an increase in grade attainment across the different years of study. The scheme has provided a useful portal into how peer learning support can be used to develop learning and assist with learner attainment. The need for the scheme was derived from feedback, mainly through the National Student Survey (NSS). This survey emphasised that a peer-led network that focused on student learning support would be beneficial to the learning experience of sports students. The results of this pilot study confirm that the scheme was instrumental in providing this learner support in a learner-centred environment. Qualitative analyses further support the narratives from both mentors and mentees and provide additional evidence for the dynamics of the scheme. The scheme has allowed mentors to develop important interpersonal skills, and mentees to value the additional support received. In reviewing the gender statistical analyses it is apparent that male mentees gained better final grade attainment profiles compared to their female counterparts. This could partly be due to the fact that programme emphasis is

on professional employment issues and graduate skills. There were more female final-year participants, but the males tended to focus their mentorship experience on developing employment skills. The first-and second-year cohorts tended to rely on developing essential skills and clinical competencies. This is further supported by the qualitative analyses that suggest female mentors played more of a nurturing role, whereas their male counterparts focused on leadership and development (Cranton, 2006).

The MUSCLE scheme has not been without its difficulties. The main issue was that first-year students failed to see the initial benefit of the scheme and thought it would detract from their study and time. Timetabling issues coupled with scheme implementation, monitoring activities and student availability became problematic. Staff needed to work creatively to deal with these issues and manage the scheme effectively. The development and implementation of key themes aligned with important learning activities such as examination revision, proved to be useful in attracting students to the scheme. The scheme was only piloted with the sports rehabilitation programme which constitutes 31% of the total sports cohort at the University. Examination and review of the findings need to be considered carefully and with caution. Although the greatest impact of the scheme on student grade attainment is with the first-year student cohort, these findings cannot be fully extrapolated to other cohorts. The lessons and narratives derived from the analyses provide useful information that underpins the student mentorship experience within the sports rehabilitation student population. These narratives further provide relevant insight into both mentor and mentee expectations that together drive the success of the scheme.

Owing to the success of this initial pilot project, the scheme has now been extended into a univeristy-wide student learning assistant (SLA) programme. This new programme was launched in October 2009 and provided differential training for mentors across departments, schools and campuses. The SLA programme has developed the conceptual framework for mentorship by carefully positioning the mentorship role within the cycles of teaching and learning. The programme has provided mentors with training, specifically within the broader areas of facilitation, communication, academic writing, and problem resolution. The programme has adopted a web platform and uses OASISplus (BlackBoard) to monitor mentor activity and review mentors' reflective diaries.

Conclusion

Whilst the scheme is in its infancy, there is emerging evidence to suggest that the structure and nature of MUSCLE is impacting positively on student achievement. Examination results show that participants on the scheme have achieved better results than non-participants and have, overall, achieved a two-band increase in academic results.

These early findings suggest that the scheme has been useful in developing and enhancing student attainment across the programme. Caution, however, must be exercised in interpreting the findings. It is pleasing to note that the qualitative analyses and participant narratives have provided a differentiated dynamic of mentorship, emphasising the innate value of the scheme. Extrapolation of these findings is however limited and restricted to the scheme sample.

It is important to investigate further the dynamics of the MUSCLE scheme across different study modes and ascertain how the scheme could be used to support part-time students with their study. There is a need for a longitudinal study to fully investigate the motivational antecedents that drive student success on the scheme. Academically stronger students are more likely to enrol on the scheme to maintain and develop their academic profiles. Further research would do well to consider specific interactional variables such as measures and maintenance of success for students on the scheme (Downing et al., 2007).

Mentorship is a reciprocal process, one that encourages interaction and reflection on many levels. Despite the difficulties and limitations of the study, the MUSCLE mentorship scheme has provided an insight into how learning can be shaped to engage the learner with the learning.

References

Abraham, A. and Collins, D. (1998) 'Examining and Extending Research in Coach Development', *Quest,* 50(1), 59-79.

Biggs, J. B., Tang, C. and Society for Research into Higher, E. (2007) *Teaching for quality learning at university : what the student does,* Maidenhead: McGraw-Hill.

Boud, D. (1995) *Enhancing learning through self assessment,* London; Philadelphia: Kogan Page.

Cranton, P. (1994) *Understanding and promoting transformative learning : a guide for educators of adults, The Jossey-Bass higher and adult education series,* San Francisco: Jossey-Bass.

Downing, K., Ho, R., Shin, K., Vrijmoed, L. and Wong, E. (2007) 'Metacognitive Development and Moving Away', *Educational Studies,* 33(1), 1-13.

Edgerton, R. and Pew Charitable, T. (1997) *Higher education white paper,* [Philadelphia, Pa.]: Pew Charitable Trusts.

Freeman, M. (1995) 'Peer Assessment by Groups of Group Work', *Assessment & Evaluation in Higher Education,* 20(3), 289-300.

Goleman, D. (2006) *Social intelligence : the new science of human relationships,* New York: Bantam Books.

Nash, C. (2003) 'Development of a Mentoring System within Coaching Practice', *Journal of Hospitality, Leisure, Sport and Tourism Education,* 2(2), 39-47.

Stefani, L. A. J. (1994) 'Peer, self and tutor assessment: Relative reliabilities', *Studies in Higher Education,* 19(1), 69-75.