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**GROUP WORK-BASED LEARNING WITHIN HIGHER EDUCATION:
AN INTEGRAL INGREDIENT FOR THE PERSONAL AND SOCIAL
DEVELOPMENT OF STUDENTS**

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Abstract

The paper puts forward a case for broadening the curriculum within Higher Education to incorporate and encourage Group Work-Based Learning (GWBL) experiences for students. Two case studies are described within two universities in terms of organising, monitoring, and assessing group-based work. It is argued that being a part of a 'consultancy team' and responding to 'real clients' enables students not only to enhance their skills base but also provides them with opportunities for personal and social development both within and outside the world of work. The debate centres upon the concept that Work-Based Learning (WBL) should be more than just 'economistic' in the way that emphasis is placed primarily on 'training for employment'. This central tenet of government policy is considered to be a necessary but not a sufficient condition for providing for Group Work-Based Learning experiences for students. The concept of 'social capital' is explained in terms of how group participation can bring about moral, cognitive and social benefits to its members and to the wider community.

Introduction

Boud et. al. (2001) remind us that 'Higher education is in the midst of an unprecedented era of change' not only because of government keenness to reduce public expenditure but also because there 'looms a crisis in the nature of the knowledge for which universities previously stood' (p.3). Economic and social demands are exerting pressures on existing pedagogic practices and are providing new challenges. Symes and McIntyre (2000) concur with this by describing the emergence of new modes of production that require 'flexible specialisation' and a dependence on continuous innovation. Such changes influence the curriculum in HE which '...stresses a student-centred style of education that is individualized and flexible, and is designed to enhance the individual's opportunities for employment' (p.2).

There is an increasing need to create new learning opportunities between universities and work organisations of which Group Work-Based learning (GWBL) is one of them. Context-specific learning places emphasis on 'learning by doing' as opposed to generic learning which is based upon knowledge that is formulated and textualised within traditional HE programmes of study. Symes and McIntyre (2000,p.3) refer to work-based experiences as 'working knowledge' whereby 'knowledge can be put to work' in getting the job done.

This paper examines the importance of 'working knowledge' in relation to GWBL, which can be regarded as a sub-set of Work-Based Learning. GWBL involves having a team of students who are presented with a project brief and are required to plan for, organise, and deliver certain outcomes as agreed with the client organisation. The students act as 'consultants' such that they visit the client's premises as and when required whilst balancing the demands of other course requirements. The two case studies described here highlight the importance of GWBL especially in relation to the personal and social development of students.

Policy Background

WBL – through General and National Vocational Qualifications (G/NVQs), BTEC programmes, apprenticeships and sandwich degrees - has always been a feature of education and training at secondary and tertiary levels of the UK system though, arguably, it has never been accorded the prominence it now has in government policy. High quality 'work-based training is at the heart of the Government's 14-19 agenda' (DfES,2001,p.2) and is also central to many new policy developments such

as vocational GCSEs, Foundation Degrees, reconstructed Modern Apprenticeships and Graduate Apprenticeships (LSC,2001a). Within the broad framework of contemporary lifelong learning policy, Higher Education Institutions (HEIs) are being asked to build 'bridges between the campus and employers' to achieve the 'ambitious goal of vocational excellence for all' (DfEE,2001,p.9-10).

WBL – described by Boud & Symes (2000) as 'an idea whose time has come' and an 'acknowledgement that work...is imbued with learning opportunities'(pp.14-15) – has emerged as one of the key features of education and training reforms as systems respond to the demands of global competition and the knowledge economy. Its basic characteristics are derived from a number of sources connected with the learning organisation, the integration of theory and practice in workplace knowledge and skills, and the need to respond to the challenges of knowledge creation in the light of the information technology revolution and global economic developments. As Marsick & Watkins (2002) put it, the 'rapidly changing world in which we have been living is giving birth to a host of new ways of understanding work, jobs, organisations, technology and change' (p.34). The basic theoretical premiss is that 'the workplace is a crucially important site for learning and for access to learning' (Evans, Hodgkinson & Unwin, 2002, p.1).

Of course, there are 'dark sides to these developments' (Symes & McIntrye, 2000,p.4) for students, teachers, employees and employers, not least of which is the 'vocationalisation of everyday life' (Avis et.al.,1996,p.165) with its resultant technicist instrumentalism which can marginalise important values concerned with community and social justice (Hyland,1999). Thus, although clear links are made in current lifelong learning policies between economic prosperity and social inclusion (Hyland,2002), the concept of economic capital always takes pride of place, and there is a real danger that the important 'social capital' (Schuller & Field,1999) objectives may be neglected in the drive for economic competitiveness. Thus, the arrangements for WBL need to take account of this concept of social capital – broadly understood as being 'constituted through the social relationships that people have with each other through the collective knowledge of a group, and the moral, cognitive and social supervision that the group exercises over its members' (Winch,2000,p.5) – particularly in the organisation, management and support of WBL across formal and informal learning settings.

Work-Based Learning : Conceptions and Perspectives

In the comprehensive study by Levy et.al. (1989,p.4), WBL was understood to mean 'linking learning to the work role' which was identified in terms of three interrelated components:

- 1) structuring learning in the workplace;
- 2) providing appropriate on-job training/learning opportunities;
- 3) identifying and providing relevant off-job learning opportunities

A similar project undertaken by the University of Leeds (1996) further refined and classified WBL in terms of task-related, problem-based, learner-managed, team-based and innovation-centred projects, and most HE-linked schemes have been characterised by a combination of these factors.

Further perspectives are provided in the study by Seagraves et.al. (1996) in their distinctions between learning *for* work (general vocational education), learning *at* work (in-house education and training) and learning *through* work (the application of job-related knowledge and skills to tasks and processes). As Brennan & Little (1996) suggest, in 'higher education terms, learning *for* work may well include elements of learning *at* work and learning *through* work' (p.5), all of which are included in 'policies that have fostered more 'realistic' forms of university curricula designed to meet the needs of the changing workforce' and the 'fulfilment of career aspiration' (Boud & Symes,2000,p.15) for HE students. In examining these perspectives, Barnett (2002) reminds us that – although 'work and learning are not synonymous' – the 'two concepts overlap' since:

Work can and should offer learning opportunities; much learning is demanding, calling on the learner to yield to certain standards, and contains the character of work...the challenge here is that of bringing about the greatest overlap between work and learning (p.19).

Learning, Work and Knowledge: Social Learning and Communities of Practice

General empirical research on the ways in which people acquire knowledge, skills and values in new settings – especially in workplaces in which learners are often seeking admission to communities of practice and culture – have confirmed the importance of social as opposed to individualistic learning, even in the sphere of

information technology in which solitary learning seems to predominate (Guile & Hayton,1999). The development of vocational knowledge and skill in particular requires attention – not just to intellectual capacities and disciplines – but to the ‘social and cultural context in which cognitive activity occurs’ (Billett,1996,p.150). Drawing on the ‘activity theory’ of psychologists such as Vygotsky and Luria, a conception of ‘work as practical action’ (Jackson,1993,p.171) developed in the 1980s, and the new perspectives have been utilised extensively in recent years as a means of identifying the key features of meaningful learning in different social contexts.

Wenger (2002) outlines clearly the basic position in the observation that:

Since the beginning of history, human beings have formed communities that share cultural practices reflecting their collective learning: from a tribe round a cave fire, to a medieval guild...to a community of engineers... Participating in these ‘communities of practice’ is essential to our learning (p.163).

What Lave & Wenger (2002) call ‘legitimate peripheral participation’ concerns the ways in which newcomers – and, interestingly, workplace learning is cited as a paradigm case here – come to acquire the knowledge, culture and values which help them to move from being outsiders to insiders. We are reminded that ‘newcomers participate in a community of practitioners as well as in productive activity’ and that it is important to view ‘learning as part of a social practice’ (pp.121-2).

There is now a substantial body of work on WBL schemes within HE programmes (Brennan & Little,1996), and all the reports stress the importance of connecting formal and informal learning settings and actively monitoring and supporting learning across different domains. The key role of group work (Saunders,1995) and the social context of learning – as in the lifelong learning insistence that learning is ‘inescapably a social creation’ (Ranson,1998,p.20) – is also emphasised in the research, and the value of teamwork (Engestrom,1996) and ‘collective intelligence’ (Brown & Lauder,1995,p.28) has been identified as crucial to the development of learning organisations of all kinds. WBL projects in HE need to take note of these lessons about the important social context of learning, especially if they are seeking to achieve ‘social capital’ aims in addition to the more economic objectives in this sphere.

Group Work-Based Learning in HE: Two Case Studies

The two case studies described here are based within the Information Systems departments within two leading universities. Case A relates to the way group project work is organised in an established university in the North West of England: Case B relates to group project work within a new university in the North East.

Although both case studies describe Group Work-Based Learning (GWBL) at undergraduate level within Information Systems departments, the research findings can be applied more broadly to other curriculum areas. Typical projects that students undertake are: developing databases, establishing a web presence for businesses; carrying out market research and developing a marketing plan; information requirements analysis; conducting a survey to decide on an appropriate staff appraisal scheme; and developing and implementing an IT training programme. It can be seen from the list, that projects do not exclusively relate to IS specialisms and, in this respect, can be undertaken by students on other courses.

For both universities, group project work is a compulsory component of the undergraduate programme. It provides the means by which project skills and core competencies can be assessed in terms of: problem solving in real work environments; management skills; working with others; communicating; meeting deadlines; and so on. Students come from a variety of social backgrounds, countries and cultures. The age of students can range from late teens to early sixties, with an increasing number of mature students coming back to study. This 'amalgam' of people (and their particular experiences, skills and personalities) makes each project unique by the way in which it is organised and the processes undertaken to achieve certain outcomes.

The project work in the two universities has certain common attributes; for example, there is no requirement for students to work full time on the client's premises. The students' role is to act as 'consultants' and therefore to make contact with their clients as and when necessary. Communication with the client can be by email, telephone, fax, video-conferencing or face-to-face. The various teams meet regularly each week in order to plan ahead, review progress and to delegate work; each student has to balance the demands of project work with the rest of their studies.

Another characteristic is the regular weekly meetings with the project tutor. This provides an opportunity for the tutor to assess group progress, to give advice, and to 'sort out problems' such as disagreements between peer members. The role of the tutor is that of a facilitator and, therefore, acts in an advisory capacity. It is up to each group to organise themselves in terms of responsibilities (leader and sub-team leaders) and task delegation. Training is often an important feature within the group as students pass on knowledge and skills to other members. This is especially so with regard to technical aspects; it may also occur informally through the giving of advice on matters such as report writing and oral presentations.

The assessment at both universities is also similar. This is comprised of group 'deliverables' (oral presentation/s and consultancy reports to project tutors and clients) and an individual component based on personal diaries. This individual assessment gives students an opportunity to reflect on project processes in terms of what they have learnt, contributions made, and how well they have worked with fellow team members. Peer assessment is a fundamental part of the assessment procedure. At the end of an assessment period, each member is asked to reflect on individuals' performances and to rate themselves and other group members by giving a score out of 10. Once this has been completed, the group mark given for the consultancy report can then be apportioned amongst the members. In this way, those students that are perceived to have put less effort into the project (lower than average peer assessment mark) will get a lower mark than the one given for the group report, whereas any student who is perceived to have worked harder than his/her peers will gain a higher mark.

Many of the client organisations are Small and Medium Sized Enterprises (SMEs) where managers seldom have the extra time or money to devote to improving organisational effectiveness by themselves, thus providing an opportunity for students, by acting as 'consultants', to do a worthwhile job on their behalf. In most cases, the clients are pleased with the project results and often congratulate the students for their achievements. Although clients are more concerned with outcomes, the GWBL environment at the two universities are geared to processes as well as outcomes. In this respect, assessment must include both group and individual performance throughout the life-time of the project.

The final deliverable may well reflect the hard work and efforts put in by the team; however, sometimes the outcomes may be unexpected or unachievable within the

time frame allowed. For example, one of the tasks given to a group of students by a government office was to make recommendations with regard to the introduction of a new telephone system. The students could not make suitable recommendations because, unbeknown to them at the beginning of the project, the proposed system was not going to take place until 5 year's time and, therefore, the vendors were not prepared to take the project seriously and refused to give costings. In these circumstances (and unlike consultancy in the 'real' world), the processes that were gone through in trying to reach a solution must take on a greater significance when assessing students than the outcome itself. Sometimes projects (or aspects of projects) will have to be abandoned because they are not 'do-able', either because they have not been properly conceived by the client or because they are not achievable in the time available.

Having looked at the commonalities between Case A and B; let us now examine the differences. The main distinction between the two universities is that project work in Case A was regarded as a fundamental part of the degree programme from the outset of the course in the mid 1980s. A large open plan office was designed and built which included designated areas, equipped with networked computing facilities, where project teams could meet. Students have their own 'space' for the whole of the academic year and work there as and when they wish without the fear of being moved out by timetabled events. In contrast, the students in Case B do not have a purpose built room and are restricted in terms of where and when they can meet up.

As a consequence of having a purpose built, open planned office, it was possible to design the degree programme in a unique way. Project work became a fundamental part of the whole degree programme as each team is constituted of students from each of the three academic years. This distinct feature enables students to 'cascade' knowledge, skills and values down through the years. For example, second and third years can pass on specific skills and understandings to the new undergraduates; these, in turn, will be able to share their experiences with next year's intake. Further, the constitution of the project team is such that members from all three years are able to share their own specific competencies and skills with each other. However, one disadvantage is that the teams are often too large. Typically, groups can be sixteen or more up to Christmas, after which the third years leave to write up their dissertations.

In comparison, the university in Case B organises its project work just for the second year of the degree programme, thus preventing this cascading process from taking place. Learning from one another is, therefore, largely limited to specific skills and experiences brought from outside the university environment. Although project tutors in both universities provide an introduction to the course, the curriculum design in Case B makes it more difficult for students to be initiated into the exigencies of GWBL. Notwithstanding this, the group sizes in Case B are much more manageable than Case A, as each group is comprised of 4 to 6 students. This often enables better communication between group members and provides more opportunities for effective team work.

The period of time given to the projects and the way that tutors are allocated are also significant. For Case B, there is less time to come up with solutions for client organisations, as students are only timetabled for one semester; whereas for Case A, they are timetabled for the whole academic year. This means that the students are given twice as much time to deliver solutions; however, it is possible for some projects to be too 'thin', thus providing insufficient work for the whole academic year. In contrast, what can happen for students in Case B is that they are not given sufficient time to complete all aspects of the project as initially given in the project brief, and therefore the project has to be re-scoped. This problem of trying to define the scope of a particular project is always a difficult one to determine when agreeing to take on a project prior to the commencement of the course.

For both universities, tutors meet with groups at least once a week. For Case B, the same tutors (usually two) are timetabled to see all groups within a timetabled slot; whereas for Case A, each team is allocated different tutors and there is more flexibility as to when they meet up. The upshot is that tutors in Case A have more time to understand the intricacies and peculiarities associated with one project and one group of students compared with many projects and many groups in Case B. Further, they are also the personal tutors of the same students and, therefore, are more likely to understand the group dynamics of their team.

Personal and Social Development

Notwithstanding the differences of the two case studies (and allowing for the great amount of commonality), they both demonstrate that students can achieve skills and employability goals by participating in GWBL activities. There is no doubt that, by

giving students learning opportunities with organisations, their career prospects are enhanced by being able to transfer specific skills and knowledge to other work environments. In this respect, GWBL can be said to concur with government policy by providing 'training for employment'. However, it is argued that, by concentrating solely on the 'economistic' aspects of Work-Based Learning, there is a danger of undervaluing the personal and social development of individuals within these groups. Emerging lifelong learning policy – in the form of emphasis on citizenship (QCA,2002) and on the social inclusion and community-wide aspects of work and employment (DfES,2002) – is now beginning to acknowledge the vital importance of social as well as economic capital, and GWBL has a key role to play in future 'learning partnerships' (LSC,2001b,p.17) in the post-compulsory education and training sector.

GWBL can therefore be shown as providing an important social context for learning. By placing emphasis on process rather than just outcomes in Case A and B, there are more opportunities for self-development within a social environment. Students, particularly at the start of project work, are often anxious even stressed about what is expected of them because, as Boud (2001,p.39) explains '...in work-based learning most situations are unknown.' However, as the project progresses, students are more likely to gain confidence as they become more familiar with the project and members of their project team. This self-development is expressed in their personal dairies and can often be observed by tutors in terms of higher levels of member enthusiasm and contribution. The subsequent development of collaborative networks accords well with similar Australian research (Kilpatrick et.al.,1999) which demonstrates the importance of group learning in building social capital through links between small businesses and the communities they serve.

Self-development within project groups also aligns with the concept of a deep approach to student learning (Marton,1975) whereby students take on an active role and 'feel themselves as agents of learning' (p.137). This can be contrasted with a surface approach to learning, which is passive and often associated with traditional teaching, where more emphasis is placed on memory skills such as describing, quoting, repeating and making the correct response. Deep learning, therefore, can be considered to be synonymous with GWBL in that project work provides the basis for independent learning, personal development, problem-based learning, reflection, and learning by doing within a group setting.

In defining the characteristics of work-based learning, Sangster and Marshall (2000) explain how:

...practice and theory merge and support each other....This allows new insights to emerge from the ongoing learning cycle of *theory – experience – reflection – theory* ensuring that the development of any new theory will be truly 'grounded' (p.52).

Knowledge within project work is therefore 'grounded' in the process, and it is through the process of experiential (deep) learning that brings about self-development and personal growth.

As well as personal learning, the concept of 'social capital' also emphasises the social development of group members. Over the span of the project, tutors at both universities become aware of marked changes in attitudes and social responsiveness towards one another. Students, who may be indifferent at the beginning of the project, often form close bonds of friendship that carries them beyond the realms of the GWBL experience. Thus, project work takes on a moral dimension by the way values are shared, and by the way individuals support one another in 'getting the job done'. Having said this, human nature is such that certain individuals may not wish to co-operate with others. In these cases (which reflect 'real life' work groups), individuals may beg to differ but still work as a team. In extreme cases, the tutor may have to intervene and low scores may be given for peer assessment.

Conclusion

The two case studies have been instrumental in highlighting the importance of GWBL especially in relation to the personal and social development of students. In this respect, the principal findings connect with what is known about the important social context of all learning and also with the crucial role that an attention to process plays in enhancing deep learning. Most significant of all – in the light of emerging emphases on the social impact and wider benefits of lifelong learning – is the valuable contribution which group and team learning makes to the fostering of that social capital which, as Australian researchers in this field noted, consists in 'shared language, shared experiences, trust, self-development and fostering an identification with the community' (Kilpatrick et. al.,1999,p.143).

References

- AVIS, J., BLOOMER, M., ESLAND, G., GLEESON, D. & HODKINSON, P.(1996) *Knowledge and Nationhood: Education, Politics and Work* (London, Cassell)
- BARNETT, R.(2002) Learning to work and working to learn; in REEVE, F., CARTWRIGHT, M. & EDWARDS, R.(eds)(2002); op.cit.
- BILLET, S.(1996) Constructing Vocational Knowledge: history, communities and ontology; *Journal of Vocational Education and Training*, 48(2), pp.141-154
- BOUD, D. & SYMES, C.(2000) Learning for Real: Work-Based Education in Universities; in SYMES, C. & McINTYRE, J.(eds)(2000); op.cit.
- BOUD, D. (2001) Knowledge at Work: Issues of Learning; in BOUD, D. & SOLOMON, N. (eds) (2001) *Work-based Learning: A New Higher Education?* (Buckingham, SRHE and Open University Press)
- BOUD, D., SOLOMON, N. & SYMES, C. (2001) New Practices for New Times; in BOUD, D. & Solomon, N. (eds) (2001); op.cit.
- BRENNAN, J. & LITTLE, B.(1996) *A Review of Work Based Learning in Higher Education* (London, Department for Education and Employment)
- BROWN, P. & LAUDER, H.(1995) Post-Fordist Possibilities; education, training and national development; in BASH, L. & GREEN, A.(eds)(1995) *Youth, Education and Work* (London, Kogan Page)
- DfEE (2001) *Opportunity and Skills in the Knowledge-Driven Economy* (London, Department for Education and Employment)
- DfES (2001) *Morris, Brown and Hewitt announce new plans for Modern Apprenticeships* (London, Department for Education and Skills)
- DfES (2002) *Choice and Excellence: A Vision for Post-14 Education* (London, Department for Education and Skills)
- EVANS, K., HODKINSON, P. & UNWIN, L.(eds)(2002) *Working to Learn: transforming learning in the workplace* (London, Kogan Page)
- GUILE, D. & HAYTON, A.(1999) Information and Learning Technology: The Implications for Teaching and Learning in Further Education; in GREEN, A. & LUCAS, N.(eds)(1999) *FE and Lifelong Learning* (London, London Institute of Education)
- HAGER, P.(2000) Knowledge that Works; in SYMES, C. & McINTYRE, J.(eds)(2000); op.cit.
- HYLAND, T.(1999) *Vocational Studies, Lifelong Learning and Social Values* (Aldershot, Ashgate)
- HYLAND, T.(2002) Third Way Values and Post-School Education Policy; *Journal of Education Policy*, 17, (2), pp.245-258

JACKSON, N.S.(1993) Rethinking Vocational Learning; in COULTER, R.P. & GOODSON, I.F.(eds) (1993) *Rethinking Vocationalism: whose work/life is it?* (Toronto, Canada, Our Schools/Our Selves Education Foundation)

KILPATRICK, S., BELL, R. & FALK, I.(1999) The Role of Group Learning in Building Social Capital; *Journal of Vocational Education and Training*, 51(1),pp.129-144

LAVE, J. & WENGER, E.(2002) Legitimate peripheral participation in communities of practice; in REEVE, F., CARTWRIGHT, M. & EDWARDS, R.(eds)(2002); op.cit.

LEVY, M., OATES, T., HUNT, M. & DOBSON, F.(1989) *A Guide to WBL terms: definitions and commentary on terms for WBL in vocational education and training* (Bristol, FE Staff College)

LSC (2001a) *LSC to lead on Modern Apprenticeships* (Coventry, Learning + Skills Council)

LSC (2001b) *Learning and Skills Council – Strategic Framework to 2004* (Coventry, Learning + Skills Council)

MARSICK, V.J. & WATKINS, K.E.(2002) Envisioning new organisations for learning; in REEVE, F., CARTWRIGHT, M. & EDWARDS, R.(eds)(2002); op.cit.

MARTON, F. (1975) What does it take to learn?; in ENTWISTLE, N. & HOUNSELL, D. (eds) (1975) *How Students Learn*. (Lancaster, Institute for Research and Development in Post Compulsory Education)

QCA (2002) *Citizenship Post-16* (London, Qualifications and Curriculum Authority)

RANSON, S.(ed)(1998) *Inside the Learning Society* (London, Cassell)

REEVE, F., CARTWRIGHT, M. & EDWARDS, R.(eds)(2002) *Supporting Lifelong Learning –Volume 2: organizing learning* (London, Routledge-Falmer/Open University)

SANGSTER, A. & MARSHALL, S. (2000) Translating Theory into Practice: Facilitating Work-Based Learning through IT; *Innovations in Education and Training International*, 37(1), pp.50-58

SAUNDERS, M.(1995) The Integrative Principle: Higher Education and Work-Based Learning in the UK; *European Journal of Education*, 30(2),pp.203-216

SCHULLER, T. & FIELD, J.(1999): Social Capital, Human Capital and the Learning Society; *International Journal of Lifelong Education*, 17(4),pp.226-235

SEAGRAVES, L., et.al.(1996) *Learning in Smaller Companies* (University of Stirling, Education Policy and Development)

SYMES, C. & McINTYRE, J. (eds) (2000) *Working Knowledge: The New Vocationalism and Higher Education?* (Buckingham, SRHE and Open University Press)

UNIVERSITY OF LEEDS (1996) *Work Based Learning Project Final Report* (University of Leeds, School of Education)

WENGER, E.(2002) Communities of practice and social learning systems; in REEVE, F., CARTWRIGHT, M. & EDWARDS, R.(eds)(2002); op.cit.

WINCH, C.(2000) *Education, Work and Social Capital* (London, Routledge)

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