# SUPPORTING GENERIC SKILL DEVELOPMENT: REFLECTIONS ON PROVIDING PROFESSIONAL DEVELOPMENT FOR ACADEMIC STAFF

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### **ABSTRACT**

Graduates need generic skills for work and for life. Research shows that these skills are best developed in the context of subject learning. We describe the different approaches used to provide support for staff in a business school to integrate generic skills into their subjects, discuss outcomes, and share lessons learned.

# **BACKGROUND**

Employers and professional groups want graduates who possess generic skills that enable them to meet the needs of the changing workplace, and to continue learning throughout life (ACNielsen, 1998; NBEET, 1992; Australian Association of Graduate Employers, 1993; Business/Higher Education Round Table, 1992; Harvey, 1993a, 1993b; Institute of Chartered Accountants in Australia, 1994; The Association of Graduate Recruiters, 1995). Graduates themselves indicate that they too would like to leave university with such skills (Johnson, 1998).

Generic skills, despite their recognised importance, have rarely been explicitly taught as part of the undergraduate curriculum. Traditionally, most curricula have focused more on the content of the discipline than on generic skill development (Business/Higher Education Round Table, 1992; Rosenman, 1996). As a result, many graduates, regardless of discipline, report that their undergraduate study did not improve their generic skills. For example, data from the Generic Skills scale of the Course Experience Questionnaire (CEQ) shows that for problem solving, writing, and team work, only 67%, 68% and 46% of the almost 58,000 graduates, respectively, agreed or strongly agreed that these skills had been developed during their undergraduate study (Johnson, 1998). When generic skills have been taught, they have usually been presented in stand-alone courses that are often out of context and seen as add-on and 'remedial' by students and staff. Therefore, they have had limited impact on skill development (Hattie et al., 1996; Hadwin & Winne, 1996).

Research shows that students are most likely to develop generic skills when skill development is supported by the discipline teacher in the context of subject learning (Hattie et al., 1996). Since learning

is situated and socially constructed (Brown et al., 1988), the development of generic skills should be integrated into the curriculum rather than isolated in stand-alone courses. This approach to skill development requires changes to curriculum materials, and teaching, learning and assessment strategies. In order to bring about these changes, academic staff need to engage in professional development activities which focus on both their approach to teaching and their teaching and learning strategies (Zuber-Skerritt, 1992).

# GOOD PRACTICE IN PROFESSIONAL DEVELOPMENT

Literature on professional development suggests that activities should assist staff to change their beliefs and values about teaching and learning, as well as to revise their curricula, and teaching and assessment practices, in line with good practice. Support should acknowledge current efforts of staff and build on these (Martin, 1999), and recognise the different needs and preferences of staff, including disciplinary differences in goals and teaching approaches to and (Braxton, 1995; de la Harpe et al., 1999). Professional development should also help staff to develop self-awareness and the necessary skills to reflect on and improve teaching and learning practices in the context of their disciplines (Angelo, 1994). Austin (1998) points out that, "...staff development...should support exploration of new ideas concerning academic work and teaching and learning processes, should involve exchange of ideas, and should encourage and nurture links among colleagues within and across departments" (p 1).

Furthermore, professional development is best if it is in line with intrinsic staff motivation to improve teaching and learning, meets immediate and specific needs, is linked to and focuses on research on teaching and learning, is long-term and ongoing,

and uses multiple approaches. Support may take the form of one-on-one assistance, discussion groups (within and across disciplines), seminars and workshops, staff meetings, 'share fairs', action research project groups, peer observations, special interest groups, web-based discussion groups, excellence in teaching programs, self-appraisal, curriculum development, the provision of a variety of instructional resources, and discipline-based research into teaching and learning (Austin, 1998; Cross & Steadman, 1996; Zuber-Skerritt, 1992).

According to Zuber-Skerritt (1992), the most effective approach to professional development is to involve staff in curriculum development and evaluation. She notes that "[i]f staff are continuously involved in curriculum development and justifications for their actions, they are unconsciously, almost incidentally and indirectly engaged in professional development as teachers in the widest sense" (p 197). Moreover, professional development in the form of discipline-based research into teaching and learning is another effective approach because such research activities reflective practice, contribute support understanding of teaching and learning in the context of the discipline, strengthen the nexus between teaching, learning and research, and lead to rewards associated with research which are highly valued in higher education.

Finally, according to Kember (1998) professional development should focus on helping staff "...to think of themselves as teachers as well as specialists in their discipline area...The message is that an academic needs to be a discipline expert and a teacher" (p 23). This view is supported by Speck (1998) who states that "[c]learly, one of the most pressing needs in higher education is the linking of training in teaching effectiveness with expertise in an academic discipline" (pp 25-26). Staff may need help to develop such knowledge and skills since, as Sutherland (1996) points out,

"[t]hey have spent their professional lives developing skill and confidence in their abilities as chemists, sociologists, rhetoricians, and art historians. Their training and focus has been on content, and few have been supervised or mentored in teaching and evaluating students" (p 91).

Moreover, as McKeachie et al. (1986) note, staff may often teach "...routinely, without attention to the ways by which the students' skills can be developed and without conscious awareness that different strategies may be appropriate for different situations" (p 1).

Whatever the approach to professional development adopted, it is important to address the conceptions of teaching which staff hold since these influence the approach to teaching and the teaching and learning strategies used (Kember, 1998; Prosser & Trigwell 1999). For skill development specifically, conceptions of teaching which reflect a studentcentred and process-focused constructivist model of teaching and learning are essential (Boulton-Lewis, 1998; Kember, 1998). However, many staff may not hold such conceptions, and changing their conceptions is not always an easy task (Gallagher, 1994; Kember, 1998; Pajares, 1992; Trigwell & Prosser, 1996) and is especially difficult when traditional practices and 'deep-seated' beliefs are involved (Kember, 1998, p 22). As Knight (1996) points out,

"...persuading academic staff to use any set of learning, assessment and teaching strategies will be difficult where they hold views of their jobs as teachers that do not allow them to see the point of those strategies...unless there is some attempt to move these notions from transmittive to...transformative conceptions, there is limited value in making colleagues aware of the range of assessment, learning and teaching techniques that might be employed in their work" (pp 10-11).

Concerns about academic freedom and feelings of pride and insecurity (Speck, 1998) may make any changes to conceptions difficult. Thus, professional development that addresses such concerns is more likely to work. In addition, it needs to be multifaceted and ongoing since changes to conceptions are unlikely to occur through one-off and *ad hoc* attendance at seminars (Trigwell & Prosser, 1996).

In addition, support from staff in leadership positions is essential if professional development is to be effective (Martin & Ramsden, 1994; Zuber-Skerritt, 1992). The role of staff in leadership positions is to recognise publicly the importance and value of professional development, provide incentives and rewards for staff who participate in development activities, allocate resources to professional development, and model good practice by undertaking professional development themselves (Ramsden, 1998).

In this paper, we describe, in the context of a business school project, how, in line with good practice in professional development, we provided support for academic staff to integrate generic skills into their units, discuss outcomes of the different approaches we used, reflect on what worked, and

share lessons we have learned about providing support for the development of generic skills.

### THE PROJECT

The Curtin Business School (CBS) is currently implementing the Professional Skills Project (CBS Professional Skills Task Force, 1999) aimed at integrating generic skills into the curricula of its 23 undergraduate majors in the Schools of Accounting. Business Law. Economics and Finance, Information Systems, Management and Marketing. CBS has over 8,500 undergraduate students enrolled on and off shore, and approximately 205 full-time academic staff and large numbers of sessional and part time staff. In order to achieve changes in curriculum, teaching, and assessment, the Project was designed to include significant investment in professional development of staff.

In 1998, a task force, consisting of academic staff from each of the schools, from the Centre for Educational Advancement (CEA), and from the Library and Information Services (LIS), and student and employer representatives, identified a set of generic (professional) skills relevant to business graduates. The skills identified Communication (divided into three components. Writing, Presenting, and Speaking Out), Computer Literacy, Information Literacy, Team Working and Decision Making. A definition of each skill was developed and the term 'professional' rather than 'generic' skill was adopted. In line with good practice in professional development previously outlined, the task force used a bottom-up approach to change, encouraged ownership and collegiality, and recognised disciplinary differences in skill selection and development.

Integration of skills into units began in first semester, 1999 with first year units and will, over time, include units in second and third years. Unit coordinators were given time release to work on their units. They were asked to select from the set of skills those they considered most appropriate to their discipline, and to integrate them into their units through changes to curriculum materials, teaching and learning activities, and assessment tasks. There was a requirement, in line with Biggs (1996), that the learning objectives, teaching activities, and assessment tasks be aligned.

Staff were required to modify their Unit Outlines, to include:

 learning objectives for each skill as well as learning objectives for the discipline content;

- a program for the semester showing where each skill will be taught and assessed:
- marking guides showing assessment criteria and allocation of marks for both the skill and content components of the task and:
- an icon for each skill placed next to the objective, teaching and learning activities, and assessment tasks.

As previously discussed, this emphasis on curriculum development has been shown to be a powerful way to encourage staff to engage in professional development to improve teaching and learning.

#### STAFF SUPPORT

Support for staff to integrate skills into their units through changes to curricula, and teaching and assessment practices was provided as part of the Project. In line with good practice in professional development previously outlined, support aimed to help staff to reflect on their conceptions of teaching and on student learning, to introduce innovative ways to develop skills, to monitor teaching and learning outcomes, and to document disseminate their experiences. Every effort was made to include Heads of School in activities as both champions of the project and as participants. In addition, resources were allocated to professional development to provide administrative support, materials development, catering for seminars, time release for a discipline specialist, and an educational consultant's time. Part of the time release given to staff was to allow them to engage in professional development activities.

Support was multifaceted, developmental, and based on principles of reflective practice and collegiality. It included working with staff individually, providing seminars on each skill, contributing to discipline-based meetings, and developing and collating teaching and learning materials.

# Individual support

In order to help staff integrate skills into their units they could meet with either the educational consultant (the first author) or a discipline specialist to discuss which skills to integrate and how to make the necessary changes to curriculum materials, teaching and learning activities, and assessment tasks. Further, if they wished, staff were helped to develop teaching and learning materials such as overhead transparencies, handouts, and assessment guides. They were also helped to develop strategies for obtaining feedback from their students about the development of skills. This approach provided staff

with encouragement and specific strategies to make appropriate changes to their curricula, and an opportunity to discuss their concerns and anxieties about skill integration. Approximately 24 staff were supported in this way. Feedback from these staff suggests that they found this approach helpful in selecting skills and in making the necessary changes to their units.

In order to encourage staff to engage in reflective practice and continuous quality improvement, as well as to strengthen the nexus between teaching, learning, and research, staff were encouraged to undertake systematic monitoring and evaluation of the integration of skills into their units, and to document and disseminate their findings. They could meet with the educational consultant for help research design and methodology, development of assessment instruments, and writing up of findings. It was hoped that, in this way, staff would receive recognition and reward for research on teaching and learning normally associated with discipline research. Six staff requested support for research on skill integration. It appears that at this stage of the project, few staff have engaged in formal monitoring, evaluation, and dissemination activities.

#### Seminar series

Seven 2 hour lunch-time seminars were offered in collaboration with the educational consultant and staff from the CEA and LIS. Seminar topics included the following:

- 1) The role of assessment in promoting skill development.
- 2) Team working: using collaborative strategies to promote learning.
- 3) Speaking out: encouraging active participation in learning.
- 4) Presenting: helping students to develop their presentation skills.
- 5) Writing: helping students to develop their writing skills.
- 6) Decision making: helping students to develop their decision making skills.
- 7) Information literacy: helping students to develop their information literacy skills.

In line with good practice in professional development previously outlined, seminars were learner-centred, based on the principles of action, interaction, and reflection, and provided a safe environment where participants could feel free to share their experiences, feelings, and concerns, to address their conceptions of teaching and learning and to explore new ideas. In addition, the seminars were designed as an integrated series rather than as one-off stand-alone sessions, addressed staff needs in terms of integrating professional skills into units,

modelled good teaching practice, and highlighted relevant research on skill development. The seminar series was widely advertised within CBS and heads of school were invited to attend and asked to encourage their staff to attend.

Attendance at seminars varied from 3 to 17 participants, with the best attended seminars being 3 (Speaking Out: encouraging active participation in learning), 4) (Presenting: helping students to develop their presentation skills), and 7) (Information Literacy: helping students to develop their information literacy skills). A total of 38 staff attended one or more seminars. Of these, 30 were full-time academic staff (including two heads of school) and the rest were part-time, sessional, or administrative staff. Thus, approximately 15% of CBS full-time academic staff attended at least one seminar.

Feedback from participants, gathered at the end of each seminar, was very positive. The kinds of benefits participants mentioned most often are illustrated by the following comments.

- "Meeting colleagues."
- "Talking and comparing with colleagues outside my School."
- "Enhancing teaching ideas."
- "New techniques."
- "Crystallising my ideas."
- "Reflecting on my teaching practice and thinking about what students think and need."

Participants also mentioned the format and style of the sessions, as illustrated by the following comments.

- "Friendly but thought provoking atmosphere."
- "The positive atmosphere."
- "Open discussion on the ways students' skills can be developed."
- "Group discussion."
- "Sharing problems and strategies."
- "Easy to interact."
- "Enthusiasm of the presenters."

# Discipline based meetings

As previously discussed, given the important role which staff in leadership positions play in promoting change, and in order to ensure ownership of changes, heads of school were asked to hold school meetings to discuss the project. Meetings were deliberately held in schools in recognition of the importance of the disciplinary context. Four of

the six heads called meetings at which either the acting executive dean or the project director and the educational consultant discussed the philosophical and educational basis for integration of skills, answered questions, addressed staff concerns, and outlined the kinds of support available to staff to help them integrate skills into their units. These meetings were particularly useful for clarifying the aims of the Project, and identifying and addressing staff concerns and resistance – philosophical and practical – to integrating skills into their units.

# Teaching and learning resources

As previously discussed, staff may see themselves as primarily discipline specialists and may, therefore, believe that they do not have the educational knowledge and skills nor the necessary teaching and learning resources to teach and assess professional skills. Therefore, for each of the skills, teaching and learning resources to help them were collated into a resource file. Resources included handouts, worksheets, checklists, proformas, and assessment guides which staff could adapt for their classes, as well as articles or book chapters about particular skills or about skill development in general. Copies of the files were placed with the project director's assistant.

Staff were encouraged to select materials from the files which they could adapt to suit their students and disciplinary framework. The files were also used in some of the seminars and during individual meetings with staff. Few staff accessed material in the files other than when these were presented during the seminars or at individual meetings. Those staff that did, used them in their units, with checklists and assessment proformas being most often used. It appeared that staff generally found it difficult to see how they could adapt and use materials that were not specifically developed in their discipline. Comments by staff suggested that what they most wanted were ready-made, discipline-specific materials rather than ones which they had to adapt. Articles about particular skills and their development were rarely selected by staff.

In summary, staff support was offered in a number of ways. Each of these was used by some staff some of the time, with none being clearly more popular than any other. However, overall, only a small proportion of CBS staff made use of the support provided. Of these, a few used a number of the supports available. These staff formed a core of interested and enthusiastic teachers who were prepared to invest time and effort into integrating skills into their units. Thus, our experience so far suggests that most staff did not see the need to engage in professional development focused on teaching in general, and skill development in particular. Nevertheless, we are encouraged by the

fact that, over time, there has been a gradual increase in interest in integrating skills – largely through word of mouth, better understanding of what the project aims to achieve and building of trust between participants. In particular, it appears that heads of school may have become more supportive of the project.

# LESSONS LEARNED

We have learned a number of lessons so far about providing professional development support in the context of a project aimed at integrating skills across the disciplines. On reflecting on our experiences and in the light of good practice in professional development previously outlined, we now believe that effective leadership, appropriate incentives, adequate time for changing conceptions of teaching, and multiple approaches to providing support are essential for professional development to be successful.

In terms of leadership, the institution needs to adopt a model in which professional development is valued and expected as an integral component of staff work. It is important that staff in leadership positions publicly support programs which aim to enhance teaching and learning. Heads need to encourage staff to take responsibility for their own ongoing professional development, and to support the development of their colleagues, including tutors and part-time and sessional staff. They need to convince staff that part of their role as teachers is ensuring that graduates develop necessary skills. They also need to overcome staff resistance illustrated in the following comments.

"I shouldn't have to teach this – it should be taught in a specific skills unit."

"If we had well prepared students in the first place, there would be no need to teach these skills."

As part of performance management at all levels, expectations and consequences – both positive and negative – for achieving goals are needed, as well as systematic monitoring and evaluation of changes in teaching and learning, and dissemination of findings. Only then are staff likely to take seriously the need for ongoing professional development and use the support provided to help them integrate skills into their units, and develop as reflective practitioners.

In terms of incentives, staff who engage in professional development need to be recognised and rewarded, as the following comment from a participant at one of the seminars reinforces.

"What rewards do the participants get for being involved? If it is only to be blessed in heaven – then not many others will turn up!"

The incentives offered to staff to engage in ongoing professional development need to be appropriate and able to compete with rewards available to them for activities such as research, consultancy work, off-shore teaching, or external marking, etc.

In terms of conceptions, professional development activities aimed at making staff aware of their current conceptions and, where necessary, assisting them to change these to more appropriate ones, are needed. However, as already discussed, changing conceptions is very difficult, requires time and effort, and may be associated with negative feelings and cognitive conflict which may result in comments such as the following.

"I don't know how to teach this. I'm an expert in X and can't be expected to teach anything else."

Moreover, a realistic timetable for change needs to be set since many staff may need to shift fundamentally their conceptions, attitudes, and approaches to teaching and learning and enhance their teaching strategies. Thus, time is needed for staff to engage in debate and discussion, to reflect on implications, to develop new ways of teaching and learning or to modify existing practices, to try these out, to evaluate outcomes, to make further changes, to share these with others, and to repeat this cycle.

In terms of the approach to professional development, it is important that any support offered is seen by staff as relevant, useful, and likely to lead to positive teaching and learning outcomes. Further, staff preferences should be taken into account, and support offered using a range of approaches.

In summary, integration of skills into a whole course requires strong leadership by senior staff, and commitment and motivation by teaching staff. Professional development to help staff with this process is most effective when it acknowledges and builds on their existing expertise and, if necessary, helps them to shift their conceptions towards a student-centred and process-focused approach to teaching. It should be ongoing and recognise the time and effort needed for staff to develop quality curricula, teaching activities, and assessment tasks which support the development of generic skills.

The lessons we have learned are in line with those reported by Auger (1998) in relation to introducing

'world of work' skills in an agricultural degree, and with Zuber-Skerritt (1992) who suggests that,

"[a]n institutional policy, backed up by the power of persuasion and enforcement from the top and a supportive environment at the bottom of the hierarchy with the assistance and guidance of professional consultants, seems to be a necessary condition for continuous development to be undertaken by *all* academic staff" (p 177).

It is only when all these conditions are met that staff can genuinely make the mind shift to include a focus on skills. In our experience, making this shift will lead to greater student satisfaction and professional rewards for staff, and ensure that graduates have skills which are valued by the world of work.

# REFERENCES

ACNielsen Research Services. (1998). Research on employer satisfaction with graduate skills – interim report. Evaluations and Investigations Report 98/8. Retrieved from the World Wide Web: http://www.deetya.gov.au/highered/eippubs1998.htm

Angelo, T. A. (1994). From faculty development to academic development. <u>AAHE Bulletin</u>, June, pp. 3-7.

Auger, A. (1998). Teaching world of work skills within a degree program: Ontario Agricultural College. In F. T. Evers, J. C. Rush, & I. Berdrow (Eds.), <u>The bases of competence: Skills for lifelong learning and employability</u> (pp 179-206). San Francisco: Jossey-Bass.

Austin, A. (1998, September). <u>Collegial conversation as metaphor and strategy for academic staff development.</u>
Paper presented at the Links/SAAAD/SARDHE Conference, Capacity-building for quality teaching and learning in further and higher education, Bloemfontein, South Africa.

National Board of Employment, Education and Training (NBEET). (1992). Skills required for graduates: One test of quality in Australian Higher Education. Higher Education Council Commissioned Report No. 20. Canberra: Australian Government Publishing Service.

Australian Association of Graduate Employers. (1993). National survey of graduate employers. Author.

Biggs, J. B. (1996). Enhancing teaching through constructive alignment. <u>Higher Education</u>, 32, 347-364.

Boulton-Lewis, G. (1998). Applying the SOLO taxonomy to learning in higher education. In B. Dart & G. Boulton-Lewis (Eds.), <u>Teaching and learning in higher education</u> (pp 201-221). Camberwell, Victoria: ACER Press.

Braxton, J. M. (1995). Disciplines with an affinity for the improvement of undergraduate education. In N. Hativa & M. Marincovich (Eds.), <u>Disciplinary differences in teaching and learning: Implications for practice</u> (pp 59-64). San Francisco: Jossey-Bass.

Brown, J. S., Collins, A., & Duguid, P. (1988). <u>Situated cognition and the culture of learning</u>. Report No. IRL88-008. (ERIC Document Reproduction Service No. ED 342357).

Business/Higher Education Round Table. (1992). Educating for excellence. Commissioned Report No. 2. Camberwell: Author.

CBS Professional Skills Task Force. (1999). <u>Integrated professional skills project: Report of the phase one task force.</u> Perth: Curtin Business School, Curtin University of Technology.

Cross, K. P., & Steadman, M. H. (1996). <u>Classroom research: Implementing the scholarship of teaching.</u> San Francisco: Jossey-Bass.

de la Harpe, B., Radloff, A., & Wyber, J. (1999, September). What do professional skills mean for different disciplines in a business school? Lessons learned from integrating professional skills across the curriculum. Paper presented at the 7th International Improving Student Learning Symposium, Improving student learning through the disciplines, York, England.

Gallagher, J. J. (1994). Teaching and learning: New models. <u>Annual Review of Psychology</u>, 45, 171-195.

Hadwin, A. F., & Winne, P. H. (1996). Study strategies have meager support: A review with recommendations for implementation. <u>Journal of Higher Education</u>, 67(6), 1-17.

Harvey, L. (1993a). <u>Employer satisfaction: Interim report.</u> Coventry: Quality in Higher Education, University of Warwick.

Harvey, L. (Ed.). (1993b). Employer views of higher education. Proceedings of the Second QHE 24-Hour Seminar. Birmingham: University of Central England.

Hattie, J., Biggs, J., & Purdie, N. (1996). Effects of learning skills interventions on student learning: A meta-analysis. <u>Review of Educational Research</u>, 66(2), 99-136.

Institute of Chartered Accountants in Australia. (1994). <u>Chartered Accountants in the 21<sup>st</sup> Century</u>. Sydney: Author.

Johnson, T. (1998). <u>The 1997 course experience questionnaire</u>. A report prepared for the Graduate Careers Council of Australia. Parkville: Graduate Careers Council of Australia Ltd.

Kember, D. (1998). Teaching beliefs and their impact on students' approach to learning. In B. Dart, & G. Boulton-Lewis (Eds.), <u>Teaching and learning in higher education</u> (pp 1-25). Camberwell, Victoria: ACER Press.

Kember, D., & Gow, L. (1994). Orientations to teaching and their effect on the quality of student learning. <u>Journal of Higher Education</u>, 65(1), 58-74.

Knight, P. (1996). Quality of higher education and assessment of student learning. <u>EARLI News</u>, November, 5-13.

Martin, E. (1999). <u>Changing academic work.</u> Buckingham: SRHE and Open University Press. Martin, E., & Ramsden, P. (1994). <u>Effectiveness and efficiency of courses in teaching methods for recently appointed academic staff.</u> DEETYA Evaluations and Investigations Program. Canberra: Australian Government Publishing Service.

McKeachie, W. J., Pintrich, P. R., Lin, Y., & Smith, D. A. F. (1986). <u>Teaching and learning in the college classroom.</u> A review of the research literature. (Technical report No. 86-B-001.0). National Centre for Research to Improve Postsecondary Teaching and Learning, University of Michigan.

Pajares, F. (1992). Teachers' beliefs and educational research: Cleaning up a messy concept. <u>Review of Educational Research</u>, 62, 307-332.

Prosser, M., & Trigwell, K. (1999). <u>Understanding learning and teaching</u>. Buckingham: SRHE and Open University Press.

Ramsden, P. (1998). <u>Learning to lead</u>. London: Routledge.

Rosenman, L. (1996). The broadening of university education: An analysis of entry restructuring and curriculum change options. Evaluations and Investigations Report 96/12. Canberra: Australian Government Publishing Service.

Speck, B. W. (1998). Unveiling some of the mystery of professional judgement in classroom assessment. In R. S. Anderson & B. W. Speck (Eds.), <u>Changing the way we grade student performance</u>: <u>Classroom assessment and the new learning paradigm</u> (pp 17-31). San Francisco: Jossey-Bass.

Sutherland, T. E. (1996). Emerging issues in the discussion of active learning. In T. E. Sutherland & C. C. Bonwell (Eds.), <u>Using active learning in College classes:</u> A range of options for faculty. San Francisco: Jossey-Bass

The Association of Graduate Recruiters. (1995). <u>Skills for graduates in the 21<sup>st</sup> Century</u>. Cambridge: Author.

Trigwell, K., & Prosser, M. (1996). Congruence between intention and strategy in university science teachers' approaches to teaching. <u>Higher Education</u>, 32, 77-87.

Zuber-Skerritt, O. (1992). <u>Professional development in Higher Education:</u> A theoretical framework for action research. London: Kogan Page.