

## The Business and University Interface: Business and University

### Attitudes to Education \*

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#### INTRODUCTION

The attitudes to education of a sample of university Vice-Chancellors and business Chief Executive Officers were investigated in an earlier study (Business/Higher Education Round Table, 1991). One question in that study asked respondents to rank a set of objectives for secondary and university education. The results supported the view of a broad general secondary education followed by a professionally orientated university education, with an over-riding very strong concentration, at both levels, on the development of skills in communication, thinking, decision-making and teamwork. At both education levels these generally based skills and understandings were regarded by both sets of respondents to be of greater importance than more vocationally related education associated with learning about work and career choice, learning vocational skills, and receiving on-the-job work experience. Both sets of respondents were also of the view that current standards achieved with respect to desired characteristics of university graduates, with few exceptions, fell far short of what was desired. This was especially so for the skill outcomes desired in communicating, thinking and decision making, and ability to apply knowledge to the workplace.

The question arises, however, as to the extent to which the views of the Vice-Chancellors and CEOs are representative of the views of the wider university and business communities. Perhaps those who work more closely with students and graduates would have different views as to the objectives of secondary and university education and the characteristics desired of graduates from university professional programs. The decision, therefore, was made to conduct a further survey of university lecturers from professional faculties and those in business responsible for recruiting and managing new graduates. The survey report was to be completed by the end of February, 1992, so that results could be incorporated into a broader report being prepared for the Round Table on the National Work Skills Project. As well as attempting to replicate selected results from the earlier study, the survey also broke new ground by seeking to determine existing levels of cooperation between university faculties and business, especially with respect to course development and evaluation in professional faculties of universities.

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\* Adapted from:

Sinclair KE (1992) Achieving excellence in university professional education: A survey of priorities and business/university cooperation. In Business/Higher Education Round Table, Educating for Excellence, Commissioned Report No.2, 19-57

To establish a sample for the survey, universities and businesses represented on the Round Table were approached to determine whether they would participate in the survey, and if so, were requested to provide a name of a contact person. Nine universities were then selected to participate: three "old established" universities, three universities formed in the post-World War II period, and three Universities of Technology. At those universities contact persons distributed questionnaires to university staff involved in coordinating or lecturing in professional courses. A total of 250 questionnaires were distributed in this way at the end of December and responses were received from 122 staff members (49%). While the return rate is somewhat lower than desired, it was adversely influenced by the very short period given to complete the questionnaire and the fact that many university staff take their recreation leave over the Christmas/January period.

TABLE 1 Distribution of university respondents by Faculty/Department

Law	10
Engineering	16
Computer Science, Mathematics, Statistics, Physics	17
Business, Commerce, Economics, Accounting	21
Architecture, Environmental Science	13
Biological Science	11
Agriculture, Forestry	7
Behavioural Science, Health Science	13
Social Science, Arts, Education	10
No information about Faculty/Department provided	4
	122

Thirty businesses represented on the Round Table offered to participate in the survey and contact persons at those businesses distributed five questionnaires to staff involved in the recruitment or supervision of new graduates (at one company, only two questionnaires were distributed). From a total of 147 questionnaires distributed, returns were received from 112 persons, a return rate of 76%.

## RESULTS

As in the earlier survey the first section addressed the issue of

objectives of secondary and university education. Two questions were asked. One question asked participants to indicate whether they considered the emphasis given to particular objectives was 'Too little', 'Just right', or 'Too great'. The second question asked respondents to rank the set of objectives listed in order of importance.

The rankings of the objectives of secondary education by the business and university participants are summarized in Table 2, and of university education in Table 3. Results for the earlier survey are included in parentheses. One objective included in the earlier survey was not included in the present survey. That objective was: Learning skills of cooperation and teamwork. Ranks of the earlier survey have been adjusted accordingly.

TABLE 2 Rankings of objectives for secondary education in order of importance: Business and University respondents.  
(Results for the earlier survey are in parentheses)

	BUSI- NESS	UNIVER- SITY
Learning communication skills (eg writing, speaking)	1 (1)	2 (1)
Learning thinking/decision making skills	2 (2)	1 (2)
Developing standards of personal conduct	3 (4)	4 (5)
Learning a broad range of general academic subjects	4 (3)	3 (3)
Learning about work and career choice	5 (5)	6 (7)
Learning vocational skills - theoretical studies	6 (6)	5 (4)
Learning vocational skills - practical studies	7 (7)	7 (6)
Receiving on-the-job work experience	8 (8)	8 (8)

TABLE 3 Rankings of objectives for university education in order of importance: Business and University respondents.  
(Results for the earlier survey are in parentheses)

	BUSI- NESS	UNIVER- SITY
Learning thinking/decision making skills	1 (1)	1 (1)
Learning communication skills (eg writing, speaking)	2 (2)	2 (2)
Learning professional skills - practical studies	3 (5)	5 (5)
Learning professional skills - theoretical studies	4 (3)	3 (3)
Developing standards of personal conduct	5 (4)	6 (6)
Receiving on-the-job work experience	6 (8)	8 (8)
Learning about work and career choice	7 (7)	7 (7)
Learning a broad range of general academic subjects	8 (6)	4 (4)

### Secondary Education

The results of the present survey show a high level of agreement between the responses of business and university respondents and between the present and earlier studies. The most important

objectives of secondary education are considered to be the development of general thinking and communication skills, a broad background of knowledge, and character development. As in the earlier survey, learning vocational skills, learning about work and career choice, and on-the-job work experience are ranked behind the more general objectives. As before the results support the view that secondary education should, first and foremost, provide a broad general education with a skill focus. While specific aspects of the preparation for a vocation are important, they were not considered as important as learning general academic subjects and the range of general skills.

### University Education

Again a high level of agreement is evident. As with secondary education the learning of general thinking and communication skills was ranked as being of highest importance followed by the learning of professional skills (theoretical and practical studies). A notable difference, however, is evident with respect to the importance given to learning a broad range of general academic subjects as part of a professional education. This was rated as being much more important by university respondents (who ranked it fourth) than business respondents (who ranked it last). Learning about work and career choice, and receiving on-the-job work experience were ranked lower than the other objectives by both groups. In general terms, therefore, the rankings of objectives for university education are quite similar to those given in the earlier survey.

The results of the present survey confirm the conclusion reached in the earlier survey supporting the view "of a broad general secondary education followed by a professionally orientated university education, with a further very strong concentration, at both levels, on the development of skills in communication, thinking, decision-making and teamwork" (Business/Higher Education Round Table, 1991, p14).

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Another part of the first section asked about perceptions as to the current emphasis being given to achieving the objectives listed. In general terms both business and university respondents considered that too little emphasis was being given in secondary education to the development of communication skills and skills in thinking and decision making. University respondents considered that the emphasis being given to the other objectives was just about right. Business respondents however were more critical and also considered that too little emphasis was being given to learning about work and career choice, learning practical vocational skills and developing standards of personal conduct.

With respect to university education, both sets of respondents

were agreed that too little emphasis was being given to the development of communication skills and to developing standards of personal and business conduct. University respondents believed that just the right amount of emphasis was being given to the other objectives. Business respondents, however, believed that too little emphasis was being given to learning about work and career choice, learning practical professional skills and receiving on-the-job work experience.

In summary, both business and university respondents were in agreement as to the relative importance of a set of objectives for secondary and university education. Both groups also indicated that more emphasis should be given at both levels of education to the development of general skills, especially communication skills. With the remaining objectives the business response was much more critical than that of university respondents, typically arguing that not sufficient emphasis was being given to the achievement of the stated objectives.

#### DESIRED CHARACTERISTICS OF GRADUATES

In the present survey, the university questionnaire asked respondents to indicate what emphasis was being given in their programs to developing particular graduate characteristics. Business respondents were asked to indicate what emphasis they gave each characteristic in choosing graduate staff. Responses were on a five point scale: 1 (no emphasis); 2 (little emphasis); 3 (moderate emphasis); 4 (strong emphasis); 5 (very strong emphasis).

TABLE 4 Amount of emphasis given to suggested characteristics of university graduates: business and university respondents. University respondents were asked "In educating undergraduates in your faculty...what emphasis is given to developing each of the following characteristics?" Business respondents were asked "In selecting newly graduated professionals to work in your company...what emphasis do you consider should be given to each of the following characteristics of applicants?"

	BUSINESS		UNIVERSITY	
	RANK	MEAN	RANK	MEAN
Communication skills (eg writing, speaking)	1	4.29	7	3.26
Capacity to learn new skills and procedures	2	4.21	5	3.36
Capacity for cooperation and teamwork	3	4.18	8	3.24
Capacity to make decisions & solve problems	4	4.17	3	3.54
Ability to apply knowledge to workplace	5	4.05	4	3.51
Capacity to work with minimum supervision	6	3.65	6	3.33

Theoretical knowledge in professional field	7	3.52	1	4.02
Capacity to use computer technology	8	3.43	2	3.65
Understanding of business ethics	9	3.21	12	2.24
General business knowledge	10	3.03	11	2.33
Specific work skills	=11	3.02	9	3.13
A broad background of general knowledge	=11	3.02	10	2.93

Some significant differences emerged in responses to this part of the questionnaire. It is interesting that while recognizing the importance of developing communication skills as an objective of university education, only a moderate amount of emphasis is given to it in professional courses. For business, in contrast, communication skills are clearly the number one criterion of those listed for selecting staff. The frequencies for this response are provided in Table 5.

TABLE 5 Emphasis given to developing communication skills in university courses and to the importance of communication skills in selecting company recruits.

	Little or no emphasis %	Moderate emphasis %	Strong or very strong emphasis %
Emphasis in university courses (University respondents)	21.5	38.0	40.5
Emphasis in business recruitment (Business respondents)	0.9	6.3	92.8

Similarly, for universities the highest priority is given to giving theoretical knowledge in the professional field, yet this is ranked only seventh by the business respondents. The frequencies are provided in Table 6.

TABLE 6 Emphasis given to developing theoretical knowledge in the professional field in university courses and to the importance given to that in selecting company recruits.

	Little or no emphasis %	Moderate emphasis %	Strong or very strong emphasis %
Emphasis in university courses (University respondents)	4.1	19.8	76.1

Emphasis in business recruitment    6.3            45.5            49.2  
(Business respondents)

These differences are worthy of further thought and discussion both within and between the two groups. With respect to the remaining desired characteristics, there is considerable agreement. The importance of the capacity to make decisions and solve problems, the capacity to learn new skills and procedures, the ability to apply knowledge to the workplace, and the capacity to work with minimum supervision are all rated highly both in course emphases and company recruitment.

A second element of this question asked business and university respondents for an assessment of the current standards reached in those characteristics. Participants rated the standards achieved on a five point scale (1 Very poor; 2 Poor; 3 Adequate; 4 Good; 5 Very good). The results are summarized in Table 7.

TABLE 7 Current standards reached by graduates from universities: mean scores for business and university respondents.

	BUSINESS MEAN	UNIVERSITY MEAN
Communication skills (eg writing, speaking)	2.65	3.04
Capacity to learn new skills and procedures	3.70	3.45
Capacity to make decisions & solve problems	2.95	3.22
Capacity for cooperation and teamwork	3.22	3.43
Ability to apply knowledge to workplace	2.83	3.44
Capacity to work with minimum supervision	3.16	3.24
Theoretical knowledge in professional field	3.60	3.59
Capacity to use computer technology	3.69	3.55
Understanding of business ethics	2.68	2.32
Specific work skills	2.88	3.18
A broad background of general knowledge	2.92	2.83
General business knowledge	2.59	2.49

A mean score of three indicates that the responses cluster around the 'adequate' score, while a mean of greater than three or less than three indicates that responses tend toward a score of 'good' or 'poor' respectively. For most of the characteristics listed, the university and business respondents in this survey considered current standards to be significantly more favourable than was the case with respondents in the earlier survey. The lecturers and business supervisors in this survey judged most characteristics to be in the adequate range, whereas the Vice-Chancellors and CEOs of the earlier survey judged them to be rather less than adequate. Despite this change it is still of concern that no characteristic was assessed as being clearly good or very good (mean of 4 or

greater).

As with the earlier survey, characteristics judged to be adequate to good by both groups of respondents are:

- theoretical knowledge in professional field,
- capacity to learn new skills and procedures,
- capacity to use computer technology.

Characteristics judged as being of poorest standard include:

- general business knowledge,
- understanding business ethics,
- communication skills (business but not university respondents)

The frequencies for the characteristics judged as being poorest are provided in Table 8.

TABLE 8 Frequency distributions for characteristics judged as being of poorest standard: business and university respondents.

	Code - A (very poor or poor)			Code - B (adequate)			Code - C (good or very good)		
	BUSINESS			UNIVERSITIES					
	A	B	C	A	B	C	A	B	C
	%	%	%	%	%	%	%	%	%
General business knowledge	45.6	48.2	6.3	50.8	35.3	13.8			
U'standing business ethics	40.5	48.6	10.8	55.5	35.0	8.5			
Communication skills	46.8	37.8	15.3	24.0	46.2	30.0			

For the business respondents there were further questions associated with recruiting graduates from university. One question was about the amount of emphasis given to particular criteria in selecting newly graduated professionals. Responses were 1 (no emphasis), 2 (little emphasis), 3 (moderate emphasis), 4 (strong emphasis) and 5 (very strong emphasis). The criteria were ordered as follows, (means are in parentheses):

- motivation to succeed in career (4.20)
- suitability of personality characteristics (4.13)
- knowledge and skills as revealed in interview (4.04)
- university courses completed (3.84)
- university courses grades (3.79)
- personal appearance (3.29)
- references provided (2.75)
- university attended (2.48)

The importance of these criteria were further confirmed by a

write-in response about characteristics desired in selecting staff. The most frequently nominated characteristics were:

- strong academic background,
- appropriate communication skills,
- high motivation to succeed,
- ability to work as part of a team,
- initiative and decision-making skills,
- interpersonal skills,
- appearance and manner.

Typical examples of responses to the open ended question were:

"Good, articulate team player with a strong desire to win. Good understanding of how to apply theoretical knowledge in the working environment."

"A self-starter who has displayed his/her ability to achieve. Very strong people skills and one who is motivated by achievement"

"High academic qualifications and ability to learn new skills. Capacity to make decisions and solve problems. Good presentation and communication skills. Capacity to work in a team."

Eighty-five percent of the respondents reported that the supply of graduates had been 'more than adequate' or 'comfortably adequate' the last two years, and the quality of applicants was very high (14.5%), high (37.3%) or satisfactory (39.1%). The quality of graduates appointed to positions had been very high (26.4%), high (45.5%), or satisfactory (27.3%). Only one respondent reported that the quality of appointees had been low.

## BUSINESS AND UNIVERSITY INTERFACE

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The third section of the questionnaire focussed on the involvement of business in university teaching and research activities. One assumption of a professional education is that graduates are provided with the knowledge and skills necessary to pursue their profession in the workforce. There was particular interest therefore in determining ways by which university courses and programs addressed this, whether through work experience for students, having guest lecturers from business, and particularly by involving business in the development and evaluation of courses. Respondents were asked to indicate what business-university interaction had occurred in their organizations over the past five years and the results are summarized in Tables 9 and 10. Business respondents were asked, "As far as you are aware... what involvement does your company have in assisting universities in the following ways?". University respondents were asked, "In

your faculty or school over the past five years...has the business community been involved in providing assistance in any of the following ways?". In Tables 9 and 10, frequencies for an "Uncertain" response have been omitted so that rows do not total to 100%.

TABLE 9 Involvement of Business in Assisting Universities:  
Business Respondents

	None/ Little %	Some %	A lot %
Guest lecturers for courses	51.8	33.0	7.1
Work experience opportunities for students	8.9	38.4	50.0
Course planning & development assistance	54.0	29.7	4.5
Workplace training or familiarization courses for university staff	80.0	6.4	0.9
Sponsorship of cooperative education programs in which universities and business mutually design courses and programs	50.0	16.4	20.0
Assistance in reviewing courses and programs	60.9	20.9	1.8
Opportunities for staff exchange programs	82.8	5.5	0.9
Financial support for research	47.7	24.8	12.8
Contributions to student scholarship funds	24.5	38.2	30.0
Equipment loans/donations	41.0	37.5	13.4

TABLE 10 Involvement of Business in Assisting Universities:  
University Respondents

	Never/ Times %	Some-Rarely Often %	%
Guest lecturers for courses	16.4	37.7	45.9
Work experience opportunities for students	22.1	26.2	51.6
Course planning & development assistance	38.1	43.8	18.2
Workplace training or familiarization courses for university staff	71.9	22.3	5.8
Sponsorship of cooperative education programs in which universities and business mutually design courses and programs	66.4	26.1	7.6
Assistance in reviewing courses and programs	43.7	31.9	24.4
Opportunities for staff exchange programs	67.5	28.3	4.2
Financial support for research	44.5	44.5	10.9
Contributions to student scholarship funds	38.7	47.1	14.3
Equipment loans/donations	48.8	38.8	12.4

äThe perceptions of the business respondents are that their companies are often involved in student work experience and, to a lesser degree, providing student scholarships (perhaps, cadetships and other ways of funding their own employees to undertake

professional courses). They perceive little involvement of colleagues from their individual companies in assisting universities with the planning of professional courses, or in assisting them with the review of their professional courses or programs.

The university respondents perceive considerable business involvement in student work experience and, interestingly, in giving guest lectures. Sixty-two percent of them replied that the business community had 'sometimes' or 'often' been involved in assisting with course planning and development over the past five years, and 55% replied that such involvement had occurred in course and program evaluation. This suggests that some, though clearly not all, professional faculties do actively involve selected members of the business community in course planning and evaluation. It would be an interesting exercise to study more closely the nature and consequences of such involvement (or lack of involvement).

A second part of this questionnaire item dealt with the desirability of such interaction. The predominant response of both groups was that such business involvement is desirable. More than 90% of university respondents considered that such involvement was desirable in 5 of the 10 categories listed above. More than 70% considered business assistance in course development and evaluation was desirable or highly desirable. The business response was somewhat less enthusiastic, however, more than 70% of respondents thought that business involvement in assisting universities was desirable in 6 of the 10 categories listed including course development and evaluation. From the business perspective activities considered least desirable were equipment loans for teaching and research (45%), opportunities for staff exchange programs (46.3%) and financial support for research (50.9%).

Both groups of respondents, therefore, confirm the desirability of business-university interaction and partnerships. While there is evidence of considerable interaction currently taking place (although it appears to vary from university to university and from faculty to faculty) there is obvious scope for extending and enhancing this important aspect of professional education.

As part of this section of the questionnaire, university respondents were also asked to estimate what proportion of staff in their faculties had had recent work experience or consultancy experience in the fields in which they lectured, and what proportion they would estimate would be interested in periodic work experience in their field.

TABLE 11 University respondents' estimates of the proportion of

- permanent lecturing staff in professional faculties who:
- 1 have had business experience (1+yrs) at any time in their field;
  - 2 have had business experience in the past 5 years in their field;
  - 3 are currently engaged in consultancies with business;
  - 4 would be interested in periodic work experience in their field.

	Estimate of proportion of lecturing staff					
	None	<10%	10-25%	26-50%	51-75%	>75%
1 business experience at any time	1.7%	14.3%	21.8%	12.6%	18.5%	31.1%
2 business experience in the last five years	7.6%	39.8%	21.2%	16.9%	11.0%	3.4%
3 current consultancies with business	0.8%	15.6%	30.3%	33.6%	16.4%	3.3%
4 interest in periodic work experience	0%	14.2%	26.7%	19.2%	29.2%	10.8%

Almost a third of replies were that more than 75% of lecturing staff have had at least a year of full time business experience in the field in which they lecture and a further eighteen percent of replies estimated that the figure was between 51% and 75%. Thirteen percent estimated that the figure was between 26% and 50% and 38% of replies estimated that fewer than 25% of university staff in their faculty had business experience. The results also reveal that business experience among university lecturers has not been recent. Almost half of the replies were that fewer than 10% of university staff had had full-time business experience in the preceding five years. This result reflects the fairly stagnant state of university staffing over the past decade with little turn-over of staff or increases in staffing taking place. Because of this, the time between actual business experience of university staff and the present is growing year by year. This has been noted in other countries as well, and in England, for instance, teacher educators are required to spend at least 6 months every five years working in the school system. A similar proposal has been made by the NSW Minister for Education. Contact with business and the professional workplace, however, is also able to be achieved through business consultancies undertaken by university staff. Almost 20% of university respondents estimated that more than half of the staff in their faculty were currently engaged in business consultancies, and another 34% estimated that between 26% and 50% were so involved. This result suggests considerable interaction taking place between university staff and the professional workplace. The final question of this section was concerned with estimating the proportion of university staff who might be interested in periodic work experience in their field in business or industry. The response was a positive one. Forty

percent of respondents estimated that more than 50% of staff in their faculty would be so interested.

### GENERAL ATTITUDES AND BELIEFS ABOUT EDUCATION

The final section of the questionnaire dealt with general attitudes and beliefs about education. A summary of results is presented in Table 12.

TABLE 12 General attitudes and beliefs about education:  
University and Business Respondents

	UNIVERSITIES			BUSINESS		
	D	U	A	D	U	A
	%	%	%	%	%	%
Undergraduate education for the professions should include general studies drawn from the Humanities Social Sciences and Sciences, in addition to professional studies	13.9	7.4	78.7	18.9	9.9	71.2
Education for the professions is a life-long task requiring more coordination of the contributions of universities and business than is presently the case	5.7	7.4	86.8	1.8	7.2	91.0
Students should be encouraged to gain some work experience before beginning university	22.1	24.6	53.3	19.8	23.4	56.7
It is highly desirable that university staff have had experience of work outside of education	11.7	12.5	75.9	1.8	4.5	93.6
As an important end-user of university teaching & research business should be expected						

to assume an increasing role in the funding of that teaching and research	8.2	17.2	74.6	25.4	31.8	42.8
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Present average levels of professional skill will need to be raised considerably in the next decade if Australia is to maintain its international competitiveness	5.8	15.6	78.7	12.6	9.0	78.3
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It is very important that pro- fessional faculties in univer- sities provide opportunities for part-time study:						
- for first degrees	17.2	16.4	66.3	6.3	5.5	88.2
- for post-graduate degrees	3.2	4.1	92.6	1.8	6.4	91.8

Three-quarters of respondents from both groups agree that professional skill levels will need to be raised in the decades ahead if Australia is to maintain its international competitiveness. There are similar levels of agreement that undergraduate education for the professions should include general studies drawn across the humanities, social sciences, and sciences, as well as professional studies. There is strong general agreement that education for the professions is a life-long task requiring a greater level of university-business coordination than is at present the case. Perhaps in support of that there is also strong agreement that universities should provide opportunities for part-time post-graduate degree study, enabling working professionals to continue their education. Part-time first degree study is also strongly supported by business, although, university respondents are much less enthusiastic about that. A third of university respondents either disagree with part-time first degree study or are uncertain about it.

Differences in attitude are also evident between the two groups in the results in Table 12. While three-quarters of the university respondents agree that business should be expected to assume an increasing role in funding university teaching and research, the majority of the business respondents do not support that proposition. The statement receiving least support is that students should be encouraged to gain some work experience before beginning university. Only 53% of university respondents and 57% of business respondents agreed with that proposition.

For the most part the attitudes expressed are similar to those expressed in the earlier study. While the university Vice-Chancellors in the earlier study strongly supported part-time study opportunities for first degrees in professional faculties,

the university lecturers of the present study were far less enthusiastic. The university lecturers, on the other hand, were more supportive of the proposition that it is highly desirable that university staff have had experience of work outside of education than were the Vice-Chancellors. Business respondents in the present survey were less supportive of the proposition that undergraduate education for the professions should include studies of the humanities, social sciences and sciences as well as professional studies than were the CEOs from their companies.

## DISCUSSION AND CONCLUSIONS

Taken together, the two surveys provide a very consistent and illuminating set of views about education from the perspective of business and the universities. The importance of skills education at both secondary and university levels has been confirmed by Vice-Chancellors and lecturers from universities, and by CEOs and the supervisors of new graduate recruits in business. Thinking skills, communication skills and skills in cooperation and teamwork, in particular, have been emphasised. Such skills relate closely to the key competencies discussed in the Finn Report (Australian Education Council Review Committee, 1991) and further refined by the Mayer Committee (1992) in its deliberations.

Certainly the surveys have provided a limited choice of educational objectives and outcomes from which to choose. Those objectives and outcomes nominated, however, offered a clear choice between objectives involving general skills, knowledge, and those specifically work-related. Each time, the general skills were regarded as more important than knowledge (a broad range of academic subjects for secondary education, and professional knowledge for university education), which in turn was regarded as more important than general business knowledge, specific work skills or work experience. The result reinforces the view that professionals need to be educated, at least in their first degree, with general skills and professional knowledge, rather than narrowly trained in specific work skills. This finding is also consistent with the view that the workforce of the future needs to be adaptable and flexible to meet emerging challenges and changes.

A notable difference between the results of the surveys, however, occurred in relation to perceptions about the current standards achieved by recent graduates on a set of desirable characteristics. The university lecturers and business supervisors of the present survey were rather more likely to consider standards achieved as adequate than the Vice-Chancellors and CEOs. At the same time, it was also of concern that none of the characteristics listed was judged to reach a generally 'good' or 'very good' standard. Despite the very great importance

university lecturers gave to the objective of developing communication skills, they considered that such skill development was given only moderate emphasis in university courses and programs. Business respondents, on the other hand, gave very high emphasis to those skills when selecting new staff.

As in the earlier survey, both university and business respondents were positive about the desirability of more business involvement in assisting with university teaching and research. University respondents indicated that considerable interaction was already taking place in regard to course development and evaluation, although the amount of interaction varied from university to university and from faculty to faculty. The positive nature of the response to this section of the survey indicates that this is an area where university-business cooperation could be profitably extended. The Round Table is particularly well placed to play a facilitating role in encouraging and enhancing such increased cooperation. It would also be of interest to prepare case-studies of examples of the types of business-university cooperation that are already occurring, including the reactions of university staff, business personnel and students involved. The first graduates of the Cooperative Education Programs in universities, for instance, are now in the process of graduating and taking up business appointments.

A further interesting result is that while most university staff have, at some time, had full-time work experience in the field in which they lecture, only a small proportion have had such experience as recently as in the past five years. With university staffing remaining fairly stagnant now for a decade or more (reflected in little turn-over of staff or increases in staffing), the full-time work experience of staff will become increasingly distant. Most staff in professional faculties, however, were perceived as being engaged in consultancies with business which would provide another avenue for keeping abreast of new business procedures and needs. The perception was, also, that most university staff would welcome the opportunity of periodic work experience in business or industry.

The final section of the survey highlights the view that professional skill levels will need to be raised considerably if Australia is to maintain its international competitiveness, that greater university-business coordination is needed if the concept of life-long professional education is to be realized, and that undergraduate education for the professions should include general studies drawn from across the humanities, social sciences, and sciences as well as professional studies. The proposition that, as important end users, business should be expected to assume an increasing role in the funding of university teaching and research, however, not unexpectedly, was strongly supported by

university respondents but rejected by business respondents.

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