National Review of TAFE Teacher Preparation and Development - Stages 1A and 1B

Skills and Competencies

William C Hall
Geoffrey Hayton
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ADELAIDE 1990
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This is a draft document. It will form part of the total project research report (covering Stages 1A, 1B, 2A and 2B) to be published early 1991.
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- Mr Peter Kirby [Chairperson]
  Chief Executive Officer, Department of Employment and TAFE, SA

- Ms Lyn Bannerman
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  Principal Technical Education Officer
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- Ms Mary Vanderfeen
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- Mr Andrew Webster
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- Ms Joan Armitage
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- Mr Robin Ryan [Executive Officer]
  Assistant Director (Policy), Department of Employment and TAFE, SA.

The project team comprised: Dr. William Hall (project manager), Mr Hugh Guthrie, Mr Geoff Hayton, Ms Pauline Mageean and Dr. Janet Scarfe. Dr. Scarfe was seconded to the project by the
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1. SUMMARY

The TAFE National Centre for Research and Development was commissioned to conduct a national review of TAFE teacher preparation and development. The review was to be in four main stages:

Stage 1A - identification of the skills and competencies required by TAFE teachers in the 1990s (training needs analysis)

Stage 1B - identification of present skills and competencies (current skills analysis)

Stage 2A - development of strategic models for TAFE teacher training and development

Stage 2B - suggested ways in which TAFE teachers may improve their skills

This report covers Stages 1A and 1B. A consolidated report covering all four stages will be published at the end of 1990, together with a summary report. A literature review relevant to Stages 1A and 1B has already been published separately.

Stage 1A (training needs analysis) relied on four techniques: submissions, a literature review, interviews and a two-round Delphi survey.

Stage 1B (current skills analysis) relied on six techniques: submissions, a literature review, access to records/knowledge, interviews, survey and observations.

In both stages of the research, skills were classified into seven categories:

* teaching
* curriculum development
* determining client needs and industry liaison
* management/administration
* updating own subject
* workplace context
Results from all research techniques have been analysed according to these categories.

The project's terms of reference limited research to full-time TAFE teachers, although its relevance to part-time teachers is recognised. Full-time teachers account for 65% of total TAFE teaching hours (1988 TAFE statistics from DEET).

A summary of the results now follows. In all:

- 25 submissions were received
- 81 people were interviewed
- 59 people (48%) returned the Delphi Round Two Survey
- 594 questionnaires were returned (50.4% overall return rate; net usable response rate of 46.1%)
- recent literature (primarily since 1987) was reviewed.

The response rates were generally satisfactory. The general picture that emerged can be summarised as follows:

- almost all of TAFE teachers reported a formal teaching qualification (certificate, diploma or graduate diploma);
- whether they are beginning or experienced, teachers are expected to possess and use a very wide range of skills;
- the changing vocational education environment is a persistent theme, with implications especially for teaching methodologies and contact with industry;
- when current skills are compared with skills deemed necessary for the future, the largest gaps occur in client need/industry liaison and curriculum development;
- there are marked similarities in skill profiles and trends between states/territories;
- responses across research techniques consistently described current levels of skill as less than the level required by TAFE teachers in the 1990s.
The main findings for each category of skill, taking into account all the research instruments, were:

- Teachers see themselves as highly skilled in traditional teaching roles (such as interpreting the syllabus, lesson planning, writing lesson objectives and presenting theory lessons). In the future, however, responses show they will need more skills in alternative, more flexible teaching strategies. Teaching was identified as a potential area of specialisation.

- Respondents identified a shortfall between current skills in curriculum development and those required by teachers in the 1990s. Differences occurred, however, on the degree of expertise most teachers will require.

- Strongly held views emerged from some respondents on the need for teachers to acquire a wide range of skills in responses to a new relationship with industry. Other respondents (notably the TAFE Teacher Survey) indicated that an increased level of skill was required in working with industry, but not of the same order of magnitude or priority as suggested elsewhere.

- With regard to management/administration skills, there was a small but important gap in the current level of skills, and the level deemed necessary for the 1990s. Experienced teachers were regarded as needing a range of specialised or advanced skills in this area. Several broadly-based skills, however, were seen as important for all teachers.

- A priority on teachers updating their vocational speciality emerged from all research instruments. In practice, the results nonetheless, indicated a considerable gap between the skills teachers have currently in this regard and those they believe they require in the next decade.

- Knowledge of the TAFE workplace and its broader context (workplace context) - was accorded varying degrees of importance across the research techniques.
- General personal skills (e.g. communications skills) were not only identified by teachers as their highest level of current expertise, but as their highest skill requirement in the 1990s.

- The use of a range of research instruments generally provided reinforcement, but on occasions an alternative perspective in the results.
2. BACKGROUND

THE PROJECT CONTEXT

This review of the preparation and development of full-time TAFE teachers was initiated by the Australian Conference of TAFE Directors. It is very timely. TAFE is recognised by governments as having a central role in Australia’s vocational training arrangements. As with any educational provider, TAFE’s major resource is its teachers. For TAFE to respond appropriately to the challenges flowing from industry restructuring, its newly appointed teaching staff must be appropriately equipped, and its present teaching staff must expand their professional and vocational skill competencies.

Industry restructuring will affect TAFE teachers in two main inter-related ways. First, the teaching profession itself will change. Second, TAFE teachers will be providing support to industry, commerce and the public sector in their attempts to tackle restructuring issues. Industry restructuring has produced greater emphasis on quality and flexibility. These, in turn, have produced integrated types of work organisation. These organisations are characterised by approaches such as flat management structures with fewer hierarchical levels, shared responsibility and decision-making, team work, and a broader range of skills for employees.

Responsibility for important goals such as efficiency, quality and flexibility are shared by all members of the team, not left to specialists. All of this is important background to the review, which is taken up in greater detail in the companion Review of the Literature.

PROJECT TERMS OF REFERENCE AND OUTCOMES

The complete terms of reference of the review are given in Appendix A. In summary, they are as follows:

Stage 1A: To identify the skills and competencies which will be required by TAFE teachers in the 1990s, having regard to the need for an appropriate balance between (a) teaching (and related) skills, (b) vocational specialisation, (c) management skills, (d) skills relevant to TAFE’s broader role as an educational service provider;

Stage 1B: To identify the skills and competencies held by present full-time TAFE teachers;
Stage 2A: To develop strategic models for TAFE teacher training and development, which integrate initial training and later retraining/development;

Stage 2B: To develop a strategy to equip teachers with the enhanced skills they require.

For both Stages 2A and 2B, the Centre offered to outline any resource implications.

Two main project reports will be produced. The first is this publication dealing with Stages 1A and 1B:

Stage 1A: Skills and Competencies Required for the 1990s
Stage 1B: Skills and Competencies of Existing Teachers

The second will be the final (consolidated) report covering all four stages. A summary report will also be produced. To keep all interested groups informed about progress, bi-monthly newsletters have been published since February. A review of recent literature relevant to Stages 1A and 1B has been published as a separate paper.
3. RESEARCH OVERVIEW

This chapter gives an overview of the research methodology and shows how the four components of the research are inter-related. Details about each of the techniques used in Stages 1A and 1B (including sampling) may be found in the next chapter; only general information is given here.

STAGE 1

A. Training needs analysis (skills and competencies required for the 1990s)

The techniques used were in brief:

Submissions on the terms of reference were invited by placing newspaper advertisements, writing to individuals and organisations, and widely circulating a newsletter.

The literature review was conducted by using national and international data bases.

Interviews with TAFE, industry, union and higher education experts were conducted throughout Australia.

The two rounds of the Delphi survey involved sending questionnaires to representatives of the major stakeholders expertise in TAFE teacher preparation and development.

B. Skills analysis (current skills and competencies)

The five techniques used for the analysis were in brief:

Organisation knowledge and records identified relevant reports and literature. Relevant research by industry training committees was also examined.

A small number of teacher observations were undertaken.

Questionnaires were sent to a stratified, randomly selected group of 1179 teachers. Full-time teachers with less than three years experience formed one group (referred to throughout as "beginning TAFE teachers"); teachers with three or more years experience formed another group.

The approaches to submissions and interviews were as for Stage 1A.
The relationship between the training needs analysis (Stage 1A) and the skills analysis (Stage 1B) can be described graphically.

The results of the documents search, observations and exploratory interviews were used to develop the first Delphi questionnaire, to produce the teacher survey questionnaire and to design the detailed interviews schedule.

The results of the Delphi survey and TAFE teacher survey were brought together so that direct comparisons could be made of present skills with future requirements from different perspectives.

**STAGE 2**

**A. Models**

Strategic models will be developed to provide a path from the 'NOW' (current skills and competencies) to the 'WHERE TO' (required skills and competencies in the 1990s), as illustrated.
Together with the information obtained from the skill analysis and training needs analysis (Stage 1), five techniques will be used.

**Interviews** will be conducted with TAFE, industry, unions and higher education experts.

The **group process** method will consist of a two day meeting of carefully selected experts. Using a short summary of the Stage 1 results, the conference will develop a strategic plan for initial TAFE teacher training and subsequent retraining/development of TAFE teachers.

The **force field analysis** will consider implementation issues, including ways of encouraging positive forces and ways of overcoming negative forces, then develop preferred models.

B. **Strategy for existing teachers**

The same five techniques used for Stage 2A will be used for Stage 2B, with the addition of a **questionnaire** survey of existing TAFE teachers.

In most cases the project activities for Stage 2B will be integrated with those of Stage 2A. For example, the search conference, after developing a strategic plan for initial TAFE teacher training and later retraining/development (Stage 2A) will then develop a strategy for existing teachers (Stage 2B). The existing teacher strategy will be closely related to the strategy developed in Stage 2A for later retraining/development of new teachers.

The following flow chart summarises the proposed main Stage 2 (A and B) activities and their sequence.
OVERVIEW OF THE FOUR STAGES

The four stages are linked in the following ways:

Stage 1A
Skills and competencies required for 1990s

Stage 2A
TAFE teacher training strategic model

Stage 1B
Skills and competencies of existing teachers

Stage 2B
Strategy for existing teachers
A summary of the techniques used (or proposed) at the different stages is shown below.

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<th>2B</th>
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</table>

The next chapter describes in detail Stages 1A and 1B techniques.
4. STAGES 1A AND 1B TECHNIQUES

INTRODUCTION

In this chapter, the range of techniques used in Stages 1A and 1B are more fully detailed. Those not interested in such detail may wish to skip this chapter and proceed to the results in Chapters 5 and 6.

SUBMISSIONS

Submissions on the terms of reference were invited:

- by writing to groups and to individuals. These included:
  - all TAFE agencies
  - all higher education institutions offering TAFE teaching courses
  - all TAFE teachers' unions and the Australian TAFE Teachers' Association
  - major employer bodies
  - major trade unions and the ACTU
  - all TAFE colleges
  - National Industry Training Committees
  - State & Territory training and industrial relations groups
  - by widely circulating copies of the first Newsletter.

Twenty-five submissions were received. The complete list is shown in Appendix F.

LITERATURE REVIEW AND RECORDS/KNOWLEDGE

An extensive literature and document review drew on both international and Australian sources, concentrating primarily on Australian materials published since 1987. Articles, published research reports and reviews were covered, as well as key relevant policy documents from state and territory agencies.

The literature reviewed fell into two categories:

(i) material directly addressing the subject of vocational teacher training and professional development (such as
The Continuing Education Needs of Academic Staff, published by the TAFE National Centre for Research and Development in 1987); and

(ii) literature addressing the significant challenges and changes confronting the vocational training and education sector in Australia in the 1990s. Issues such as award restructuring, competency-based training, occupational health and safety legislation, and the social composition of the Australian workforce will have a profound impact on TAFE in the next decade, and therefore on TAFE teachers. Articles and key reports addressing these issues in TAFE have therefore been included.

The literature is discussed in particular reference to the major categories of teacher skills used in the research instruments. Key policy documents from State/Territory authorities and other relevant organisations were also sought and scrutinised for statements on competencies and skills required by TAFE teachers.

**INTERVIEWS**

One round of interviews was used combining parts 1A and 1B. The project team and the steering committee determined that interviewees should be drawn from the following groups:

- higher education providers;
- teachers’ unions;
- TAFE professional development officers;
- employer groups;
- TAFE human resource officers;
- college directors/principals;
- experienced TAFE teachers (over 3 years);
- teachers with less than three years experience;
- State/Territory training bodies;
- equal opportunity officers;
- central office staff;
- ACTU;
- major employers.

Steering committee members, and authority and project liaison officers suggested names.

There were two types of interviews: preliminary and more detailed.

Two preliminary group interviews were held, in Victoria and South Australia. Each interview category group was represented on at least one occasion. They were largely unstructured, in-depth interviews to define the areas of skills to be explored in the subsequent phases of the investigation.
The more detailed, semi-structured interviews were of groups or individuals in every TAFE agency. All interview groups were included, from at least two authorities. An experienced TAFE teacher and a beginning TAFE teacher from each TAFE agency were interviewed. A balance of country/metropolitan and male/female interviewees was maintained. Eighty-one people were interviewed, individually or in groups. Details appear in Appendix G.

Those who agreed to participate were interviewed by appointment, face-to-face in Sydney, Melbourne and Adelaide, and by telephone elsewhere.

The interviewees were sent, in advance, a project profile and list of the interview questions. These were:

1. What are the key skills which beginning TAFE teachers require today? (Stage 1B)
2. What other key skills will beginning TAFE teachers require over the next decade? (Stage 1A)
3. What are the key skills which experienced TAFE teachers need to acquire through continuing professional/vocational development? (Stage 1B)
4. What are the key skills experienced TAFE teachers will need to acquire during the next decade through continuing professional/vocational development? (Stage 1A)
5. What skills currently being taught will be less important, or no longer relevant, over the next decade? (Stage 1A)
6. What skills currently being taught will be less important, or no longer relevant, over the next decade?

Interviewees were asked to consider these questions in relation to the seven categories of skills used for the TAFE Teacher Survey.

Many interviewees discussed the questions with colleagues, and so gave answers which represented a number of individual opinions. The interview material was analysed to provide a list of skills for Stage 1A and 1B.

**OBSERVATIONS**

The TAFE teacher observation schedule had two main aims:

(a) to help in the development of the teacher survey questionnaire;
(b) to provide vignettes of teacher activity for the final report.

A copy of the observation schedule is shown in Appendix D. Two observations were conducted in Richmond College of TAFE (Melbourne), and one at the ACT Institute of TAFE.

Volunteers identified as good teachers took part, fully informed of the purpose of the observations. It was emphasised that they were not being evaluated, and that the findings would not be generalised to all teachers.

Endeavours were made to ensure that the observers were not too intrusive, a representative period was selected, the coding was neither too broad nor too narrow, and that the teachers did not consciously modify their behaviour for the investigation.

The observers were given blank schedules to complete. Fifteen minute periods were chosen, and the various activities classified under major headings. A descriptive summary of the main activities appears in Appendix D1.

DELPHI SURVEY

The Delphi survey was one of the main methods used in the Stage 1A of the project to identify TAFE teacher skills and competencies required for the 1990s. The questionnaires are shown in Appendix C.

The Delphi survey is a method of identifying future trends by surveying a panel of representative experts in two or three rounds. The first round survey identifies likely or desirable future events, while the second round involves giving the results of the first round to the panel for reaction and refinement.

In this project two rounds of the survey were administered to a panel of 124 'experts' representing the main stakeholders. The experts comprised representatives from each state and territory for each of the following:

(a) TAFE authority senior staff;
(b) industrial relations/training authorities separate from TAFE (e.g. ICTCs);
(c) college management;
(d) TAFE teachers' unions;
(e) experienced TAFE teachers;
(f) heads of department/head teachers;
(g) industry/commerce groups (employers and unions);
(h) TAFE staff development;
(i) teacher training institutions;
(j) curriculum (including materials) development staff.

The sampling in each group in each state and territory is shown in Table 4.1.
TABLE 4.1. SAMPLING FOR THE TWO ROUNDS OF THE DELPHI SURVEY

<table>
<thead>
<tr>
<th>GROUP</th>
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<td>15</td>
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<td>8</td>
<td>5</td>
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</table>

Names were proposed by the researchers, steering committee, and the Centre's liaison and project officers.

The Delphi Round One Survey questionnaire was distributed in March 1990. The questionnaire contained mainly open-ended questions on the skills required in the 1990s by beginning and experienced TAFE teachers, as defined in this project.

The questionnaire also investigated a requirement for some TAFE teachers to specialise in one aspect of their work. A copy of the Round One questionnaire is given in Appendix B. The response rate for the Round One survey was 39%. The results are discussed in Section 5.2.

The Delphi Round Two Survey questionnaire was distributed in late April 1990. It summarised the results of the Round One Survey and asked for comments on and refinement of the results. It then sought responses on the skills required by TAFE teachers in the 1990s with respect to an inventory of 178 skills which was used in the TAFE teachers survey questionnaire. A copy of the Round Two questionnaire is given in Appendix B.

For the Round Two Survey, 59 people returned the questionnaire, a response rate of 48%. The distribution of respondents is given in Table 4.2.
Table 4.2. Delphi Round 2 Responses

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<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>g</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>h</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>i</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>j</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3</strong></td>
<td><strong>9</strong></td>
<td><strong>11</strong></td>
<td><strong>7</strong></td>
<td><strong>10</strong></td>
<td><strong>8</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
<td><strong>1</strong></td>
<td><strong>59</strong></td>
</tr>
</tbody>
</table>

Key to Delphi Panel Groups

a TAFE authority senior staff
b Industrial relations/training authorities separate from TAFE
c College management
d TAFE teachers' unions
e TAFE teachers
f Heads of departments/head teachers
g Industry/commerce groups
h TAFE staff development
i Teacher education institutions
j Curriculum development staff

The data from the Round Two Survey were compared with data received from the TAFE teacher survey, and this comparison is discussed in Section 5.2.

At the conclusion of the two rounds of the Delphi survey, the skills likely to be required by TAFE teachers in the 1990s had been identified by a panel of experts, there was an indication of possible specialisations, and gaps between current skills possessed by TAFE teachers (identified in Stage 1B) and skills likely to be required (identified in Stage 1A) had been analysed.

Questionnaire (TAFE Teacher Survey)

The skill analysis survey of TAFE teachers aimed to obtain information on the current skills of TAFE teachers, and the views of TAFE teachers on the skills likely to be required in the 1990s. In this context the term skill was used in the broad sense to include knowledge (cognitive skills), manual (psychomotor) skills, and attitudes (affective skills).
The twenty-two page survey questionnaire (shown in Appendix E) was divided into two parts:

- **PART I** sought background information on the respondent, including gender, location, years of teaching, teaching field(s) and course levels, teacher education course(s) undertaken and amount of recent training and development undertaken; and

- **PART II** sought information on the frequency of use, current skill level, and skill level likely to be required in the 1990s for each of the 178 skills listed. The 178 skills were divided into seven categories as follows:
  - teaching (58 skills);
  - curriculum development (18 skills);
  - determining client needs and industry liaison (32 skills);
  - management/administration (34 skills);
  - updating own subject (9 skills);
  - workplace context (11 skills);
  - general personal qualities (16 skills).

Respondents were also invited to write in additional skills.

The questionnaire was sent to a sample of 1179 TAFE teachers throughout Australia in March 1990. A stratified random sample was selected with the help of TAFE staff in each state and territory. The balance between metropolitan college and non-metropolitan college and between less than three years service and more than three years service was specified in the sample for each state and territory. Within each category, TAFE teachers were selected at random from central TAFE agency records in each state/territory except Victoria. In Victoria, where there is no central agency listing of TAFE teachers, sampling was undertaken from college records.

The selected sample size for each state and territory is shown in Table 4.3.
Table 4.3  TEACHER SAMPLE SIZE AND RESPONSE RATES FOR EACH STATE AND TERRITORY

<table>
<thead>
<tr>
<th>State</th>
<th>Total F/T teachers</th>
<th>Teacher sample size</th>
<th>Usable returns rec’d</th>
<th>Total No of returns rec’d</th>
<th>Usable return rate %</th>
<th>Total return rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>398</td>
<td>40</td>
<td>15</td>
<td>16</td>
<td>37.5</td>
<td>40.4</td>
</tr>
<tr>
<td>NSW</td>
<td>6239</td>
<td>*381</td>
<td>148</td>
<td>165</td>
<td>38.8</td>
<td>43.3</td>
</tr>
<tr>
<td>VIC</td>
<td>4395</td>
<td>215</td>
<td>110</td>
<td>123</td>
<td>50.9</td>
<td>56.9</td>
</tr>
<tr>
<td>QLD</td>
<td>2564</td>
<td>*180</td>
<td>89</td>
<td>95</td>
<td>49.4</td>
<td>52.7</td>
</tr>
<tr>
<td>SA</td>
<td>1652</td>
<td>124</td>
<td>49</td>
<td>59</td>
<td>39.5</td>
<td>47.6</td>
</tr>
<tr>
<td>WA</td>
<td>1744</td>
<td>*140</td>
<td>74</td>
<td>77</td>
<td>52.9</td>
<td>55.0</td>
</tr>
<tr>
<td>TAS</td>
<td>667</td>
<td>67</td>
<td>37</td>
<td>39</td>
<td>55.2</td>
<td>58.2</td>
</tr>
<tr>
<td>NT</td>
<td>311</td>
<td>31</td>
<td>20</td>
<td>20</td>
<td>64.5</td>
<td>64.5</td>
</tr>
<tr>
<td>No response</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>17970</td>
<td>1179</td>
<td>543</td>
<td>594</td>
<td>46.1</td>
<td>50.4</td>
</tr>
</tbody>
</table>

* denotes decreased sample size as some questionnaires were sent back 'return to sender'.

Each TAFE teacher in the sample was sent a covering letter, the questionnaire, and a reply-paid envelope. A summary of the survey results was sent to all respondents requesting it. A reminder letter was sent about 10 days after the first mailing.

The overall return rate was 50.4% with a net usable response rate of 46.1% of the total sample (see Table 4.1). In view of the length of the questionnaire, requiring over one hour to complete, this rate of response was considered satisfactory.

Most of the data analysis was performed by Paradigm Consultants in Adelaide, under the guidance of the project team. Standard statistical analyses were performed, including analysis of variance. The results are reported in the next chapter.
5. RESULTS OF THE SURVEYS

This chapter presents the results of the national surveys undertaken as part of Stage I of the project. It includes the results of the Delphi Round One survey, the Delphi Round Two Survey, and the TAFE Teacher Skills Survey. The results are presented in three sections:

- current TAFE teacher skills;
- skills required for the 1990s; and
- comparison of current skills and required skills.

In all cases of statistically significant variation, the 0.05 level of significance is used. In most cases, variation was highly significant \( (p<.001) \).

5.1: CURRENT TAFE TEACHER SKILLS

This section gives the background characteristics of the teacher sample and discusses the responses of TAFE teachers from the national teacher survey on their perceptions of their current skill levels.

Background characteristics of teacher sample

As stated in Chapter 4, 1179 questionnaires were sent to TAFE teachers in all Australian states and territories. All results presented in this section are based on the 543 usable returns described in Table 4.3.

The gender distribution of the sample is represented graphically in Figure 5.1. Of the 543 respondents, 375 were male and 165 female (3 no response).

FIGURE 5.1: GENDER DISTRIBUTION
Figure 5.2 illustrates the state/territory in which respondents were located. The number of questionnaires distributed to each state and territory was based upon a percentage of the number of full-time teachers for the particular state/territory.

**FIGURE 5.2: STATE/TERRITORY OF RESPONDENTS**

The average length of service of teachers in the sample was 10.25 years. The sample was divided into teachers with less than (or equal to) three years service (beginning teachers) and those with more than three years service (experienced teachers). The distribution for these two groups (Table 5.1) reflects the national TAFE teacher population distribution in which there is a very high percentage of teachers with over 3 years service. The implications of this on TAFE teacher preparation and development will be discussed in Stage 2.

**TABLE 5.1: LENGTH OF SERVICE WITH TAFE**

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 3 years</td>
<td>50</td>
<td>9.3</td>
</tr>
<tr>
<td>&gt; 3 years</td>
<td>486</td>
<td>90.7</td>
</tr>
<tr>
<td>Total</td>
<td>536</td>
<td>100.0</td>
</tr>
</tbody>
</table>

23
Respondents were asked to indicate their current job in TAFE. About two-thirds of the sample were full-time teachers and about one-third were full-time senior teachers or administrators with teaching duties. The current job of respondents is shown in Figure 5.3.

**FIGURE 5.3: CURRENT JOB IN TAFE**

Respondents were asked to indicate the jobs they had performed in TAFE. As they were able to indicate more than one job the percentages total more than 100% with each percentage calculated on the total number of respondents. The distribution of jobs performed is shown in Figure 5.4.

**FIGURE 5.4: JOBS PERFORMED IN TAFE**
Respondents were asked to indicate any TAFE teacher education courses which they had undertaken. Table 5.2 shows the frequency with which courses were undertaken. Of the courses completed, the most frequent was the Diploma of Teaching, completed by just over half the respondents.

**Table 5.2: TAFE Teacher Education Courses**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>NOT UNDERTAKEN</th>
<th>PARTLY COMPLETED</th>
<th>COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Teaching induction</td>
<td>403</td>
<td>74.2</td>
<td>2</td>
</tr>
<tr>
<td>Certificate</td>
<td>445</td>
<td>82.0</td>
<td>4</td>
</tr>
<tr>
<td>Diploma</td>
<td>222</td>
<td>40.9</td>
<td>38</td>
</tr>
<tr>
<td>Graduate diploma</td>
<td>385</td>
<td>70.9</td>
<td>23</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>399</td>
<td>73.5</td>
<td>35</td>
</tr>
<tr>
<td>Higher degree</td>
<td>512</td>
<td>94.3</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>479</td>
<td>88.2</td>
<td>7</td>
</tr>
</tbody>
</table>
Respondents were asked to indicate how many days they had spent in the last three years in staff training and development activities. Figure 5.6 illustrates in graphical form the percentage of respondents who have undertaken staff training and development activities, by the area of the activity. The highest percentage of responses occurred for 'updating own subject', with 80% indicating they undertook staff development in this area in the past three years.

FIGURE 5.6: STAFF DEVELOPMENT OF RESPONDENTS
Experienced teachers indicated an average total of 81 days were spent on staff training and development activities in the past three years. This represents approximately 13.2% of total working time (assuming an average of 205 working days a year). While this estimate of staff development time from the sample may appear high, subsequent interviews of teachers have indicated that for many teachers these time estimates include all activities outside teaching, teaching preparation and management/administration duties. For example many teachers included curriculum development duties in staff training and development because this was considered outside normal duties and was seen as staff development. Some teachers included time on a part-time higher degree, reading of journals and text books and industry liaison. However, other teachers interpreted staff training and development very narrowly, and only included time spent at conferences and courses.

Updating own subject also took the highest average training time, with an average of 22 days of training per teacher in the past three years. Training and development in teaching skills took the second highest average training time, (18.9 days). Of the seven skill categories, ‘the workplace context’ took the least training time (4 days). These results are presented in Figure 5.7.

**FIGURE 5.7: AVERAGE TRAINING DAYS IN PAST THREE YEARS**

**(EXPERIENCED TEACHERS)**

![Bar chart showing average training days in past three years](image)
Respondents were asked to indicate the main field of study they taught, using the DEET field of study classifications of tertiary education courses. The results are shown in Table 5.3.

**TABLE 5.3: MAIN FIELD OF STUDY OF COURSES TAUGHT**

<table>
<thead>
<tr>
<th>FIELD</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and marine resources, animal husbandry</td>
<td>24</td>
<td>4.4</td>
</tr>
<tr>
<td>Architecture, building</td>
<td>57</td>
<td>10.5</td>
</tr>
<tr>
<td>Arts, humanities and social sciences</td>
<td>54</td>
<td>9.9</td>
</tr>
<tr>
<td>Business, administration, economics</td>
<td>89</td>
<td>16.4</td>
</tr>
<tr>
<td>Education</td>
<td>6</td>
<td>1.1</td>
</tr>
<tr>
<td>Engineering, surveying</td>
<td>154</td>
<td>28.4</td>
</tr>
<tr>
<td>Health, community services</td>
<td>13</td>
<td>2.4</td>
</tr>
<tr>
<td>Law, legal studies</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Science</td>
<td>14</td>
<td>2.6</td>
</tr>
<tr>
<td>Veterinary science, animal care</td>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>Services, hospitality, transportation</td>
<td>57</td>
<td>10.5</td>
</tr>
<tr>
<td>TAFE multi-field education</td>
<td>70</td>
<td>12.9</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>543</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Current skill levels of TAFE teachers**

This section of the report will look at the key results obtained from responses to the survey questions on current skills and frequency of use.

**A. Skill category means**

Initially, rather than look at each of the 178 skills individually, the seven skill category means will be considered.

The skill categories used throughout this report are:

A: Teaching  
B: Curriculum development  
C: Determining client needs and industry liaison  
D: Management/administration  
E: Updating own subject  
F: Workplace context  
G: General personal qualities.

The skill category mean refers to the average of the scores given to the skills within a particular category.
Figure 5.8 presents the means obtained for each of the seven categories for current skills. A mean of 1 represents a low level of skill, while a mean of 3 represents a high skill level.

There was a statistically significant variation in skill category means, with 'general personal qualities' rated the highest current skill level. 'Determining client needs and industry liaison' rated as the lowest current skill level of TAFE teachers, but had the greatest amount of variation in current skill ratings.

FIGURE 5.8: CATEGORY MEANS

B: Variation of category means

There was statistically significant variation in some skill category means due to gender, length of service and state/territory. Detailed discussion follows.
Figure 5.9 presents the means for each category by gender. Female TAFE teachers gave a higher average current skill rating than male TAFE teachers in six of the seven skill categories. The one exception was client needs/industry liaison (category C). The average size of the difference is about the same as the average difference between beginning teachers and experienced teachers.

FIGURE 5.9: CATEGORY MEANS BY GENDER

Note: significant variation by gender at A, B, D, E, F and G.
Figure 5.10 presents the means for each category broken down by length of service, that is by beginning teachers and by experienced teachers.

Experienced respondents gave significantly higher responses for current skills than beginning respondents in three skill categories. Experienced TAFE teachers reported significantly higher current skill levels in the categories of:

- teaching (A)
- curriculum development (B) and
- management/administration (D).

Skills levels in the other four categories showed no statistically significant differences between experienced teachers and beginning teachers. The implications of these findings will be explored in Stage 2.

FIGURE 5.10: CATEGORY MEANS BY LENGTH OF SERVICE

Note: significant variation by length of service at A, B and D.
FIGURE 5.11: SKILL CATEGORY MEANS BY STATE/TERRITORY FOR CURRENT SKILLS

Note: significant variation by state at B, C, D, E, F and G.
Figure 5.11 illustrates the category means for current skills by state/territory. There was significant variation in all the skill category means due to state/territory except in teaching (category A). For example, significant variation occurs in curriculum development (category B) means for current skills. West Australian teachers indicated a significantly higher skill level for curriculum development than Victorian teachers, but other pairwise comparisons on curriculum development were not significant.

The cases of significant variation by state/territory and significant difference between pairs are:

- curriculum development (WA > VIC);
- determining client needs/industry liaison;
- management/administration;
- updating own subject (NSW > VIC);
- workplace context (WA > VIC);
- general personal qualities.

In three skill categories listed above, there were significant variations but no significant pairwise comparisons.

The reasons behind these differences were not investigated in Stage 1; this information may be obtained in Stage 2.

Figure 5.12 presents the means for each category broken down by workplace location. There are very few cases of significant variation in the skill category means due to workplace location.

The only case of significant variation due to workplace location is seen in the current skill level for workplace context (category F). Centrally-based teachers indicated a significantly higher current skill level for workplace context skills than their metropolitan based colleagues.
FIGURE 5.12: CATEGORY MEANS BY WORKPLACE LOCATION

Note: significant difference by workplace location at F.

C: Individual skills

The average current skill level reported by TAFE teachers for each of the 178 skills in the inventory is shown by the solid line in Figure 5.13. There is a very wide range of reported average skill level over the 178 skills, from 0.45 (no skill to low skill) for 'use interactive videodisc technology' to 2.82 (high skill) for 'take responsibility for your work'.

Note: significant difference by workplace location at F.
The ten highest current skill levels were reported by respondents for the following skills:

A 1  Have ability to interpret the syllabus (2.66)
A 2  Plan a lesson (2.68)
A25 Create a positive learning environment (2.60)
A34  Work with groups of students (2.62)
A52  Have student supervision skills (2.66)
A53  Advise students on progress (2.64)
A55  Have pride and confidence in presentation skills (2.67)
G 8  Work co-operatively with others (2.64)
G10  Be open to new ideas (2.63)
G15  Take responsibility for your work (2.82)

Each of these top ten skills were among the skills respondents reported using most frequently.

The ten lowest current skill levels were reported for the following skills:

A11  Use computer assisted learning (CAL) (0.98)
A12  Use interactive videodisc technology (0.45)
A20  Teach non-English speaking groups of students (0.78)
A22  Teach Aboriginals (0.99)
A28  Motivate external/distance education students (0.80)
B11  Develop curricula providing opportunities for students to select their own way of learning (0.98)
C 5  Undertake skills audits of organisations (0.84)
C 6  Undertake job re-design (0.84)
C16  Know the needs of overseas students (0.98)
C18  Translate TAFE policies into industry negotiations (0.79)

Each of these bottom 10 skills were among the skills respondents reported using least frequently.

It is important to reiterate that these results show teachers' opinions of themselves. It is also interesting to note that most of the ten skills with the highest reported current skill levels are interpersonal and attitudinal skills. Most of the ten reported lowest rating skills are technical.

Discussion of the other lines of the graph in Figure 5.13, that is, required skills from the teacher survey and the Delphi survey, appears in later sections of this chapter.
### FIGURE 5.13: MEANS FOR INDIVIDUAL SKILLS

#### A. TEACHING

<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
<th>none</th>
<th>low</th>
<th>high</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Have ability to interpret the syllabus (2.51)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>A2 Plan a lesson</td>
<td>(2.64)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A3 Write lesson objectives</td>
<td>(2.05)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A4 Know how to access a wide range of resources</td>
<td>(2.28)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A5 Use a range of audio visual aids</td>
<td>(2.08)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A6 Lead student discussion</td>
<td>(2.29)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A7 Present theory lessons</td>
<td>(2.53)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A8 Use team teaching</td>
<td>(1.19)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A9 Use open learning approaches</td>
<td>(1.38)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A10 Use computer managed learning (CML)</td>
<td>(0.60)</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>A11 Use computer assisted learning (CAL)</td>
<td>(0.64)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A12 Use interactive videodisc technology</td>
<td>(0.24)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A13 Use competency-based training</td>
<td>(1.53)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A14 Use competency-based assessment</td>
<td>(1.77)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A15 Know the various methods of assessment</td>
<td>(2.16)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A16 Assess student knowledge and skills</td>
<td>(2.63)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A17 Assess on-the-job training</td>
<td>(0.95)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A18 Certify on-the-job training</td>
<td>(0.65)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A19 Select teaching methods appropriate for each group</td>
<td>(2.06)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A20 Teach non-English speaking groups of students</td>
<td>(0.61)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

* See legend at end of table
<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>none</td>
</tr>
<tr>
<td>A21 Teach mature age apprentices</td>
<td>(1.13)</td>
</tr>
<tr>
<td>A22 Teach Aboriginals</td>
<td>(0.57)</td>
</tr>
<tr>
<td>A23 Teach women</td>
<td>(2.07)</td>
</tr>
<tr>
<td>A24 Manage students in the workshop</td>
<td>(1.92)</td>
</tr>
<tr>
<td>A25 Create a positive learning environment</td>
<td>(2.71)</td>
</tr>
<tr>
<td>A26 Use self-paced or individualised instruction methods</td>
<td>(1.49)</td>
</tr>
<tr>
<td>A27 Adapt teaching methods to cater for individual differences</td>
<td>(2.05)</td>
</tr>
<tr>
<td>A28 Motivate external/distance education students</td>
<td>(0.47)</td>
</tr>
<tr>
<td>A29 Motivate students with a range of backgrounds and abilities</td>
<td>(2.30)</td>
</tr>
<tr>
<td>A30 Promote co-operation among students</td>
<td>(2.40)</td>
</tr>
<tr>
<td>A31 Keep up-to-date in teaching skills</td>
<td>(2.05)</td>
</tr>
<tr>
<td>A32 Manage a range of student behaviours</td>
<td>(2.34)</td>
</tr>
<tr>
<td>A33 Negotiate with individual students</td>
<td>(2.25)</td>
</tr>
<tr>
<td>A34 Work with groups of students</td>
<td>(2.63)</td>
</tr>
<tr>
<td>A35 Counsel students about courses</td>
<td>(1.95)</td>
</tr>
<tr>
<td>A36 Counsel students about careers</td>
<td>(1.51)</td>
</tr>
<tr>
<td>A37 Counsel students on personal matters</td>
<td>(1.24)</td>
</tr>
<tr>
<td>A38 Ensure students learn to learn</td>
<td>(1.98)</td>
</tr>
<tr>
<td>A39 Value experiential learning</td>
<td>(1.81)</td>
</tr>
<tr>
<td>A40 Implement TAFE student selection policies</td>
<td>(1.17)</td>
</tr>
</tbody>
</table>

* See legend at end of table
### TEACHING (continued)

<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
<th>none</th>
<th>low</th>
<th>high</th>
</tr>
</thead>
<tbody>
<tr>
<td>A41 Implement relevant TAFE equal opportunity policies in classroom</td>
<td>(1.64)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A42 Use adult learning principles</td>
<td>(2.36)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A43 Encourage students to use higher order thinking skills</td>
<td>(2.08)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A44 Ensure students successfully undertake learning contracts</td>
<td>(1.41)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A45 Use knowledge of applied psychology</td>
<td>(1.78)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A46 Have conflict resolution skills</td>
<td>(1.59)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A47 Have understanding of adult students, including potential course leavers</td>
<td>(2.03)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A48 Diagnose learning difficulties</td>
<td>(1.89)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A49 Be aware of literacy problems</td>
<td>(1.97)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A50 Have skills in handling learning difficulties</td>
<td>(1.70)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A51 Have knowledge of in-classroom processes such as problem solving</td>
<td>(2.10)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A52 Have student supervision skills</td>
<td>(2.59)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A53 Advise students on progress</td>
<td>(2.58)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A54 Teach several levels of students in one teaching session</td>
<td>(2.08)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A55 Have pride and confidence in presentation skills</td>
<td>(2.71)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A56 Know the entire curriculum and the place of your subject within in</td>
<td>(2.40)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A57 Maintain enthusiasm for teaching</td>
<td>(2.54)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A58 Appraise your own teaching</td>
<td>(2.34)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*See legend at end of table*
### B. CURRICULUM DEVELOPMENT

<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>none</td>
</tr>
<tr>
<td>B1</td>
<td>Understand the various approaches to curriculum development</td>
</tr>
<tr>
<td>B2</td>
<td>Write syllabuses</td>
</tr>
<tr>
<td>B3</td>
<td>Evaluate courses</td>
</tr>
<tr>
<td>B4</td>
<td>Have working knowledge of 'alternative' teaching methods</td>
</tr>
<tr>
<td>B5</td>
<td>Work in curriculum development teams</td>
</tr>
<tr>
<td>B6</td>
<td>Develop short courses</td>
</tr>
<tr>
<td>B7</td>
<td>Develop curricula for mixed study modes</td>
</tr>
<tr>
<td>B8</td>
<td>Know how to modify a syllabus</td>
</tr>
<tr>
<td>B9</td>
<td>Have knowledge of modular curriculum design</td>
</tr>
<tr>
<td>B10</td>
<td>Keep up-to-date in curriculum issues in adult education</td>
</tr>
<tr>
<td>B11</td>
<td>Develop curricula providing opportunities for students to select their own way of learning</td>
</tr>
<tr>
<td>B12</td>
<td>Translate curricula of various types into student performance objectives</td>
</tr>
<tr>
<td>B13</td>
<td>Develop competency-based curricula</td>
</tr>
<tr>
<td>B14</td>
<td>Develop student assessment instruments</td>
</tr>
<tr>
<td>B15</td>
<td>Understand learning processes</td>
</tr>
<tr>
<td>B16</td>
<td>Know the principles of instructional design</td>
</tr>
<tr>
<td>B17</td>
<td>Develop materials for student use</td>
</tr>
<tr>
<td>B18</td>
<td>Know course accreditation requirements and procedures</td>
</tr>
</tbody>
</table>

* See legend at end of table
### C. Determining Client Needs and Industry Liaison

<table>
<thead>
<tr>
<th>Skill</th>
<th>Skill Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Analyse the local community education needs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C2 Understand industry restructuring</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C3 Analyse industry training needs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C4 Undertake skills analysis projects</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C5 Undertake skills audits of organisations</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C6 Undertake job re-design</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C7 Understand what multi-skilling means in your trade or industry</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C8 Know about award restructuring in your trade or industry</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C9 Know the principles of work organisation</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C10 Understand relevant industrial relations issues</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C11 Understand the sociology or work</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C12 Understand philosophy of adult education training</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C13 Understand sociology of adult education and training</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C14 Liaise with employers on student progress</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C15 Have public relations skills</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C16 Know the needs of overseas students</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C17 Prepare submissions for industry/TAFE management</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C18 Translate TAFE policies into industrial negotiations</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C19 Have entrepreneurial skills</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>C20 Have marketing skills</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>

*See legend at end of table*
<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>none</td>
</tr>
<tr>
<td>C21 Have consultancy skills</td>
<td>(1.13)</td>
</tr>
<tr>
<td>C22 Undertake technical research and development projects for industry</td>
<td>(0.46)</td>
</tr>
<tr>
<td>C23 Liaise with on-the-job trainers</td>
<td>(0.88)</td>
</tr>
<tr>
<td>C24 Have an understanding of communication in organisations</td>
<td>(1.55)</td>
</tr>
<tr>
<td>C25 Liaise with private providers of training</td>
<td>(0.64)</td>
</tr>
<tr>
<td>C26 Develop close links with relevant industry contacts</td>
<td>(1.44)</td>
</tr>
<tr>
<td>C27 Liaise with industry advisory bodies</td>
<td>(0.94)</td>
</tr>
<tr>
<td>C28 Work with employer groups</td>
<td>(0.88)</td>
</tr>
<tr>
<td>C29 Work with unions</td>
<td>(0.58)</td>
</tr>
<tr>
<td>C30 Work with prof. associations, registration bodies and other groups</td>
<td>(0.96)</td>
</tr>
<tr>
<td>C31 Assess learning needs and methods for isolated students</td>
<td>(0.55)</td>
</tr>
<tr>
<td>C32 Negotiate equipment and materials acquisitions from industry</td>
<td>(0.88)</td>
</tr>
</tbody>
</table>

LEGEND: Number in brackets is average frequency of use (1 = low; 3 = high)

--- current skill level of TAFE teachers

......... skill level required 1990s (TAFE teacher survey)

-------- skill level required 1990s (Delphi survey)
### D. MANAGEMENT/ADMINISTRATION

<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage time effectively</td>
<td>(2.45)</td>
</tr>
<tr>
<td>Organise work effectively</td>
<td>(2.54)</td>
</tr>
<tr>
<td>Arrange work load</td>
<td>(2.48)</td>
</tr>
<tr>
<td>Have an understanding of basic accounting</td>
<td>(1.35)</td>
</tr>
<tr>
<td>Have budgeting skills</td>
<td>(1.53)</td>
</tr>
<tr>
<td>Have reporting skills</td>
<td>(1.85)</td>
</tr>
<tr>
<td>Have workshop management skills</td>
<td>(1.81)</td>
</tr>
<tr>
<td>Have time-tabling skills</td>
<td>(1.75)</td>
</tr>
<tr>
<td>Have negotiation skills</td>
<td>(1.89)</td>
</tr>
<tr>
<td>Have conflict resolution skills</td>
<td>(1.70)</td>
</tr>
<tr>
<td>Have skills in working with groups</td>
<td>(2.17)</td>
</tr>
<tr>
<td>Have mentor skills</td>
<td>(1.78)</td>
</tr>
<tr>
<td>Have leadership skills</td>
<td>(2.21)</td>
</tr>
<tr>
<td>Have ability to manage in climate of change</td>
<td>(2.15)</td>
</tr>
<tr>
<td>Co-ordinate courses</td>
<td>(1.85)</td>
</tr>
<tr>
<td>Implement student selection policies</td>
<td>(1.21)</td>
</tr>
<tr>
<td>Initiate student selection policies</td>
<td>(0.98)</td>
</tr>
<tr>
<td>Have capacity to facilitate multiple entry and exit levels in courses</td>
<td>(0.83)</td>
</tr>
<tr>
<td>Manage mixed mode of study</td>
<td>(1.05)</td>
</tr>
<tr>
<td>Implement TAFE policies within the college</td>
<td>(1.70)</td>
</tr>
</tbody>
</table>

* See legend at end of table
<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>none</td>
</tr>
<tr>
<td>D21 Manage an education program</td>
<td>0</td>
</tr>
<tr>
<td>D22 Know the resourcing implications of courses</td>
<td>0</td>
</tr>
<tr>
<td>D23 Manage human resources</td>
<td>0</td>
</tr>
<tr>
<td>D24 Deal with problems of new teachers</td>
<td>0</td>
</tr>
<tr>
<td>D25 Have staff supervision skills</td>
<td>0</td>
</tr>
<tr>
<td>D26 Have ability to appraise, assess and evaluate staff</td>
<td>0</td>
</tr>
<tr>
<td>D27 Have the ability to evaluate own performance</td>
<td>0</td>
</tr>
<tr>
<td>D28 Have database management skills</td>
<td>0</td>
</tr>
<tr>
<td>D29 Analyse student records for significant trends</td>
<td>0</td>
</tr>
<tr>
<td>D30 Use common computer software packages</td>
<td>0</td>
</tr>
<tr>
<td>D31 Devise effective and efficient administrative procedures</td>
<td>0</td>
</tr>
<tr>
<td>D32 Supervise equipment ordering, purchase and storage</td>
<td>0</td>
</tr>
<tr>
<td>D33 Maintain and repair equipment</td>
<td>0</td>
</tr>
<tr>
<td>D34 Promote co-operation among teachers</td>
<td>0</td>
</tr>
</tbody>
</table>

**LEGEND:** Number in brackets is average frequency of use (1 = low; 3 = high)

- current skill level of TAFE teachers

- skill level required 1990s (TAFE teacher survey)

- skill level required 1990s (Delphi survey)
### E. UPDATING OWN SUBJECT

<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>none</td>
</tr>
<tr>
<td>E1 Keep up-to-date in subject specialty (2.27)</td>
<td>0</td>
</tr>
<tr>
<td>E2 Maintain technical skills (2.22)</td>
<td>0</td>
</tr>
<tr>
<td>E3 Develop new technical skills for broadening or multi-skilling (1.63)</td>
<td>0</td>
</tr>
<tr>
<td>E4 Be familiar with related trades or subject areas (1.92)</td>
<td>0</td>
</tr>
<tr>
<td>E5 Cope with change (2.32)</td>
<td>0</td>
</tr>
<tr>
<td>E6 Understand the role of new technology in the workplace (1.99)</td>
<td>0</td>
</tr>
<tr>
<td>E7 Know modern quality management principles (1.28)</td>
<td>0</td>
</tr>
<tr>
<td>E8 Know current occupational health and safety requirements (1.87)</td>
<td>0</td>
</tr>
<tr>
<td>E9 Consult others about your own professional development (1.46)</td>
<td>0</td>
</tr>
</tbody>
</table>

**LEGEND:**
- Number in brackets is average frequency of use (1 = low; 3 = high)
- ——— current skill level of TAFE teachers
- ———— skill level required 1990s (TAFE teacher survey)
- ———— skill level required 1990s (Delphi survey)
### F. THE WORKPLACE CONTEXT

<table>
<thead>
<tr>
<th>SKILL</th>
<th>SKILL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know the operation of your college system</td>
<td>(2.06)</td>
</tr>
<tr>
<td>Know the operation of your state/territory TAFE authority</td>
<td>(1.46)</td>
</tr>
<tr>
<td>Know current issues in vocational education and training in Australia</td>
<td>(1.48)</td>
</tr>
<tr>
<td>Know the purpose of TAFE and your role within it</td>
<td>(2.00)</td>
</tr>
<tr>
<td>Know the strategic plan for your TAFE system</td>
<td>(1.36)</td>
</tr>
<tr>
<td>Understand the political and economic context of TAFE</td>
<td>(1.36)</td>
</tr>
<tr>
<td>Understand gender issues in adult education</td>
<td>(1.49)</td>
</tr>
<tr>
<td>Understand equal opportunity issues in adult education and the workplace</td>
<td>(1.68)</td>
</tr>
<tr>
<td>Understand multicultural issues in adult education</td>
<td>(1.38)</td>
</tr>
<tr>
<td>Understand the links between secondary schools and TAFE</td>
<td>(1.57)</td>
</tr>
<tr>
<td>Know TAFE teachers' terms and conditions</td>
<td>(1.98)</td>
</tr>
</tbody>
</table>

**LEGEND:**
- Number in brackets is average frequency of use (1 = low; 3 = high)
- Current skill level of TAFE teachers
- Skill level required 1990s (TAFE teacher survey)
- Skill level required 1990s (Delphi survey)
### G. General Personal Qualities

<table>
<thead>
<tr>
<th>Skill</th>
<th>Current Skill Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1: Have speaking skills</td>
<td>average frequency of use (2.67)</td>
</tr>
<tr>
<td>G2: Have listening skills</td>
<td>average frequency of use (2.65)</td>
</tr>
<tr>
<td>G3: Have writing skills</td>
<td>average frequency of use (2.53)</td>
</tr>
<tr>
<td>G4: Have lateral thinking skills</td>
<td>average frequency of use (2.30)</td>
</tr>
<tr>
<td>G5: Have research skills</td>
<td>average frequency of use (2.01)</td>
</tr>
<tr>
<td>G6: Have interviewing skills</td>
<td>average frequency of use (1.71)</td>
</tr>
<tr>
<td>G7: Have negotiating skills</td>
<td>average frequency of use (1.74)</td>
</tr>
<tr>
<td>G8: Work co-operatively with others</td>
<td>average frequency of use (2.71)</td>
</tr>
<tr>
<td>G9: Know how to consult colleagues for advice</td>
<td>average frequency of use (2.41)</td>
</tr>
<tr>
<td>G10: Be open to new ideas</td>
<td>average frequency of use (2.52)</td>
</tr>
<tr>
<td>G11: Cope with stress</td>
<td>average frequency of use (2.37)</td>
</tr>
<tr>
<td>G12: Set own goals and career pathways</td>
<td>average frequency of use (1.99)</td>
</tr>
<tr>
<td>G13: Cope with change in system</td>
<td>average frequency of use (2.30)</td>
</tr>
<tr>
<td>G14: Use self-reliance skills</td>
<td>average frequency of use (2.49)</td>
</tr>
<tr>
<td>G15: Take responsibility for your work</td>
<td>average frequency of use (2.83)</td>
</tr>
<tr>
<td>G16: Be committed to TAFE's goals</td>
<td>average frequency of use (2.21)</td>
</tr>
</tbody>
</table>

**Legend:**
- Number in brackets is average frequency of use (1 = low; 3 = high)
- Current skill level of TAFE teachers
- Skill level required 1990s (TAFE teacher survey)
- Skill level required 1990s (Delphi survey)
5.2: SKILLS REQUIRED FOR THE 1990s

As stated in Chapter 4, to help identify TAFE teacher skills required for the 1990s the following surveys were undertaken:

- Delphi Survey Round One (to identify skills required for 1990s through open-ended questions);
- Delphi Survey Round Two (to identify skills required for 1990s using the inventory of 178 skills); and
- TAFE Teacher Survey (to identify current skills and skills required for 1990s using the inventory of 178 skills).

This section discusses these three sets of results on skills required for the 1990s, while Section 5.3 will compare the skills required with the current skills of TAFE teachers. Section 5.2 is divided into two parts:

- skill categories (results for the seven broad skill categories); and
- individual skills (results for the individual skills in the skill inventory and open-ended questions).

One key feature of these results needs to be borne in mind when looking for practical applications. The results are based on expected skills required for the 1990s rather than desired skills required. The job of TAFE teaching could be consciously redesigned to give a profile of job skills much different to what teachers and administrators now expect. For example, some TAFE agencies may decide to organise TAFE teaching more strongly into specialisations such as those listed on page 61. This would directly affect the training and development needs of beginning and experienced teachers.

Skill categories

For the Delphi Survey Round One, the 'open-ended' questions asked respondents to list the skills important for TAFE teaching in the 1990s, firstly for beginning TAFE teachers, and secondly for experienced TAFE teachers. The responses were analysed by sorting the skills listed into the seven broad skill categories used in the teacher survey skill inventory. Skills listed by two or more Delphi respondents were included in the final list in each category. In the Delphi Survey Round Two, respondents were asked to 'refine' these lists by adding or deleting skills. A total of 75 skills were listed for beginning TAFE teachers and a further 71 skills (additional to those for beginning teachers) were listed for experienced TAFE teachers. The distribution of these over the seven skill categories is shown in Table 5.4.

The distribution of skills is similar for the Delphi surveys
The distribution of skills is similar for the Delphi surveys and the skills inventory used in the TAFE teacher survey. Most skills are in 'A: teaching', with 'D: management/administration' having the second largest number of skills in both cases.

### TABLE 5.4: NUMBER OF SKILLS LISTED BY THE DELPHI RESPONDENTS AND NUMBER IN THE SKILLS INVENTORY.

<table>
<thead>
<tr>
<th>SKILL CATEGORY</th>
<th>Delphi Surveys - Open-ended Responses</th>
<th>Skills Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>beginning teachers</td>
<td>experienced teachers</td>
</tr>
<tr>
<td>A Teaching</td>
<td>36</td>
<td>11</td>
</tr>
<tr>
<td>B Curriculum development</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>C Industry</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>D Management</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>E Update</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>F Context</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>G General personal qualities</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>75</td>
<td>71</td>
</tr>
</tbody>
</table>

* Note: the skills listed for experienced teachers are additional to those listed for beginning teachers.

For the Delphi Survey Round Two and the TAFE Teacher Survey, the skills inventory of 178 skills was used. In both surveys respondents were asked to rate the level of skill required by most TAFE teachers in the 1990s for each of the 178 skills. Figure 5.14 gives the means obtained for each of the seven broad skill categories for both surveys.

There are three main features of the data presented in Figure 5.14. Firstly, the skill level required is in the medium to high range for all seven skill categories. Thus, it is expected that TAFE teachers will require a medium to high level of skill over all seven skill categories in the 1990s. Secondly, there is significant variation in means among the seven categories, with the lowest being 'C: determining client needs and industry liaison' and the highest being 'G: general personal qualities' for both surveys. Thirdly, there is broad agreement on the level of skill required over the seven categories between the Delphi respondents and the TAFE teacher survey respondents. This is indicated by the closeness of the two graphs in Figure 5.14, and it supports the reliability of these findings.
For the Delphi Round Two Survey, analyses of the variation in skill category means due to Delphi group and state/territory were undertaken, using analysis of variance. There was no significant variation in skill category means among the Delphi groups. Also, there was no significant variation in skill category means across the states and territories. In other words, there was broad agreement by the Delphi panel on the average level of skill required for the 1990s in each of the seven skill categories.

For the TAFE Teacher Survey, analyses of the variation in skill category means due to:

- gender;
- length of service;
- workplace location; and
- state/territory;

of the respondents in the survey were undertaken, using the statistical technique of analysis of variance. A discussion of each of these follows.
Figure 5.15 presents the means for each category broken down by gender for skills required in 1990s (teacher survey). Females gave significantly higher responses than males for required skill levels in all skill categories. Category 'G: general personal qualities', was identified as the most important required skill for the 1990s by both males and females, while category 'C: determining client needs and industry liaison' was rated the lowest future skill level required by both males and females.

FIGURE 5.15: SKILL CATEGORY MEANS BY GENDER
Figure 5.16 presents the means for each category broken down by length of service. Respondents with more than three years service gave significantly lower responses for required skills than respondents with three or less years of service for skill category 'A: teaching'. No significant differences were identified for any of the other skill categories. In other words, beginning and experienced TAFE teachers are in broad agreement on the level of skill required in the 1990s except for category 'A: teaching' skills.

FIGURE 5.16: CATEGORY MEANS BY LENGTH OF SERVICE
Figure 5.17 presents the means for each category broken down by workplace location. There is only one case of statistically significant variation in the skill category means due to workplace location. Significant variation is seen in the skill level for the 1990s for category A only. Non-metropolitan teachers indicated a significantly higher required skill level for teaching skills than their metropolitan colleagues. (While skill categories C and F showed bigger differences in means, the higher variance in individual ratings in these categories resulted in a non-significant variation in means.)

**FIGURE 5.17: CATEGORY MEANS BY WORKPLACE LOCATION**

Note: Statistically significant variation at A only.
Figure 5.18 presents the mean for each skill category broken down by state/territory for skills required in 1990s from the teacher survey.

There was significant variation in only two of the skill category means due to state/territory from the teacher questionnaire. Significant variation occurs in category A and D.

**Figure 5.18: Category Means by State/Territory**

- **A:** Teaching
- **B:** Curriculum development
- **C:** Determining clients' needs 
  & industry liaison
- **D:** Management/administration
- **E:** Updating own subject
- **F:** Workplace context
- **G:** General personal qualities

*Note: Statistically significant variation in A and D only.*
Individual skills

As stated earlier, skills required for the 1990s were identified in open-ended questions in the Delphi Surveys, and by ratings of 'skill level required for 1990s' for the skill inventory in the Delphi Round Two and TAFE Teacher Surveys.

For the open-ended questions in the Delphi Surveys, separate lists of skills required were sought for:

- beginning TAFE teachers (that is, teachers with less than or equal to three years service);
- experienced TAFE teachers (that is, teachers with over three years service).

For the Round Two Survey, the list of responses to the Round One Delphi Survey was shown to the Delphi panel so that the panel could refine the list of skills.

The skills in Table 5.5 have been identified by at least two respondents in Delphi Survey Round One and Round Two as being important for beginning TAFE teachers in the 1990s.

The 75 skills are classified in seven broad categories. There was disagreement on 18 of the 75 skills, and these skills are marked with an asterisk (*) in the table. These 18 skills were listed by at least two Delphi respondents but were deleted from the list by at least another two Delphi respondents. Skills marked with a cross (+) were also listed for experienced teachers.

No consistent pattern of responses emerged by state/territory or grouping.
TABLE 5.5: SKILLS IMPORTANT IN 1990s FOR BEGINNING TAFE TEACHERS (FIRST 3 YEARS)

A: TEACHING SKILLS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Select appropriate teaching methodology for each situation</td>
</tr>
<tr>
<td>2.</td>
<td>Ability to understand and use the syllabus</td>
</tr>
<tr>
<td>3.</td>
<td>Student assessment</td>
</tr>
<tr>
<td>4.</td>
<td>Lesson planning</td>
</tr>
<tr>
<td>5.</td>
<td>Use competency-based training</td>
</tr>
<tr>
<td>6.</td>
<td>Use computer-managed learning</td>
</tr>
<tr>
<td>7.</td>
<td>Team teach *</td>
</tr>
<tr>
<td>8.</td>
<td>Use audio-visual aids</td>
</tr>
<tr>
<td>9.</td>
<td>Write lesson objectives</td>
</tr>
<tr>
<td>10.</td>
<td>Use open leaning approaches +*</td>
</tr>
<tr>
<td>11.</td>
<td>Know how to design valid tests</td>
</tr>
<tr>
<td>12.</td>
<td>Teach non-traditional students *</td>
</tr>
<tr>
<td>13.</td>
<td>Create a positive/productive learning environment</td>
</tr>
<tr>
<td>14.</td>
<td>Counselling students +</td>
</tr>
<tr>
<td>15.</td>
<td>Basic teaching skills *</td>
</tr>
<tr>
<td>16.</td>
<td>Use adult learning principles</td>
</tr>
<tr>
<td>17.</td>
<td>Use diverse teaching strategies *</td>
</tr>
<tr>
<td>18.</td>
<td>Impart critical thinking/problem solving skills</td>
</tr>
<tr>
<td>19.</td>
<td>Presentation skills</td>
</tr>
<tr>
<td>20.</td>
<td>Understanding of adult students</td>
</tr>
<tr>
<td>21.</td>
<td>Awareness of literacy problems</td>
</tr>
<tr>
<td>22.</td>
<td>Manage classroom/workshop</td>
</tr>
<tr>
<td>23.</td>
<td>Accommodate teaching strategies for diverse range of students</td>
</tr>
<tr>
<td>24.</td>
<td>Recognise prior learning/experiences</td>
</tr>
<tr>
<td>25.</td>
<td>Discipline students *</td>
</tr>
<tr>
<td>26.</td>
<td>Understand and use new developments in educational technology</td>
</tr>
<tr>
<td>27.</td>
<td>Motivate students from wide range of backgrounds</td>
</tr>
<tr>
<td>28.</td>
<td>Use technology-based delivery methods</td>
</tr>
<tr>
<td>29.</td>
<td>Impart subject knowledge *</td>
</tr>
<tr>
<td>30.</td>
<td>Have advanced communication skills</td>
</tr>
<tr>
<td>31.</td>
<td>Have questioning skills</td>
</tr>
<tr>
<td>32.</td>
<td>Appraise your own teaching</td>
</tr>
<tr>
<td>33.</td>
<td>Assess and evaluate student skills knowledge</td>
</tr>
<tr>
<td>34.</td>
<td>Commitment to education</td>
</tr>
<tr>
<td>35.</td>
<td>Facilitation skills</td>
</tr>
<tr>
<td>36.</td>
<td>Skills in teaching women, non-English speaking background, Aboriginals, and students with disabilities</td>
</tr>
</tbody>
</table>

B. CURRICULUM DEVELOPMENT SKILLS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Basic curriculum development skills *</td>
</tr>
<tr>
<td>2.</td>
<td>Develop materials for student use</td>
</tr>
<tr>
<td>3.</td>
<td>Curriculum evaluation and updating *</td>
</tr>
</tbody>
</table>
C. DETERMINING CLIENT NEEDS AND INDUSTRY LIAISON

1. Industry training needs analysis *
2. Know sociology of adult education and training *
3. Have current industry knowledge
4. Entrepreneurial skills **
5. Maintain industry contacts and networks
6. Undertake skills analysis projects
7. Research/exploratory skills

D. MANAGEMENT/ADMINISTRATION

1. Manage time effectively
2. Organise work effectively
3. Computer literacy
4. Planning skills
5. Time management in class and preparation
6. Have mentoring skills

E. UPDATING OWN SPECIALITY

1. Have extensive subject knowledge
2. Being up-to-date in subject area
3. Familiarity with related trade/teaching area
4. Maintain technical skills
5. Knowledge of occupational health and safety requirements +

F. THE WORKPLACE CONTEXT

1. Know the operation of teacher’s college system *
2. Know the operation of teacher’s state/territory TAFE authority *
3. Know purpose of TAFE
4. Understand political, social and economic context of TAFE *
5. Understand equal opportunity issues in TAFE and in workplace
6. Have knowledge of access and equity issues
7. Know changes in the TAFE system *
8. Understand links between TAFE and other education sectors +
9. Have organisational knowledge
G. PERSONAL QUALITIES

1. Communication skills +
2. Interpersonal skills +
3. Research skills +*
4. Critical thinking/problem solving skills
5. Self-management/self-reliance skills
6. Ability to cope with stress +*
7. Personal responsibility for one's own work
8. Openness to new ideas
9. Cope with change in the system

Notes: + These skills were also listed for experienced TAFE teachers.
* Disagreement on these skills, with at least two Delphi respondents wanting these skills deleted from this list.

The skills in Table 5.6 have been identified by at least two respondents in Delphi Survey Rounds One and Two as being important for experienced TAFE teachers in the 1990s.

The 71 skills are classified in seven broad categories. There was disagreement on just two skills, marked with asterisks in the table. Skills marked by a cross(+) were also listed for beginning TAFE teachers.

Many respondents prefaced their responses by stating "all the skills required for beginning teachers" or "beginning teacher skills at an advanced or broader and deeper level". Lists for experienced were generally therefore markedly shorter than those for beginning teachers.

When comparing the two lists, it is apparent that significant expansions of skills required for experienced TAFE teachers occur in the areas of:-

- determining client needs and industry liaison;
- management/administration.

No consistent pattern of responses emerged by state/territory or grouping.

It is interesting to note that the consolidated list of 146 skills from the Delphi panel largely overlaps with that used for the teacher survey which was mainly developed through a group process method.
### TABLE 5.6: SKILLS IMPORTANT IN 1990s FOR EXPERIENCED TAFE TEACHERS (AFTER 3 YEARS SERVICE)

#### TEACHING SKILLS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use a range of teaching strategies*</td>
</tr>
<tr>
<td>2</td>
<td>In-depth understanding of adult teaching and learning processes</td>
</tr>
<tr>
<td>3</td>
<td>Up-dated teaching methodology</td>
</tr>
<tr>
<td>4</td>
<td>Competency-based courses and assessment</td>
</tr>
<tr>
<td>5</td>
<td>Counselling skills +</td>
</tr>
<tr>
<td>6</td>
<td>Assessment</td>
</tr>
<tr>
<td>7</td>
<td>Implement policies for disadvantaged groups</td>
</tr>
<tr>
<td>8</td>
<td>Use CML/CAL</td>
</tr>
<tr>
<td>9</td>
<td>Use open learning approaches +</td>
</tr>
<tr>
<td>10</td>
<td>Implement TAFE student selection procedures</td>
</tr>
<tr>
<td>11</td>
<td>Use self-paced instruction methods</td>
</tr>
</tbody>
</table>

#### CURRICULUM DEVELOPMENT

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Advanced curriculum development skills</td>
</tr>
<tr>
<td>2</td>
<td>Research and develop curriculum</td>
</tr>
<tr>
<td>3</td>
<td>Course evaluation</td>
</tr>
<tr>
<td>4</td>
<td>Curriculum review</td>
</tr>
<tr>
<td>5</td>
<td>Know course accreditation requirements and procedures</td>
</tr>
</tbody>
</table>

#### DETERMINING CLIENT NEEDS AND INDUSTRY LIAISON

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Entrepreneurial skills+*</td>
</tr>
<tr>
<td>2</td>
<td>Marketing skills</td>
</tr>
<tr>
<td>3</td>
<td>Develop close links with industry contacts</td>
</tr>
<tr>
<td>4</td>
<td>Liaison with employers on student progress</td>
</tr>
<tr>
<td>5</td>
<td>Consultancy skills</td>
</tr>
<tr>
<td>6</td>
<td>Analysis of industry training needs *</td>
</tr>
<tr>
<td>7</td>
<td>Industrial relations knowledge</td>
</tr>
<tr>
<td>8</td>
<td>Undertake skills audits</td>
</tr>
<tr>
<td>9</td>
<td>Current knowledge of industry</td>
</tr>
<tr>
<td>10</td>
<td>Industrial release opportunities</td>
</tr>
<tr>
<td>11</td>
<td>Knowledge of industry restructuring</td>
</tr>
<tr>
<td>12</td>
<td>Have liaison/negotiating skills</td>
</tr>
<tr>
<td>13</td>
<td>Report writing skills</td>
</tr>
<tr>
<td>14</td>
<td>Participate in on-site industry training</td>
</tr>
<tr>
<td>15</td>
<td>Ability to deliver fee-for-service courses</td>
</tr>
</tbody>
</table>
MANAGEMENT/ADMINISTRATION

1. Conduct meetings
2. Supervisory skills
3. Management skills
4. Administrative skills
5. Strategic planning
6. Budgeting skills
7. Course co-ordination
8. Conflict resolution skills
9. Leadership skills
10. Resource management
11. Team-building
12. Human resource management
13. Computer literacy
14. Assistance to new teachers
15. Staff/teacher development
16. Project management skills
17. Understand accounting/costing
18. Staff appraisal
19. Adapt to technological change
20. Staff selection
21. Financial management skills

UP-DATING OWN SUBJECT

1. Advanced knowledge of teaching subject
2. Technical competence
3. Quality management principles and practice
4. Occupational health and safety principles and procedures

THE WORKPLACE CONTEXT

1. Understand links between TAFE and other education sectors +
2. Knowledge of state/territory TAFE authority
3. Knowledge of state/territory TAFE college system
4. Knowledge of political, social and economic context of TAFE
PERSONAL QUALITIES

1. Communication skills +
2. Interpersonal skills +
3. Liaison skills
4. Research skills +
5. Set own career goals
6. Work co-operatively with others
7. Stress management +
8. Critical thinking/problem solving skills
9. Counselling skills
10. Ability to negotiate
11. Be able to take initiative

Notes: * These skills were also listed for beginning TAFE teachers.
* Disagreement on these skills, with at least two Delphi respondents wanting these skills deleted from this list.

Specialisations required by TAFE teachers

Approximately 78% of the Delphi respondents believed there would be a need for TAFE teachers to have areas of specialisation (other than trade/technical specialisation) in the 1990s.

The following specialisations in Table 5.7 were listed by two or more respondents. There was disagreement on three specialisations. Those marked with an asterisk were included in the list by at least two respondents but were deleted from the list by at least two of the Delphi respondents.
TABLE 5.7: SPECIALISATIONS

1. Educational consulting
2. Creation of fee-for-service courses
3. Skills analysis
4. Skills audit
5. Marketing
6. Competency-based programs (teaching and assessment)
7. Teaching non-traditional students
8. On-the-job training
9. On-the-job assessment
10. Client-centred marketing
11. Management skills
12. Community education needs analysis
13. Computer-managed learning
14. Computing skills
15. Distance learning technical expertise
16. Research
17. Evaluation
18. Curriculum development
19. Staff development
20. Instructional design
21. Career counselling and guidance
22. Manage human resources
23. Financial management and planning
24. Training needs analysis
25. Computer assisted learning

In the Delphi Round Two and TAFE Teacher Surveys, ratings of skills required for the 1990s for each of the 178 skills in the inventory are given in Figure 5.13. The Delphi Round Two Survey ratings are indicated by a dashed line, and the TAFE Teacher Survey ratings are indicated by a dotted line.

There is a wide range of average skill level required for the 1990s over the 178 skills for both surveys. For the Delphi Round Two Survey, the average skill level required for 1990s ranged from 1.45 (low to medium skill level) for ‘maintain and repair equipment’ to 2.95 (high skill level) for ‘have listening skills’. For the TAFE Teacher Survey the average skill level required for 1990s ranged from 1.53 (low to medium skill level) for ‘teach Aboriginals’ to 2.90 (high skill level) for ‘take responsibility for your work’.

The ten highest required skills levels for the Delphi Round Two survey were recorded for the following skills:

A16 Assess student knowledge and skills (2.89)
A25 Create a positive learning environment (2.93)
A31 Keep up-to-date in teaching skills (2.88)
A42 Use adult learning principles (2.89)
D1 Manage time effectively (2.86)
D2 Organise work effectively (2.88)
E2 Maintain technical skills (2.86)
G2 Have listening skills (2.95)
G8 Work co-operatively with others (2.86)
G10 Be open to new ideas (2.86)

The ten lowest required skill levels for the Delphi Round Two survey were recorded for the following skills:

A12 Use interactive videodisc technology (1.71)*
A28 Motivate external/distance education students (1.93)*
A37 Counsel students on personal matters (1.70)*
C6 Undertake job re-design (1.85)*
C16 Know the needs of overseas students (1.82)*
C17 Prepare submissions for industry/TAFE management (1.95)
C22 Undertake technical research and development projects for industry (1.84)
D4 Have an understanding of basic accounting (1.74)
D32 Supervise equipment ordering, purchase and storage (1.79)
D33 Maintain and repair equipment (1.45)

Participants in the TAFE Teacher Survey were asked to indicate the skill level they expect will be required by most TAFE teachers in the 1990s for each of the 178 skills in the inventory.

The ten highest required skill levels for the teacher questionnaire were recorded for the following skills:

A16 Assess student knowledge and skills (2.84)*
A25 Create a positive learning environment (2.89)*
A55 Have pride and confidence in presentation skills (2.85)
A57 Maintain enthusiasm for teaching (2.86)
D1 Manage time effectively (2.84)*
D2 Organise work effectively (2.86)*
E1 Keep up-to-date in subject speciality (2.86)
G8 Work co-operatively with others (2.85)*
G10 Be open to new ideas (2.86)*
G15 Take responsibility for your work (2.90)

Interestingly, six of the ten highest required skill levels for the teacher questionnaire appear in the Delphi Round Two survey top ten skills, and these are marked with an asterisk(*).

The ten lowest required skill levels for the TAFE teacher survey were recorded for the following skills:

A12 Use interactive videodisc technology (1.91)
A20 Teach non-English speaking groups of students (1.69)
A22 Teach Aboriginals (1.53)
A28 Motivate external/distance education students (1.56)
A37 Counsel students on personal matters (1.87)
B11 Understand the various approaches to curriculum development (1.91)
Five of the ten bottom skills for the Teacher Survey appear in the Delphi Round Two survey bottom ten skills, and these are marked with an asterisk (*).

Overall, there is reasonable agreement on the skills required by TAFE teachers in the 1990s between the Delphi panel and the TAFE Teacher Survey respondents. This is indicated by the closeness of the two 'skills required' graphs in Figure 5.13.

However, there were statistically significant differences in average ratings from the two surveys for 53 of the 178 skills. For 40 skills, the Delphi panel gave a higher average rating. For 13 skills, the Teacher Survey respondents gave a higher average rating. The distribution of differences over the seven skill categories is given in Table 5.8.

**Table 5.8: Comparisons of Ratings of Skills Required for 1990s for the Two Surveys**

<table>
<thead>
<tr>
<th>SKILL CATEGORY</th>
<th>NO DIFFERENCE</th>
<th>DELPHI HIGHER THAN TEACHER RATING</th>
<th>DELPHI LOWER THAN TEACHER RATING</th>
<th>TOTAL NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Teaching</td>
<td>35</td>
<td>18</td>
<td>5</td>
<td>58</td>
</tr>
<tr>
<td>B Curriculum</td>
<td>12</td>
<td>6</td>
<td>-</td>
<td>18</td>
</tr>
<tr>
<td>C Industry</td>
<td>26</td>
<td>5</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>D Management</td>
<td>23</td>
<td>5</td>
<td>6</td>
<td>34</td>
</tr>
<tr>
<td>E Updating</td>
<td>6</td>
<td>3</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>F Context</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>G Personal qualities</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>125</strong></td>
<td><strong>40</strong></td>
<td><strong>13</strong></td>
<td><strong>178</strong></td>
</tr>
</tbody>
</table>
The five skills having the biggest differences, with Delphi ratings higher, were:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Delphi Survey</th>
<th>Teacher Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skill Mean</td>
<td>Skill Mean</td>
</tr>
<tr>
<td>A21</td>
<td>2.40</td>
<td>2.04</td>
</tr>
<tr>
<td>A22</td>
<td>2.14</td>
<td>1.53</td>
</tr>
<tr>
<td>A28</td>
<td>1.93</td>
<td>1.56</td>
</tr>
<tr>
<td>D18</td>
<td>1.93</td>
<td>1.56</td>
</tr>
<tr>
<td>D19</td>
<td>2.48</td>
<td>2.12</td>
</tr>
</tbody>
</table>

The five skills having the biggest differences, with teacher survey ratings higher, were:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Delphi Survey</th>
<th>Teacher Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skill Mean</td>
<td>Skill Mean</td>
</tr>
<tr>
<td>A10</td>
<td>2.09</td>
<td>2.39</td>
</tr>
<tr>
<td>D4</td>
<td>1.74</td>
<td>2.13</td>
</tr>
<tr>
<td>D30</td>
<td>2.26</td>
<td>2.57</td>
</tr>
<tr>
<td>D32</td>
<td>1.79</td>
<td>2.25</td>
</tr>
<tr>
<td>D33</td>
<td>1.45</td>
<td>2.03</td>
</tr>
</tbody>
</table>

Participants in the Delphi Round Two Survey and Teacher Survey were given the opportunity to write in extra skills to the skill inventory. A small proportion of respondents (about 20% of teachers) wrote in additional skills.

Table 5.9 gives the distribution of additional skills over the seven skill categories. Many of these skills overlap with skills in the inventory. Some of the skills written in indicate a degree of frustration and cynicism by TAFE teachers about management in TAFE, heavy workloads, and terms and conditions.
### TABLE 5.9 ADDITIONAL SKILLS

<table>
<thead>
<tr>
<th>SKILL CATEGORY</th>
<th>NUMBER OF ADDITIONAL SKILLS LISTED</th>
<th>Teacher Survey</th>
<th>Delphi R2 Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>178</td>
<td>23</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>96</td>
<td>13</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>43</td>
<td>7</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>55</td>
<td>7</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>43</td>
<td>3</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>36</td>
<td>6</td>
</tr>
<tr>
<td>G</td>
<td></td>
<td>57</td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>508</td>
<td>67</td>
</tr>
</tbody>
</table>

**KEY**
- A: Teaching
- B: Curriculum development
- C: Determining clients needs & industry liaison
- D: Management/administration
- E: Updating own subject
- F: Workplace context
- G: General personal qualities

### 5.3 COMPARISON OF CURRENT SKILLS WITH REQUIRED SKILLS

This section compares the responses to the current skill level to those for required skill levels for the teacher survey and the Delphi Round Two Survey.

When comparing current skills with required skills, three aspects should be considered. Firstly, whether the difference is statistically significant. Most differences between current and required skills were statistically significant at the .001 level. Secondly, whether the difference is small or large. Statistical significance does not necessarily mean practical significance if the difference is small. Many of the differences found in this research were quite large. Finally, whether the skill is an important part of the job of TAFE teachers. Some skills in the inventory of 178 skills may be relatively unimportant components of TAFE teaching in the future. Such weightings were not researched in this project.

Figure 5.19 presents the means obtained for each of the seven skill categories for current skill levels and required skill levels for the teacher’s questionnaire and Delphi Round Two Survey.
Significant differences were found for all category means. For all categories, the required skill rating from the Delphi Round Two survey and from the TAFE Teacher Survey were significantly higher than the current skill rating. Thus, there are statistically significant and large gaps between current and required skills for the 1990s, and these gaps (called 'skill gaps') occur over all seven skill categories.

Comparison of individual skills

Each of the 178 current skill means have been compared against their corresponding required skill level mean for both the TAFE Teacher Survey and the Delphi Round Two Survey. From Figure 5.13, it is apparent that for most skills in the inventory there is a large gap between the current skill level (solid line) and the required skill level (dotted and dashed lines), and that in nearly every skill there is a 'skill gap' with current skill level less than required skill level.

When comparing the required skill level (Delphi Survey) with the current skill level for each of the 178 skills, there are:
160 skills showing a 'skill gap' with current less than required;

17 skills showing no statistically significant difference (current same as required);

1 skill showing a 'skill gap' with current greater than required;

Table 5.10 shows the distribution of these over the seven skill categories.

**TABLE 5.10: COMPARISONS OF REQUIRED SKILL LEVEL (DELPHI SURVEY) WITH CURRENT SKILL LEVEL.**

<table>
<thead>
<tr>
<th>SKILL CATEGORY</th>
<th>NUMBER OF SKILLS</th>
<th>TOTAL NUMBER OF SKILLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SKILL GAP* current &gt; req.</td>
<td>NO DIFFERENCE current = req.</td>
</tr>
<tr>
<td>A teaching</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>B curriculum</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C industry</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>D management</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>E updating</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F context</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G personal qualities</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>1</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

* Note: 'Skill gap' is a statistically significant difference (at the 0.05 level of significance) between required skill level and current skill level. (In most cases, the differences were significant at the .001 level of significance.)

Of the 160 skills showing a 'skill gap', the ten greatest differences in means were recorded or the following skills:
<table>
<thead>
<tr>
<th>Skill</th>
<th>Current skill level</th>
<th>Required skill level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A10</td>
<td>Use computer managed learning (CML)*</td>
<td>0.99</td>
</tr>
<tr>
<td>A11</td>
<td>Use computer assisted learning (CAL)*</td>
<td>0.98</td>
</tr>
<tr>
<td>A12</td>
<td>Use interactive videodisc technology*</td>
<td>0.45</td>
</tr>
<tr>
<td>A20</td>
<td>Teach non-English speaking groups of students</td>
<td>0.78</td>
</tr>
<tr>
<td>A22</td>
<td>Teach Aboriginals</td>
<td>0.99</td>
</tr>
<tr>
<td>A28</td>
<td>Motivate external/distance education students</td>
<td>0.80</td>
</tr>
<tr>
<td>B11</td>
<td>Develop curricula providing opportunities for students to select their own way of learning*</td>
<td>0.98</td>
</tr>
<tr>
<td>C5</td>
<td>Undertake skills audits of organisations*</td>
<td>0.84</td>
</tr>
<tr>
<td>C8</td>
<td>Know about award restructuring in your trade or industry</td>
<td>1.61</td>
</tr>
<tr>
<td>C18</td>
<td>Translate TAFE policies into industry negotiations*</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Six of the ten skills with the greatest differences in means for the Delphi Round 2 survey appear in the teacher survey’s corresponding list. These skills are A10, A11, A12, B11, C5 and C18 and are marked by an asterisk (*).

The 17 skills having no difference between required skill level (Delphi Round Two Survey) and current skill level are:

A1 Have ability to interpret the syllabus
A5 Use a range of audio visual aids
A7 Present theory lessons
A23 Teach women
A34 Work with groups of students
A35 Counsel students about courses
A37 Counsel students on personal matters
A52 Have student supervision skills
A53 Advise students on progress
A55 Have pride and confidence in presentation skills
A56 Know the entire curriculum and the place of your subject within it
C15 Have public relations skills  
D4 Have an understanding of basic accounting  
D5 Have budgeting skills  
D8 Have time-tabling skills  
D32 Supervise equipment ordering, purchase and storage  
G15 Take responsibility for your work.

The single skill rated as having a 'skill excess' (that is, current skill level higher than required skill level) is:

D33 Maintain and repair equipment.

This result could indicate that the Delphi panel, which includes a number of senior TAFE staff and college administrators, is not aware of the extent of equipment maintenance and repair currently undertaken by TAFE teachers, and therefore may have under-estimated the likely future skill level required in this area.

When comparing the required skill level (teacher survey) with the current skill level for each of the 178 skills, there are:

- 178 skills showing a 'skill gap' with current less than required;
- no skills showing no difference;
- no skills showing a 'skill gap' with current greater than required.

Table 5.11 shows the distribution of these over the seven skill categories.

The ten greatest differences in means were recorded for the following skills:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Current skill level</th>
<th>Required skill level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A10 Use computer managed learning (CML)</td>
<td>0.99</td>
<td>2.39</td>
</tr>
<tr>
<td>A11 Use computer assisted learning (CAL)</td>
<td>0.98</td>
<td>2.36</td>
</tr>
<tr>
<td>A12 Use interactive videodisc</td>
<td>0.45</td>
<td>1.91</td>
</tr>
<tr>
<td>B11 Develop curricula providing opportunities for students to select their own way of learning</td>
<td>0.98</td>
<td>1.91</td>
</tr>
</tbody>
</table>
C3 Analyse industry training needs 1.62 2.58
C5 Undertake skills audits of organisations 0.84 1.98
C6 Undertake job redesign 0.84 1.83
C18 Translate TAFE policies into industry negotiations 0.79 1.73
D28 Have database management skills 1.26 2.28
D30 Use common computer software packages 1.59 2.57

### TABLE 5.11: COMPARISONS OF REQUIRED SKILL LEVEL (TEACHER SURVEY) WITH CURRENT SKILL LEVEL.

<table>
<thead>
<tr>
<th>SKILL CATEGORY</th>
<th>NUMBER OF SKILLS</th>
<th>TOTAL NUMBER OF SKILLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SKILL GAP*</td>
<td>NO DIFFERENCE</td>
</tr>
<tr>
<td></td>
<td>current &gt; req.</td>
<td>current = req.</td>
</tr>
<tr>
<td>A teaching</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B curriculum</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C industry</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D management</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E updating</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F context</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>G personal qualities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTALS</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Note: 'Skill gap' is a statistically significant difference between required skill and current skill level. In all except one case, the level of statistical significance is .001. The exception is 'A7 Present theory lessons', with .01 level of significance.

The above list of skills, together with all the skills showing large 'gaps' in Figure 5.13, provide a useful guide to likely future training needs relevant to TAFE teacher preparation and development. Importantly, there are large 'skill gaps' for a very wide range of skills, and this presents a challenge for TAFE teacher preparation and development.
5.3 SUMMARY

This chapter has presented the results of the national surveys undertaken, specifically the Delphi and TAFE Teacher Skills Surveys. It has reported the range and level of skills that TAFE teachers believe they currently have, and the frequency with which TAFE teachers indicate they use them. It has also presented the skills expected to be necessary for most TAFE teachers in the forthcoming decade, in the view of a national sample of TAFE teachers and a Delphi panel of experts.

The most striking findings concern first, the wide range of skills TAFE teachers currently employ, and secondly, high levels of expertise expected of TAFE teachers in the next decade. This is supported by the other results, reported in the next chapter. The results consistently show that the current level of skill falls short of that deemed necessary in the 1990s.

These findings have ramifications for the initial and continuing education of TAFE teachers - the focus of Stage 2.
6. OTHER RESULTS

In this section the results of applying all other techniques to Stages 1A and 1B are discussed. The techniques are: submissions, literature review and records/knowledge, interviews and observations.

SUBMISSIONS

Stage 1A

Most submissions concentrated on Stage 2. Submissions on skills and competencies required for the 1990s covered two broad areas: first, appropriate structures for training (the how); second, what actual training should be done. This report is concerned with the 'what'; Stages 2A and 2B deal with the 'how'. The following main areas of future competency were identified in the submissions and are discussed below:

Basic teaching skills:
Curriculum development; literacy & numeracy; teaching technologies and approaches.

Important content:
Occupational health & safety; up-to-date technical knowledge; information technology; multiculturalism; manufacturing strategy.

Important process skills:
Research and development; information skills; business skills, including budgeting and educational economics; communication; problem solving and decision-making; counselling.

Continuing self-education skills:
Study skills.

Competency-based training was thought to be important in some submissions. It was also pointed out that TAFE's clients would continue to change and so the training must reflect that.

Basic teaching skills

The number of skills now regarded as 'basic' has increased in recent years. For example, curriculum development (including assessment) is no longer regarded as a head office, or
specialist, activity, but a task to be undertaken by all teachers. The Director of Curriculum Services, South Australian Department of Employment and Technical and Further Education commented: 'All TAFE teachers are involved to a greater or lesser extent in curriculum issues. These may include broad course design, development of learning resources, or assessment packages.' When developing curricula, the Tasmanian State Institute of Technology pointed out: 'Teachers will have to grapple with the issues "Who is TAFE’s primary client? Is it the student, industry of government? Which needs are the most important - economic, social, individual?"

The Institute suggested that there should be more emphasis on 'spiral' curriculum and pointed to the dangers of a systems approach.

The Technical Teachers' Union of Victoria said that teachers will need opportunities to maintain a high level of industry relevance and their agreed position with the Government of Victoria includes 'expended professional development in teaching strategies, learning styles, consultancy, curriculum development and evaluation including needs analysis, learning materials development, learning program design as well as the technologies and theoretical background in his/her teaching area'. 'Newer' forms of learning (e.g. competency-based learning) frequently demand levels of literacy & numeracy not possessed by many in the industrial workforce and so TAFE teachers will need to learn how to deal with problems of literacy and numeracy as a normal part of their work.

The teaching emphasis used to be on exposition: the teacher knew the facts and it was the students' job to learn them. There has been a change in emphasis and so now terms like 'open learning' have become fashionable. Such terms imply that educational providers should offer a service to clients ('student centred') which includes offering courses in the most appropriate ways. This may sometimes include team teaching.

Important content

The Newport College of TAFE (Victoria) compared teaching in the 1970s with teaching in the 1990s, identifying a variety of changes, including:

- greater pressure (moving from the safe classroom environment to a more competitive situation);
• rapid changes in technology (for example, the content of courses and in presenting information to students);
• substantial changes to government priorities;
• development of curriculum in colleges;
• classroom teachers being involved in college management;
• greater involvement with disadvantaged groups.

Some of these are process skills or basic teaching skills but others have important content implications. The ACT Teachers' Federation said: 'It is essential that TAFE teachers' industry skill base be as current and broad-based as possible.'

The Tasmanian State Institute of Technology emphasised the changes being introduced by industry restructuring, claiming that 'in the 1990s, as industries restructure there will be an unprecedented demand for new training skills, available in TAFE'. The submission pointed out that 'values' would need to be explored, because changes in technology affect people. 'Teachers in the 1990s will need a greater knowledge and understanding of the issues of occupational health and safety, the social and environmental consequences of technological changes and the skills to help their students examine the values of these changes'.

Two submissions (Regency College of TAFE, South Australia, and the Department of Intensive English, School of Community Education, ACT Institute of TAFE) emphasised the importance of multiculturalism and the need for TAFE teachers to be able to deal with students for whom English is not their mother tongue.

The Graduate School of Management at the University of Melbourne would like to see TAFE courses which outline how industrial competitiveness can be established and sustained in manufacturing and other companies.

The Staff Development Division of the New South Wales Department of TAFE pointed out that the 'craft of teaching' will continue to be of primary importance, together with a number of areas of emerging emphasis:

• the need for teachers, curriculum researchers/writers and administrators to be more client/student centred due to a number of factors - fee for service courses, industry award
restructuring, administration charges, industry increased contribution to costs of education;

- the emergence of new technologies to assist with self-paced learning, distance education and classroom situation - computer managed learning, computer-aided instruction, satellite technology;

- need for team teaching approaches now required to ensure integration of multi-skilling concepts and requirements of industry;

- competency based assessment programs linked to needs only based training to cater for a variety of situations - recognition and upgrading of overseas qualified and experienced people, retraining requirements for existing "experienced" personnel.'

The South Australian Arts Industry Training Council pointed out that they (and other organisations) had undertaken their own training needs analysis and that this material should be useful to TAFE.

**Important process skills**

TAFE teachers are now expected to have a wide range of process skills. In addition, skills and information which are appropriate for (say) young apprentices may be inappropriate for (say) older students. Therefore, merely to state that 'good communication' is required tells us nothing about with whom and for what purpose.

The Moorabbin College of TAFE (Victoria) believes that teachers 'will be increasingly required to:

- deliver programs in a more flexible manner;
- complete skills audits and training needs analysis;
- consult with industry;
- use computers to support programs and learning management;
- develop and adapt curriculum;
- work in industrial and community locations;
- deliver programs to disadvantaged groups and individuals.'

The Queensland Bureau of Employment, Vocational and Further Education and Training added to this list, including:

- evaluating student learning;
- evaluating teaching procedures;
• being conversant with developments in educational theory and practice as they relate to vocational education;
• contributing to the achievement of college goals,

and further skills were suggested by the NSW Department of TAFE, including resource development, industry consultancy, marketing and administration. The NSW TAFE Library Services emphasised the importance for TAFE teachers to have formal information skills training, this being the key to so many other skills.

From most of the submissions it was clear that many of these process skills were required by beginning teachers, not just by experienced teachers.

Continuing self-education skills

Many submissions emphasised the importance of continuing self-education. This was mainly of two kinds:

• technical and subject specific updating;
• teaching skills updating.

It was generally acknowledged that current changes will have a major effect on TAFE teachers. The Regency College of TAFE (South Australia) referred to the ‘management of change’ as the ‘critical management issue’, involving ‘new industrial relations’, ‘devolution’ and ‘literacy skills’. The Division of Education, Griffith University, said: ‘given the changing context and nature of TAFE, it is necessary not only for TAFE teachers to have the knowledge needed to function in existing circumstances, but also for them to undertake proactive roles in shaping their own futures and the futures of the organisations within which they work’. Ways of achieving this are discussed in the Second Stage of the research.

Stage 1B

The complexity of TAFE, and the important differences between TAFE and other areas of education, were pointed out in some submissions. For example, the Technical and Further Education Teachers’ Association said that TAFE is diverse but whole, flexible yet expert, and adaptable while coherent. The Association also pointed out that TAFE teachers have a great deal of vocational experience and many have to take a drop in
salary in order to teach. Because of their wide and recent industrial experience, some new teachers find that they quickly become involved in such things as industrial liaison and curriculum development.

The Technical Teachers' Union of Victoria (TTUV) of Victoria included a list of activities in which teachers had been involved. The list was an agreed position between the Government of Victoria and the TTU:

- research and investigation of new courses;
- development of new curricula;
- negotiations with industry, commerce, public sector and community groups on content and standards required for programs of study;
- training needs analysis and teaching programs in industry and community settings;
- development of competency-based vocational programs incorporating on-going criteria-based assessment, individualised learning, and the integration of theory and practical components in each learning exercise;
- industry consultancy on training materials, evaluation of programs;
- changing teaching strategies and programs to incorporate technological change, change in student clientele, accreditation requirements and course review recommendations;
- professional development and industrial release activities to increase professional teaching skills.

One submission gave details of 'areas of concern for beginning teachers'. A summary of those areas relevant to this stage of the project follows:

1. frequent failure of TAFE colleges to observe mandatory limits to teaching loads;
2. teachers being assigned to teach unfamiliar subjects;
3. teachers being assigned practical classes only;
4. senior TAFE staff making highly critical comments of professional studies in teacher education courses;
5. lack of help from senior staff;
6. immediate appointment to external studies;
7. need for sufficient time to develop research and study skills;
8. TAFE and industry changing and so teachers must be able to respond accordingly.

One State submission was highly critical of the higher education TAFE teaching diploma: ‘Many teachers have for almost two decades expressed dissatisfaction with the arrangements for obtaining teaching qualifications’. The higher education course was judged to be ‘too academic, theoretical and divorced from (lecturers) immediate needs’. This contrasted with the TAFE agency’s own short, introductory course.

From a different state came criticism of the continuing education provisions of TAFE, particularly in the use of new technology, which was regarded as an essential requirement of today’s teacher.

Some submissions gave details of existing higher education courses. This information is included in the literature review for Stage 2. However, as well as that information, the Tasmanian State Institute of Technology listed the main duties required by a TAFE teachers who is a ‘manager of learning’. These are:

- analysis of learning needs;
- organising the learning environment;
- controlling the learning environment;
- evaluating students’ knowledge, attitudes and skills;
- co-ordinating resources;
- controlling stores;
- guiding careers;
- participating in training advisory committees;
- contributing to various other committees;
- counselling;
- communicating inside and outside the system.

The New South Wales Department of Technical and Further Education, Staff Development Division, pointed out that almost 30% of new teachers hold formal teaching/education qualifications. Therefore 70% are required to enter either
the diploma of teaching or postgraduate diploma of teaching course. The submission emphasised the importance of teachers needing 'to be proficient in the craft of teaching', believing that 'the vast majority of TAFE teaching will continue to be conducted in conventional classrooms, laboratories and workshops'.

LITERATURE REVIEW/RECORDS, KNOWLEDGE

The literature on skills required by TAFE teachers, currently and in the 1990s, proved as extensive as the literature on TAFE itself. There has been a small but steady stream of literature specifically on TAFE teachers in the late 1980s, addressing, for example, professional development needs and changes in teaching methodology. In addition, most policy documents, research reports, reviews and position papers on TAFE contain direct or indirect implications for the sector's teachers. Current literature on industrial change is also relevant, because of the complex relationships between TAFE and industry.

This section presents the main themes emerging from the recent relevant literature both on the TAFE sector in general and TAFE teachers in particular. They are in summary: a still more diverse student population as a result of social change and government policies, increasing prevalence of non-traditional teaching/learning methods such as competency-based training; articulation of TAFE programs with those in industry and other education sectors; increased emphasis on teachers up-dating technical skills; the need for quality management expertise throughout the system, and a need for all personnel in the TAFE system to be readily adaptable to far-reaching changes in TAFE and industry.

The implications for teachers are profound.

1. **Accelerated change in the composition of the student population** (traditionally young adults and gender stereotyped). The literature indicates that TAFE teachers will have in their classes increasing numbers of adults, and increasing numbers from groups traditionally under-represented in training and/or in particular occupations and industries (e.g. women, people with disabilities, Aboriginal people/and older workers requiring retraining).

This diversity is a familiar characteristic at college or system level, but will very likely become increasingly so of each classroom. Many TAFE teachers are accustomed to a relatively homogeneous class (e.g. the familiar apprentice group of 16 to 19 year old males, differing principally in ethnic background). They will require above all
skills/knowledge about under-represented groups and their learning styles, and familiarity at least with relevant philosophical and political issues, such as normalisation in integrating people with disabilities.

2. **New or non-traditional teaching/learning methods**, such as competency-based training, computer-managed learning, computer-assisted learning, self-paced learning and open learning. Most of these methods have found articulate exponents and practitioners among TAFE teachers in the late 1980s.

Competency-based training, and other non-traditional methods, is likely to become far more prevalent in the 1990s. It demands various skills of TAFE teachers, and a considerable literature has developed on the subject. Those skills identified in an evaluation of competency-based programs included a shift from lecturer/demonstrator of instruction to a facilitator/manager of learning, working knowledge of the entire syllabus and course materials, ability to maintain discipline in a classroom/workshop where students progress at their own pace, implementing consistent assessment standards individually and collectively, monitoring the competencies, and maintaining and monitoring extensive student records. Skills listed in other studies include interpretation of performance criteria, measurement of performance against those criteria, development of detailed support materials, emphasis on the practical rather than theoretical, and adoption of a different approach to learners (supporting their learning rather than setting the pace, advising on progress and judging their progress against specific criteria).

3. **Articulated programs**. Formal articulation arrangements between TAFE programs and industry training on the one hand, and other sectors of education on the other, will become common in the future, according to the literature. In particular, increasing numbers of TAFE programs will provide advanced standing in higher education diploma and degree programs. TAFE teachers will therefore need adequate knowledge of relevant programs in other sectors and of other factors to maximise the likelihood of successful transfer by their students.

4. These changes, and those resulting from new relationships with industry, have implications for **curriculum development**. According to the literature, curriculum will be increasingly modularised, as a result of the new strategies which emphasise individualised self-paced learning. Competency-based education, it is argued, has significant implications for development of curriculum, particularly concerning identification of competencies, adequate assessment, credit
transfer, quality control, and integration of on-the-job and off-the-job training. An increasing amount of curriculum development is likely to be on a fee-for-service basis for industry, and require development of short courses for the clients' specific purpose, within a specific time-frame.

5. **New relationships with clients, in particular industry.** There is a growing literature on the development of an increasingly entrepreneurial TAFE sector in the 1990s. Industry's expectations of TAFE, always strong, have touched TAFE teachers principally through the curriculum and contact with students' employers. In the next decade, many argue, increasing numbers of TAFE teachers will become involved in the various forms of revenue-generating contacts with industry which have emerged in the late 1980s. These include consultancies, training needs analysis, and development and delivery of industry or enterprise-specific courses. 'Industry skills' necessarily include expertise in such areas as train-the-trainer, skills audits, occupational health and safety, equal employment opportunity, in short 'marketable skills which can be translated into "fee-for-service" type training services outside of the college'. These educational consultancy skills may also be adaptable for projects with disadvantaged groups in the community.

6. **A more complex institutional environment.** Many argue that the changes discussed above which will gather momentum in the 1990s, require increasingly sophisticated administrative and management approaches from TAFE personnel, from teacher to college director. The new teaching/learning styles, for example, require particular program management skills. They include maintenance of data bases, analysis of relevant trends in student progress, continual time-tabling monitoring and facilities allocation as students continually enter and exit. Consultations with industry require project management skills.

Even without the impetus from significant change, the literature indicates a substantial identified need for TAFE teachers, particularly experienced ones, to develop managerial and administrative skills in anticipation of promotion. In broad terms, they include skills in planning (for departmental and college development), human resource management, administration and educational leadership.

A TAFE teaching force well informed about these and other developments in vocational education and training is, it is argued, crucial:

> New government policies will require staff to make themselves familiar with new directions, new programs and
new issues. More than any other educational institutions, colleges of TAFE are sensitive to changes in government policy. Some argue that TAFE teachers also need useful information about the organisation(s) and culture(s) in which they work, and impending developments in them. Beyond that, there is need for adequate knowledge of issues relevant to their students.

7. **Up-to-date technical skills.** A persistent theme in the literature has been the importance of TAFE teachers continually up-dating their subject expertise. This has been traditionally associated with being up-to-date with technological change, a recurrent concern for TAFE teachers. However, in the 1990s recent literature suggests that it will also increasingly mean subject up-dating in the context of first, industry and award restructuring, and secondly, workplace productivity and quality of life issues, such as quality management, occupational health and safety, and equal opportunity.

8. From the literature a number of other skills, best described as **general personal qualities,** emerge as essential for TAFE teachers. One writer lists adaptability to changes in technology and organisational structure, the ability to transfer skills, and acceptance of need for training and retraining throughout one’s working life; another identifies a range of skills promoting confidence in dealing with change; another leadership, integrity, creativity, enthusiasm and quality. There is also considerable emphasis on the importance of teachers having adequate decision-making skills in their professional lives, in the college or in working with industry. There are also references to TAFE teachers becoming involved in research, not only related to education and curriculum in TAFE but also to industry’s training needs.

The prevailing direction of the literature is about change, and about the skills TAFE teachers will need for the changing circumstances and priorities of the TAFE sector. Rarely is it possible to determine clearly the extent of the skills, traditional or non-traditional. A clear-cut distinction between skills teachers have now and those required in the next decade cannot be made; it can only be deduced. This is made more complex by major differences within TAFE in Australia - between the priorities of various states/territories and between subject areas (for example, in their levels of technology, curriculum and delivery methods), even between the student populations of various courses, to identify only three. It is apparent, however, that some TAFE teachers are already encountering the climate and conditions
which, according to the literature, are likely to become far more prevalent in the 1990s. Skills to meet those conditions have been identified; the challenge is to ensure their increasing prevalence throughout the TAFE teaching workforce.

It is slightly easier to distinguish in the literature skills deemed essential to beginning TAFE teachers from those required by experienced TAFE teachers. There is strong agreement that beginning TAFE teachers are first and foremost preoccupied with survival in the classroom. The skills they require relate to teaching, to the teaching/learning of adults, often of diverse backgrounds in terms of formal learning, learning ability, ethnicity, life experience and employment experience. They also require survival knowledge about their working environment (college and system). It would appear by default that other activities in which TAFE teachers participate – curriculum development, industry consultancies, administrative and managerial responsibilities – come later after an apprenticeship as a teacher.

Research has identified the most pressing problems encountered by beginning TAFE teachers. Most were related to students (for example, promoting motivation, organising class activities to meet individual student needs, redressing students' inadequate background knowledge), while others involved teaching practice (for example, keeping track of student progress) or the teacher themselves (uncertainty concerning knowledge of course content). Clearly these give a good indication of the skills beginning teachers require.

** * * * **

The purpose of this section has been less to review the relevant literature than to summarise the major characteristics of the TAFE sector in the 1990s, and to illustrate some of their major implications for TAFE teachers in the next decade from the relevant literature. It does not pretend to be exhaustive. A more detailed review of recent literature has been published separately.

**INTERVIEWS**

The results of the interviews are provided in Appendix H. A number of key themes arose in the interviews and are listed below. However, this is a collection of numerous interviews and reflects the skills which the teaching force would hold collectively - it is not expected that each individual teacher could have expertise in every area.
Stage 1A

For **beginning TAFE teachers** the skills in teaching which interviewees considered should be fostered over the next decade are computing, student assessment, communication, developing contracts, negotiation skills, teamwork, consultancy, diagnosing individual learning difficulties, adult learning theory and practice, competency-based training and implementing new ideas. In the area of curriculum development the most commonly cited needs were in course development techniques, flexibility, working with industry, cross-skilling and multi-skilling. For determining client needs and industry liaison skills it was expected that increased skill levels would be needed in marketing skills, working with industry and the community, teaching outside the traditional classroom and quality assurance.

The skills which most interviewees believe will be required in management/administration were in team building, stress management, finances, planning and in implementing change. For the workplace context interviewees mentioned increased knowledge of the TAFE environment and responsiveness to broad issues. The general personal qualities most commonly cited were responsibility, accountability and problem solving skills.

For **experienced TAFE teachers**, the key skills interviewees expect to be developed over the next decade are, for teaching, in counselling, assessment, alternative teaching methodologies and competency-based teaching. For curriculum development, the key skills are in quality and transferable skills. Meeting clients' needs is expected to require enterprise skills and responsiveness to individual needs.

Management/administration, interviewees believe, will require team work and team building, stress management, implementing change, providing support for colleagues, financial skills and strategic planning. Vocational updating is likely to require more interaction with industry and a stronger theoretical basis, particularly in human resource development.

Interviewees consider that knowledge of the workplace will require more understanding of the whole TAFE system, networking and the ability to respond to broad contextual issues. The general personal qualities which they believe should be fostered are communication skills, responsibility, counselling skills, awareness of literacy levels and problem solving skills.
Less importance is likely to be given over the next decade to narrow training as opposed to skills formation, and to child psychology as opposed to adult learning. Additional comments were made concerning the need for an appraisal system for teachers as a basis for professional development and the possible future scarcity of teachers.

Today, most interviewees stated, beginning TAFE teachers need core teaching skills, the ability to use alternative teaching strategies, expertise in their own areas, insight into industry's concerns and the ability to motivate students. They believe teachers should have some knowledge of adolescent and adult learning. They require some computer literacy and at least a basic understanding of curriculum issues.

To meet the needs of TAFE's clients most interviewees said that teachers need enterprise skills in marketing, liaison and identifying needs. They considered that beginning teachers should be able to carry out basic administrative duties and to plan and manage their time.

The majority of interviewees believed beginning teachers need the ability to learn new skills, coupled with an extensive knowledge of their own subject. They thought the teachers should have at least a basic understanding of TAFE organisation and functions and of critical issues in vocational education.

The general personal qualities interviewees considered beginning teachers require are good communication skills, critical thinking skills, problem solving and team skills, sensitivity in responding to students, a concern with quality and the ability to manage stress.

The key teaching skills mentioned by most interviewees that experienced TAFE teachers require today are counselling skills, alternative teaching strategies, facilitating adult learning, teaching larger and more heterogenous groups, cross-skilling and multi-skilling and the ability to assess on-the-job learning.

For curriculum development interviewees considered that experienced teachers now require skills in developing modular packages, anticipating relevant future trends, and course evaluation. To satisfy clients they are seen to need enterprise skills, the ability to work with and in industry and skills in diagnosing and remedying students' learning problems.
In management/administration interviewees said experienced TAFE teachers now need to be able to build teams, manage change and human resources and have skills in finances and educational administration. They thought the teachers need to be able to use technology based training to undertake research and have an understanding of the TAFE organisation and its context.

The general personal qualities interviewees most commonly said experienced TAFE teachers require are the willingness to undertake self development, and to encourage it in their colleagues and students. They are seen to need negotiation skills and team skills and the ability to refer to others when appropriate.

Interviewees suggested that some current TAFE teacher initial and professional development programs provided by higher education would be improved by reducing the emphasis on child, opposed to adult, learning, and ensuring that skills taught are a reflection of what is currently needed by industry. They felt that theoretical information should be linked to practice, and jargon de-mystified.

With the growing emphasis on competency-based assessment, interviewees considered that professional development programs for TAFE teachers should assess their experiential learning and provide credit for this.

OBSERVATIONS

Three teacher observations were undertaken as part of this project principally to assist development of the skills inventory in the TAFE Teacher Survey, but also to provide brief vignettes of the range of activities undertaken by teachers. The number of observations was small, but they resulted in the identification of skills for the survey, and helped ‘set the scene’ for the interviews. The results are summarised very briefly here; a fuller description can be found in Appendix D2.

Teachers were observed in different settings, that is in a self-paced, computer-managed and computer-based program, and a more traditional formal teaching situation. It was evident from observing two apparently quite different programs and methods of delivery that considerable care is needed regarding assumptions about the skills each requires or elicits from teachers. Flexible delivery programs are associated with teachers as learning managers, facilitators and resource people; traditional methods with teachers as experts. The observations show that such an association of particular
skills with particular methods is an over simplification. Teachers in both situations used a wide variety of skills. They were, within the periods observed, all experts, facilitators, learning managers, lecturers/demonstrators, and resource persons. The repertoire of skills observed was extensive.

The observations do indicate that the balance of skills used by teachers may vary according to the teaching situation, such as self-paced or traditional. They show, nonetheless, that it is inappropriate to associate particular skills exclusively with particular programs or methods of delivery. The observations therefore made an important contribution to the research.

**CONCLUSION**

This chapter presents the results from the non-quantitative research techniques, that is the submissions, interactive, interviews and observations. The findings generally provide strong support for the quantitative findings. No less importantly, they also set them clearly within a context - The changing vocational training and education scene in Australia on the edge of the 1990s. Neither the quantitative nor the qualitative data are sufficient in themselves; but together they provide invaluable information about the current skills and training needs of TAFE teachers in the next decade.
INTRODUCTION

The use of a range of research instruments for this project was a deliberate device to tap as many perspectives and sources of information as was reasonably possible. The Delphi survey, submissions and interviews, for example, allowed incorporation of the views of numerous key people in Australia's vocational education and training system(s), with particular attention to the future. The available literature also generally focused on the future from the perspective of researchers, policy developers and others. The survey of TAFE teachers identified both their current skills and those they believe they will need to teach effectively in the 1990s.

While all these sources contribute to the final assessment of the range of skills TAFE teachers are likely to need in the 1990s, their differences in emphasis are important. The available literature has been written principally by researchers, policy developers and analysts, critics and commentators within the vocational training system. It is therefore very much oriented towards change, reform, remedy and new direction. The teacher survey balanced this with extensive information on teachers' current skills. The surveys and interviews also involved extensive identification of specific teachers' skills. The literature, by contrast, was generally expressed in more broad brush terms, that is 'TAFE will ...' or 'TAFE must ...', without necessarily translating the assertions into their impact on the day-to-day activities of TAFE teachers.

Considerable care is needed in comparing the results of the several research techniques, even though these differences in perspective and emphasis have been deliberately built into the research design. In this section, the discussion of the various results, the emphasis will be on discerning the common directions and major differences. Although the results will be discussed in terms of the broad categories of teacher's skills that have been used throughout the project, the general framework has been provided by the Review's terms of reference (Appendix A).
7.1 SKILLS REQUIRED BY TAFE TEACHERS IN THE 1990s
(STAGE 1A)

Teaching

Not surprisingly, skills related specifically to teaching feature very prominently throughout the research. Teaching skills constitute the largest category of skills in the surveys; teaching and classroom-related issues dominate the literature, and were very prominent in the submissions and interviews.

Two strong themes merged from the literature on teaching: firstly, changes in the TAFE student population and the implications for teachers, and secondly, changes in teaching strategies related to such developments as self-paced learning, competency-based training and assessment and recognition of prior learning. The emphasis was firmly on far-reaching changes and, explicitly or by implication, the additional skills required to teach effectively in the new system. The persistence of 'traditional' skills (such as face-to-face teaching) was difficult to assess.

The submissions from institutions and organizations also emphasised change, particularly related to teaching methods and strategies. The impact of 'alternative' teaching approaches such as self-paced learning, competency-based training and assessment and student-centred learning, drew extensive comment. TAFE teachers in the future, many agreed, will need to be at least conversant with a wide range of teaching methods and have the skills to implement them. There was reference to changes in the student population (e.g., students from non-English-speaking backgrounds, industry), but they were far less prominent in the submissions than changes in teaching methods.

The interviews, but particularly the surveys, provided far more detail about specific teaching skills than either the literature or the submissions. They also distinguished more clearly than the other sources between skills required by beginning and experienced teachers. The interviews generated a wide-ranging list of skills for beginning teachers, with particular emphasis on new and flexible teaching methods, individual student needs, and the quality of the classroom environment. Experienced teachers, they indicated, need to increase their repertoire of teaching skills with additional proficiency in such skills as counselling and competency-based approaches.

Most detail about teaching skills emerged from the Delphi and teacher surveys. They provide a wealth of information about teaching, but only the most salient points will be noted here. Both surveys show a clear distinction between skills regarded
as highly important in the 1990s, and those of moderate importance. Those of highest importance related to assessment and a positive learning environment (both surveys), pride in presentation skills and enthusiasm for teaching (teacher survey), and being up-to-date in teaching skills and use of adult learning principles (Delphi). The skills identified as most important were a mixture of traditional teaching qualities and new strategies (e.g., competency-based learning). They also emphasised teaching methods more frequently than changes in the student population, although they frequently related specifically to student learning. The skills identified as being of least significance for most teachers in the 1990s related to technology (computer-managed learning, computer-assisted learning, distance education, interactive videodisc), the teaching of traditionally under-represented groups other than women, counselling (career and personal), and the principles of applied psychology.

Teaching featured among the areas of potential specialization for the 1990s. Particular specializations identified included teaching non-traditional students, competency-based programs, computer-managed learning, and the technical aspects of distance education.

Finally, the Delphi participants listed thirty-six teaching-related skills as necessary for beginning teachers, covering methods of teaching (traditional and alternative), types of students, learning difficulties, technology, communication skills and co-operation with colleagues. Experienced TAFE teachers required comparatively few additional skills (eleven), relating to diverse teaching strategies and approaches, diverse groups of students, counselling and assessment.

Teaching skills comprise one of the most important aspects of this report, and in this brief discussion only the most striking results of the research have been presented. There remains a wealth of additional information for analysis.

Curriculum development

The involvement of TAFE teachers in curriculum development has varied greatly; in some states/territories, involvement has been close, in others the opposite. The research instruments reflect this diversity of approach.

The submissions, interviews and considerable sections of the literature regard curriculum development skills as an important dimension of TAFE teachers' skills in the 1990s. Submissions noted that while all teachers are already involved to some extent in curriculum development or delivery, the next decade will necessitate from them an increased level of skill in curriculum-related work with industry, the flexible design
and delivery of courses (e.g., self-paced learning, modular programs), and attention to the most appropriate form of delivery for their particular students. These views are in strong accord with the literature.

The interviews strongly reinforced these arguments. In the case of beginning teachers, they underscored the necessity to move from lock-step curriculum to self-paced design and delivery, to emphasise the acquisition of generic, transferable skills (communication, team-work), and the capacity to modify a syllabus appropriately. For experienced teachers, they emphasised in particular the need for teachers to develop curriculum in co-operation with their peers, quality improvement.

The teacher and Delphi surveys present a somewhat different perspective. Generally, they saw a moderate involvement of teachers in curriculum issues in the 1990s. Skills will be required in the areas of "alternative" teaching methods, the development of short courses, instructional design, and syllabus modification. Most important will be the development of materials for student use, and understanding of learning processes. Among the skills rated lowest were participation in curriculum development teams and developing curriculum for mixed study modes. The major difference between beginning and experienced teachers related to degree of involvement in curriculum development and evaluation. Although curriculum development, instructional design and evaluation were identified as potential areas of specialization, in neither survey did curriculum-related skills appear among the ten most important areas for the 1990s.

**Determining client needs and industry liaison**

One of the strongest themes in the current literature on vocational education and training in Australia concerns a new relationship between TAFE and industry. While close TAFE-industry consultation in certain areas has long been a characteristic of the TAFE system, there are presently very strong pressures, particularly from government, for the relationship to change in the direction of a far more entrepreneurial TAFE sector. TAFE's traditional areas of expertise (teaching and course development and delivery) would be to some extent re-channelled to specific industry requirements. Certainly this theme was keenly evident in the literature, the submissions and the interviews in particular. The submissions saw TAFE's role with industry undergoing considerable change, with much greater emphasis on industry as TAFE's direct client. This clearly has important implications for TAFE teachers, many of whom would become involved in fee-for-service courses for industry, training and retraining programs resulting from industry restructuring, and industry skills audits and training needs analysis. As a result, TAFE
teachers could find themselves teaching in industry locations as well as in TAFE colleges.

The interviews addressed the same issues, considering also the skills needed by beginning teachers and those required by experienced teachers. Significantly, they saw a clear role for beginning teachers in industry liaison, particularly in the areas of marketing, customer/client orientation, quality assurance, and teaching. In fact, their expectations of experienced teachers in industry liaison and entrepreneurial roles were almost identical to those of beginning teachers.

Results from the two surveys provide some interesting facts. Probably the most striking is the importance attached to industry-related skills; they scored lowest (just medium) of the seven categories in both surveys, in distinct contrast to the emphasis in the literature in particular. On the other hand, this category was seen as generating a number of potential specialisations in the 1990s, such as creation of fee-for-service courses, skills audits, skills analysis, on-the-job training and on-the-job assessment. In fact, ten of the twenty-four potential specialisations identified directly related to the changing relationship with industry. Neither teachers surveyed nor Delphi participants rated industry-related skills among the ten most important skills required by most teachers in the 1990s. However, the Delphi participants clearly recognised this area as a productive opportunity for specialist expertise for some teachers.

Like the interviewees, the Delphi group were asked to identify skills in the category important to beginning teachers, and skills important to experienced teachers. They identified seven skills for beginning teachers, including industry training analysis, skills analysis, and current industry knowledge and networks. For experienced teachers, they listed fifteen skills, some overlapping with those associated with beginning teachers, but in addition entrepreneurial and marketing skills, industrial release opportunities, knowledge of industry restructuring, and delivery of fee-for-service courses.

This category shows probably more clearly than the others, differences in perspectives and positions within the vocational education and training system. The emphasis in the literature on the importance of a new direction in TAFE’s relationship with industry is echoed in the submissions and, to some extent in the interviews and surveys. It emerges from the surveys however as being not of prime importance (as the literature suggests), but as most likely to be an area of specialization or particular expertise for some teachers, beginning as well as experienced. The contrast is striking.
Management/administration

Attention to increasing the management and administrative skills of TAFE teachers has been recommended in a number of studies as well as being a Commonwealth priority for TAFE staff development, as noted in the literature discussion. Following the literature and exploratory interviews, thirty-four skills related to management/administration were included in the teacher survey, embracing both generic skills applicable to all levels of staff and skills related to specific roles or seniority. This was the second largest category, exceeded only by teaching skills.

Several important results emerged clearly from the various instruments about the importance of skills in this category to teachers in the 1990s. The first concerns the importance of generic skills. The teacher and Delphi surveys both identified effective time management as being among the ten highest required skills for teachers in the future; the teacher survey added organising work to this list. These findings were reinforced by the results of the interviews.

Secondly, the Delphi survey and the interviews distinguished clearly between the administrative and management skills required by beginning teachers and those who were experienced. Beginning TAFE teachers, the Delphi results showed, required principally time and work organisation skills, together with planning, computer literacy and, interestingly, mentor skills (six in all). Those interviewed listed basic skills in supervision and administration, time management, priority setting, as well as skills in quite specific areas such as public speaking and interviewing, budgeting and accounting, and (in accord with the surveys) time management. For experienced teachers, by contrast, Delphi respondents listed twenty-one skills relating to the management of financial resources, human resources, and project management. Most skills listed by interviewees also fell into those categories, although strategic planning and participative planning were also listed. These three broad categories are somewhat similar to the literature in this area, which highlighted skills associated with program management (especially those associated with competency-based and self-paced programs), project management (related to industry consultancy), and human resources management. (The literature did not generally distinguish between beginning and experienced teachers.) The Delphi respondents also identified management, human resources management and financial planning as potential areas of specialisation for teachers in the future. It should be noted that Delphi participants listed computer literacy as a necessary skill for both beginning and experienced teachers.

Thirdly, the Delphi and teacher surveys generally identified skills related to management and administration as being between medium and high importance for teachers in the 1990s.
Of most importance were such generic skills as managing time, work and work loads, the ability to manage in a climate of change, and the ability to evaluate one's own performance. Those skills identified as being of no more than medium importance included business related skills such as basic accounting and budgeting, and database management skills (cf. computer literacy). By contrast, submissions from organisations and institutions emphasised the need for business skills, such as budgeting and educational economics, and computing skills for program and learning management. These were also emphasised by the interviewees.

There is, in summary, a strong element of agreement about the importance of certain, general skills in this management and administration category. There is, however, some divergence about the importance of other skills, both in number and type.

**Updating own subject**

The vital necessity of teachers in the 1990s continuing to update their skills in their subject or vocational specialisation is a persistent theme throughout the research. Participants in both the Delphi and teacher surveys accorded skills in this category a high priority overall (mean score for most skills in the category falling between 2.5 and 3). Teachers saw being up-to-date in the subject speciality as being among the ten highest required skill levels; Delphi respondents placed maintenance of technical skills in the same category. Interviewees also referred to the importance of up-to-date technical expertise as a necessity for both beginning and experienced teachers in the next decade. These findings are reinforced in the literature, where the significance of up-dating is so obvious as to be almost taken for granted.

Skills in this category included those related to changes in work-place technology and organisation, an increasingly prominent issue in industry restructuring. Like the literature, the interviews and the submissions draw attention to the growing importance to TAFE teachers in the future of occupational health and safety issues, quality management, multi-skilling and familiarity with related subject areas. This is generally reflected in the Delphi and teacher surveys (although these was less emphasis on quality management and familiarity with related areas, particularly from TAFE teachers). Delphi respondents identified occupational health and safety as a necessary skill area for both beginning and experienced teachers, and quality assurance for experienced teachers. They also listed familiarity with related subject areas as important for beginning teachers.
The workplace context

The research instruments included a category labelled "The Workplace Context", in which were included skills relating to an understanding of the TAFE system, its purposes, procedures and major areas of policy development and/or controversy. Some literature consulted explicitly referred to this as an important area of knowledge for the individual teacher; in various other sources emphasising the far-reaching changes underway in the TAFE system(s), the value of such knowledge as a mechanism of coping with change seemed implicit. As much of the literature suggested that TAFE was on the brink of major changes that were gathering momentum, there seemed every reason to assume that these skills would grow in significance in the forthcoming decade.

The interviews elicited a number of skills related to 'Workplace Context'. These were generally of an introductory nature for beginning teachers, such as an initial understanding of the nature and purpose of TAFE, although there was also reference to understanding overseas students. Skills for experienced teachers were of a deeper nature (e.g., increased knowledge of the TAFE system) or more expansive (such as the capacity to respond to broad contextual issues, and networking inside the TAFE system and beyond).

Submissions underscored the importance of skills associated with workplace context. They noted, for example, the importance of the impact on teachers of substantial changes in government priorities, greater involvement of disadvantaged groups, and issues associated with multiculturalism. The importance of the current debate related to TAFE's primary clients (student, industry, government) was also noted.

Skills listed in the Delphi survey coincided well with those listed in the interviews, and generally expanded the list. It identified a number of skills in this category as being important for beginning teachers, encompassing knowledge of TAFE from various perspectives (local, state/territory, its context, current issues such as equal opportunity and equity, and its links with other education sectors). Responses implied the importance of teachers acquiring this knowledge early, rather than when they were more experienced.

Neither the Delphi participants nor the teacher survey rated skills associated with the workplace context as highly as those in some other categories, however; they averaged 2.5, compared with, for example, updating subject area (means generally approaching 3/high), or general personal qualities (means generally 3/high). Skills from this category did not fall among the Delphi or the teachers ten highest required skill levels - nor among the lowest.
In short, the research revealed divergent views about the importance of knowledge of the workplace (TAFE) context. Teachers surveyed and Delphi participants generally regarded this area as being of less importance than some other categories of skill. By contrast, submissions from institutions laid considerable stress on its importance for TAFE teachers in the future.

**General personal qualities**

The categories of skills used throughout Stage 1 of the project included one labelled 'General Personal Qualities'. The most amorphous or diffuse of the categories, it draws together skills that recurred constantly in all or most of the other categories, in other words which appeared to be readily transferable or applicable to other roles and responsibilities of TAFE teachers. Communication skills is an obvious example, stress management another.

Like the updated subject speciality, a high level of general personal qualities seems frequently taken as a given or mentioned in passing. The terminology is often vague, most typically 'interpersonal skills', or 'communication skills', with reference to more specific skills comparatively rare.

The research instruments prompted a range of general personal skills, both general and specific. Submissions from organizations and institutions identified skills of a very general nature, such as 'good communication', with little if any indication of more specific components.

More specific skills emerged from sections of the literature, the interviews and the surveys. From the literature, adaptability to change, a range of interpersonal skills, decision-making skills, and (more controversially perhaps) research skills were identified as important requirements for TAFE teachers in the next decade. This was supported in the interviews, which generated a range of quite specific skills. Beginning teachers, it was argued, require a wide range, including problem solving skills, critical thinking skills, the ability to transfer existing skills to new environments, and the capacity to address the implications of social change; experienced teachers will need skills for academic and action oriented research, more responsibility for their professional work, and advanced communication skills.

Equally specific were the responses from the Delphi and teacher surveys. Participants in both surveys ranked the skills in this category as the most important for TAFE teachers in the 1990s (the average score being 2.8 out of 3). Both Delphi participants and teachers included among the ten highest ranked skills three from this category (being open to new ideas, working co-operatively with others from both;
listening skills (Delphi) and responsibility for own work (teachers). No skills in this category fell less than midway between medium and high importance, a considerable contrast with skills in some other categories. (These were research skills (Delphi survey), negotiation skills (teachers), and commitment to TAFE’s goals (both).)

Both the Delphi respondents and the interviewees were asked to identify skills required by beginning teachers, and those required by more experienced teachers. There were some differences in the skills generated in the interviews, as noted above. There was, however, considerable overlap in the lists emerging from the Delphi survey. Additional skills required by experienced teachers in that survey related to career development, initiative, and working co-operatively with others. The differences were by no means as pronounced as in some other categories, such as management/administration, and industry liaison.

The benefits of a multi-faceted research design are clearly apparent in this section. Whereas the importance of ‘general personal qualities’ would scarcely be disputed, various techniques were able to tease out details and applications often absent from formal policy documents and other written sources.

7.2 CURRENT SKILLS ANALYSIS (STAGE 1B)

Introduction

The emphasis in this project centres on the skills teachers will require in the next decade to work effectively in a TAFE sector which is undergoing far-reaching and rapid change. The Delphi survey, the submissions, interviews and to a large extent the relevant literature focused primarily on the future, on the skills teachers will need. Current skills, an essential component of the equation identifying training needs for TAFE teachers, have been identified principally through the teacher survey and to some extent the interviews. The interviews concentrated on the skills beginning and experienced teachers need today, rather than those they have. Because of this and different phraseology, close comparison with the skills inventory is difficult. In this discussion of the results concerning the present skills of TAFE teachers, the teacher survey provides the main source of data.

Teaching

Fifty-eight skills were listed in the teaching component of the skills inventory to which TAFE teachers responded. They were a diverse range, covering knowledge and competencies
associated with both traditional and newer teaching methodologies. The skills in this category, like those in the other categories, emanated mainly from the literature and interviews.

Results showed considerable differences in the extent to which skills were employed. The most frequently used skills (high usage or approaching it) were traditional teaching skills - interpreting the syllabus, lesson planning, assessing student knowledge and skills, presenting theory lessons, presenting a positive learning environment, working with groups of students, student supervision, and pride and confidence in presentation.

The skills which teachers used least ('low' frequency or less) involved three key areas: new teaching technology or equipment - such as computer managed and assisted learning, interactive videodisc technology and distance education; several under-represented groups of students - notably Aboriginal and non-English-speaking students; and potential new roles - such as assessment and certification of on-the-job training. Not all skills in these areas however were utilised to such a small extent.

Numerous other skills fell in the 'medium' usage category. They include writing lesson objectives and using audio-visual aids, knowing various methods of assessment and selecting teaching methods appropriate to each group, ensuring students learn to learn and adapting teaching methods to cater for students' individual differences, encouraging students to use higher order thinking skills and keeping up-to-date with teaching skills. It is interesting to compare these skills in particular with rhetoric and assumptions about the role of teachers.

The teacher survey also addressed levels of expertise associated with each skill. Skill levels were regarded as high or close to high for nine of the fifty-eight skills. These skills were principally the traditional teaching skills listed above. Likewise, those indicating low skill levels (or less) involved new technology, some under-represented groups, and occasionally potential new roles. Many skills were associated with medium levels of skill, such as team teaching, competency-based training and assessment, self-paced instruction methods, and implementing TAFE equal opportunity policies in the classroom.

It is interesting to compare the frequency with which individual skills were used with the level of skill accorded them. Although close connections cannot be made between these two measures, there is nonetheless an intuitive expectation of a relationship between them, so that (for example) the skills used frequently would be the ones in which teachers are expert. Generally the results showed this, and the corollary,
that skill levels were not as high in those used less frequently. Teachers, for instance, plan lessons frequently, and have a high degree of skill in doing so. Two comments need be made, however, on this comparison. The first is that while there is generally a coincidence between skill level and use, the skill level is usually higher than might be expected from the use of the skill. For example, most teachers rarely if ever assessed on-the-job training, but they believed their level of skill to do so fell between low and medium. This suggests very strongly that teachers have many skills that they are not using to the fullest extent. In two significant instances, however, the reverse was the case - the level of skill proved lower than might be expected from its use. For example, while teachers were frequently called on to promote co-operation among students, their capacity to do so fell between medium and low. Likewise, while they constantly advised students on their progress, their level of skill in doing so was well below medium. These comparisons will be very useful in reviewing TAFE teacher education and staff development.

Notwithstanding care required in comparing interviews and survey results, it is to be noted that for beginning teachers, interviewees particularly emphasised student motivation and alternative learning strategies. For experienced teachers they stressed a range of teaching related activities, such as alternative strategies and assessment of on-the-job training. The survey suggested that teachers currently have a moderate level of skill, or less, in the areas earmarked by the interviews.

**Curriculum development**

The attention accorded curriculum design and development in teacher training programs and in some of the relevant literature implied curriculum-related matters constitute a key component of the TAFE teacher's role. Responses to the teacher questionnaire strongly challenged this assumption.

The first important finding from the research is that most teachers used curriculum-related skills infrequently. Of the eighteen skills listed in this category in the survey, none were identified as being used frequently, and only two as being used moderately frequently. The most commonly used curriculum related skills were developing materials for student use and understanding learning processes. Course accreditation requirements and procedures, and development of student assessment instruments were the next most commonly used curriculum related skills. The least used skills related
to developing curriculum for flexible delivery, working in curriculum development teams, and developing competency-based curricula. These least used skills are of considerable significance given the emphasis placed on them for the 1990s in the literature.

The second major finding relates to the level of skill teachers believe they possess in this area. The level of skill did not exceed 'medium' (in contrast to the teaching and personal qualities categories), and in several instances (notably curriculum for flexible delivery methods) the level was low. In fact, the current level of skill in this category was lower than the level in all other categories except one (client needs/industry liaison).

Thirdly, when level of skill and frequency of use were compared, the highest levels of skills (medium) were generally in those used most, and the lowest were often in those used least. There were, however, important exceptions to this generally expected result. Teachers had a higher level of skills than they were called upon to use in several areas, such as writing and modifying syllabuses, and developing short courses. More important perhaps is the area in which the current level of skill was lower than expected, given the skill's frequency of use - developing materials for student use.

The interviews provide an interesting commentary on the survey results. Beginning teachers, they indicated, needed only some encounter with curriculum design, with further expertise required only after some years teaching. In most areas identified as necessary to experienced teachers, such as modular design and course evaluation, teachers currently have less than a medium level of skill.

Determining client needs and industry liaison

Much of the most recent relevant literature lays great emphasis on a changing relationship between industry and the TAFE sector. It points to a TAFE system far more entrepreneurial than in the past, which actively seeks to provide its expertise to industry in various direct ways - for example, through its teachers designing and delivery short courses for industry, undertaking training needs analysis and other industry consultancies, always on a fee-for-service basis. Industry-TAFE ties have long existed, but important sources used in this research - the literature, the interviews and the submissions - point to an imperative of significant changes in its direction and extent in the future.

The teacher survey again provided a very important counterbalance to the other sources used, particularly with regard to the skills teachers currently have and use. It is highly
significant that the skills in this category of industry liaison were not only the least used currently, but the ones in which teachers identified their least proficiency.

The most frequently used skills in this area were public relations, developing close industry contacts and an understanding of the philosophy of adult education and training. They were used however with less than even moderate frequency, familiar or long-standing roles for TAFE teachers and possibly used mostly within the college context. Key skills identified in other research instruments, such as understanding industry restructuring, and knowing the principles of work organization, multi-skilling, and relevant industrial relations issues, were used relatively often compared with other skills in this category, but infrequently nonetheless. Importantly, the skills most teachers currently used least - namely skills audits, technical research and development projects for industry, and liaison with private providers - are among those listed as particularly important for the future in other sources.

Not only did the survey indicate that TAFE teachers used industry-related skills far less often than other skills, but it also showed that their skill levels in this area were significantly lower. Compared with some other categories of skills, notably teaching and general personal qualities, skills did not exceed the 'medium' level. Many of the skills with the highest levels ('medium') were in potentially college focused activities: such as public relations, liaising with employers on student progress, and understanding communications within organizations. They were also comparatively high in three areas identified as important in the future: knowledge about multi-skilling, award restructuring and work organization. The lowest level of skills included skills audits and job re-design, and knowing the needs of overseas students.

While level of skills in this area was low, in every instance the level was higher than might be expected from the extent of its usage. The discrepancy was particularly evident in the case of liaison with individuals and organizations outside TAFE, such as private providers, on-the-job trainers, industry advisory bodies, employers and unions. In other words, the results suggest that although these skills might not be used very frequently, teachers believed their expertise - while low - exceeded the extent to which they use the skill. As in other categories, the implication is that teachers may be under-utilising their skills. This is of considerable significance, given that teachers repertoires of skills in this area is currently coming under increasing scrutiny.

Again, the interviews provide an interesting commentary on the survey results. There was strong support for beginning teachers having several skills in this area (marketing,
industry liaison, skills audits), and for a more extensive repertoire of quite specific skills for experienced teachers. Given the low level of skills in this category revealed in the teacher survey and the emphasis on it in the literature, interviews and submissions, it is clear that some significant training will need to occur.

Management and administration

For some years, strong arguments have been made for increasing the level of administrative and managerial skills among TAFE teachers. The increasing complexity of TAFE, the administrative responsibilities of TAFE teachers and the recruitment of most management in TAFE colleges from among TAFE teachers are all factors which have underscored this case. This study provides an important measure of the extent of administrative and managerial skills among full-time TAFE teachers, and of their perception of their current level of expertise.

In contrast with the results in several other categories, teachers reported using various skills in the management and administration category moderately frequently, particularly the general skills of arranging work, workload and time effectively, leadership and managing in a climate of change. Many of the thirty-four skills listed were used with medium frequency, indicating that most teachers have a wide range of responsibilities in this area. Those skills used least involved initiating student selection policies, facilitating multiple entry and exit levels, and database management. Again it is significant that each of these figured in the literature as important skills for teachers in the 1990s.

As far as the level of skills was concerned, teachers indicated that most teachers had a moderate level in administration and management. The highest levels (slightly over ‘medium’) occurred in such generic skills as management of work and time for example, and leadership; the lowest (slightly above ‘low’) related to student selection policies, database management, and managing a mixed mode of study.

When the frequency of use was compared with the level of skill, a general coincidence appeared between the two measures—for example, the level of skill was medium and the frequency of use medium. Differences were small, and generally suggested a higher level of skill than might be expected from its use. More marked differences appeared in the human resources management area (such as staff supervision) and equipment management, where the skill levels were considerably consistently higher than their use would imply.

The interviews identified a far more limited range of administrative and management skills than the teacher survey.
Beginning teachers needed principally basic or general administrative skills; experienced teachers on the other hand, required more specific financial and human resource management expertise. Caution in comparing the two research instruments is needed, however.

**Updating own subject**

The importance of TAFE teachers being up-to-date in their technical area has been universally acknowledged in the literature, interviews and submissions related to this project. The results in this section of the teacher survey must be read in that context.

The responses indicated that teachers believed that most teachers spend a moderate amount of time in skills related to updating their specialty. Some skills received more attention than others, particularly the broad keeping up-to-date in the subject area, coping with relevant change and maintenance of technical skills. Receiving the least attention were quality management principles and consultation about professional development (slightly above 'low' use). Compared with the other categories, skills related to updating are used more often than those in any other category except 'general personal qualities'.

The teachers level of skills in this area was generally 'medium', with some specific skills being slightly above (notably the broad areas referred to), and one (quality management) somewhat below. Results showed that the level of skills in this category was exceeded only by the level in skills related to teaching.

Comparing the frequency with which skills were used with the teachers level of skills revealed a broad similarity - skills used with moderate frequency and a moderate degree of proficiency.

Interviews reinforced the emphasis on up-dating skills, for both beginning and experienced teachers.

**Workplace context**

It has been argued that an understanding by teachers of their workplace and its broader context is an important dimension of effective teaching and professionalism. Teaching in a vacuum, without some knowledge of the TAFE system (local, state/territory, national), the social context and government policies has been strongly criticised. It is for this reason that initial teacher training and staff development programs include such knowledge.
Responses to the teacher survey showed that teachers used this knowledge, but moderately often at most (operation of the college system, the purpose of TAFE and the respondent’s role in it, and knowledge of teaching terms and conditions). Used somewhat less often were other relevant skills such as knowledge related to equal opportunity, TAFE secondary school links, gender issues and knowledge of current issues in vocational education. Least commonly used were skills related to TAFE strategic planning and its economic and political context. It should be noted, however, that the use of all skills in this category was significantly above the “low” level.

Teachers reported that most teachers had a level of skills in this category that was medium or slightly below medium. Skills were highest in relation to knowledge of the college, the purpose of TAFE, equal opportunity and teachers terms and conditions. The lowest levels occurred in skills relevant to strategic planning.

When the level of skill and the frequency of its use were compared for this category, the similarities were clear. The levels of skills were slightly higher than their frequency of use, but generally only slightly. The exceptions related to equal opportunity/gender issues, and knowledge of TAFE/secondary sector links where the frequency of use was less than would be expected from the level of skill.

Interviewees saw beginning TAFE teachers requiring an initial understanding of the nature and purpose of TAFE and knowledge of the critical issues in vocational education. Experienced teachers, they believed, required knowledge of TAFE’s political and economic context, and equal opportunity issues in the workplace and adult education.

**General personal qualities**

The literature and interviews indicate that general personal qualities such as communications skills and interpersonal skills are highly valued for teachers. This was strongly reinforced by the teachers survey. ‘General personal qualities’ were firstly, the most commonly used skills, and secondly, the ones in which teachers indicated levels of skill higher than in any other category.

The frequency with which these skills were used was high. Of the sixteen skills listed, thirteen were used often or moderately often. Most often used were speaking and listening skills, co-operation with others, and taking responsibility for one’s own work. Teachers also regularly consulted colleagues for advice, saw teachers as open to new ideas, were self-reliant, lateral thinkers, and able to cope with stress. The least used skills in this category related to interviewing.
and negotiating, and even these were used with just slightly less than moderate frequency.

The levels of skills respondents reported most teachers had in this area were at worst medium, at best high. Skills recording the highest level (close to the maximum) were responsibility for one's own work, being open to new ideas, consultation and co-operation. Recording the lowest levels were interviewing, negotiating, commitment to TAFE's goals and coping with stress - and these levels did not fall below medium.

Finally, there was strong similarity between the level of each skill and the frequency with which it was used - that is, skills used frequently were those identified with high skill levels, and those used less frequently with a lower level of skill. The notable exception was coping with stress, where the level of skill was less than might have been expected from the extent to which it was used.

The interviews strongly reinforced the emphasis on general personal qualities, identifying a considerable number of skills required by beginning and by experienced TAFE teachers. Communication and interpersonal skills dominated the lists.

Summary

The skills inventory in particular contains a wealth of information about the current skills used by TAFE teachers and their assessment of their level of expertise. The details illustrate several key points which have major implications for both the roles of TAFE teachers and appropriate training programs to enhance their expertise:

* there are relatively few skills in which teachers believe they currently have a high level expertise; the most characteristic level is medium or moderate, or somewhat less

* the highest levels of expertise occur in two categories - teaching and general personal qualities

* generally, whatever the level of skill identified, it exceeds the level that might be assumed from the skill's usage. Several important exceptions to this have emerged

* the current skill levels in a number of categories identified as vital for TAFE in the 1990s are deficient. Client needs/industry liaison and curriculum development are the most striking.

The differences between current skills and those required in the 1990s are discussed elsewhere in this chapter.
7.3 COMPARISON OF CURRENT SKILLS AND REQUIRED SKILLS

When comparing the current skills of TAFE teachers with the skills required for the 1990s, the most striking result of this research is the large 'skill gap' for many skills over a wide range. That is, the skill level required nearly always exceeds the skill level currently held by TAFE teachers. Many skill requirements occur in all seven skill categories, and these are discussed under each skill category heading below.

These large gaps between skills required and skills held contrast with the closeness of results from different research methods for each of the measures of current skills and required skills. While there are some notable differences in the results (discussed earlier) from the various research methods, there was general agreement on current skills and skills required in the 1990s.

The results from the TAFE Teacher Survey and the Delphi Round Two survey enable the skill deficits to be pinpointed in some detail, while the results from the Delphi Round One Survey and the interviews help to distinguish the skills important for beginning TAFE teachers and those important for experienced TAFE teachers. These results will be very useful in designing TAFE teacher preparation courses and staff development programs.

However, one key feature of these results needs to be borne in mind when looking for practical applications. The results are based on expected skills required for the 1990s rather than desired skills required. The job of TAFE teaching could be consciously redesigned to give profile of job skills much different to what teachers and administrators now expect. For example, some TAFE agencies may decide to organise TAFE teaching more strongly into specialisations such as those listed in Section 5.2. This would directly affect the training and development needs of beginning and experienced teachers.

Over the seven skill categories, the category having the biggest average skill gap was category C: determining client needs and industry liaison. While this category had the biggest skill gap, it also rated the lowest, in absolute terms, on skill level required for the 1990s. This contrasts with the literature which generally placed great emphasis on the closer relationship between TAFE and industry required in the 1990s. On average, in this category the current skill level is low to medium and this needs to be lifted to a required skill level of just over medium (indicated by both the Teacher Survey and Delphi Round Two Survey). The category having the smallest average skill gap was category G: general personal qualities. On average, in this category the current skill level is medium to high and this needs to be lifted to a required skill level of close to high. A discussion of skill
gaps within each of the seven skill categories follows.

**Teaching**

The survey results indicate that skills in the teaching category showed a smaller average gap between current and required skill level than most of the other skill categories. On average, the current skill level in teaching is medium and this needs to be lifted to medium to high for TAFE teaching in the 1990s.

Teachers see themselves as highly skilled in the traditional teaching roles such as interpreting the syllabus, lesson planning, writing lesson objectives and presenting theory lessons, and the skill levels required in these traditional roles is about the same for the 1990s. These skills were also identified as being important for beginning TAFE teachers in the interviews, Delphi Round One Survey and literature review.

More advanced teaching methods exhibited a significant skill gap, usually from medium (current skill level) to medium to high (required skill level). These skills included: conflict resolution skills, understanding adult students, diagnosing learning difficulties, awareness of literacy problems, handling learning difficulties, and teaching several levels of students in one teaching session. Most of these types of skills were thought to be important for beginning TAFE teachers in the interviews and Delphi Round One Survey.

Approaches to TAFE teaching such as competency-based training and assessment, self-paced and individualised instruction methods, and assessing on-the-job training also showed a significant skill gap - usually from medium skill level (current skill) to medium to high skill level (required skill). These skills were cited as important for experienced TAFE teachers in the interviews and Delphi Round One survey. They were also cited as becoming increasingly important in the 1990s by a number of the submissions, and in the literature.

Skills in using teaching technologies such as computer managed learning, computer assisted learning, and interactive videodisc technology showed the largest skill requirements - from a low current skill level to a medium required skill level. These skills were viewed as important for experienced TAFE teachers by the Delphi panel but were not given much emphasis in the interviews.

Skills in teaching 'non-traditional' groups of students were seen in the literature as becoming increasingly important in TAFE and this was supported by some of the submissions. These skills were viewed as important for both beginning and experienced teachers by the Delphi panel and the interviewees. The surveys revealed a variable skill gap for these skills. There were large skill gaps for teaching Aboriginals and non-
English speaking groups, and small skill gaps for teaching mature age apprentices and women.

Skills related to individual student-teacher interaction showed little or no skill requirement in the surveys. These skills included: negotiating with individual students, and counselling students about courses, careers and personal matters. The people interviewed in the project and the Delphi panel viewed these skills as important for experienced TAFE teachers.

Curriculum development

The survey results indicate that skills in the curriculum development category showed large skill gaps between current and required skills. The average skill requirement for curriculum development was among the largest of the seven skill categories. On average, curriculum development skills need to be lifted from low to medium to a medium to high level. This was reinforced by a number of submissions which emphasised the recent greatly increased role of TAFE teachers in curriculum development.

There was some divergence of views by the Delphi panel on the importance of curriculum development skills for beginning TAFE teachers. However, the interviews supported its importance for beginning TAFE teachers and experienced TAFE teachers. The Delphi panel listed advanced curriculum skills such as course evaluation and knowledge of course accreditation as important for experienced teachers.

All the individual curriculum development skills listed in the survey showed moderate to large skill requirements. The largest gap was in 'develop curricula providing opportunities for students to select their own way of learning', with low current skill level and requiring a medium skill level in the 1990s.

Skill requirements in curriculum development were rated as significantly larger for Victorian TAFE teachers compared with Western Australian TAFE teachers. Other pairwise comparisons were not significant. Also, the skill gaps were much larger for beginning TAFE teachers compared with experienced TAFE teachers.

Determining client needs and industry liaison

This area seemed to provide conflicting results in this project. On the one hand, the submissions, interviews and literature review generally saw TAFE’s relationship with industry undergoing considerable change in the 1990s, with significant implications for TAFE teachers. TAFE teachers would need many skills in this area such as training needs analysis, creating and marketing fee-for-service courses for
industry, and training at industry locations. There will be much more interaction between TAFE teachers and local industry in the 1990s.

On the other hand, the surveys rated this area as the lowest skill level required of the seven skill categories. The teacher survey and Delphi survey respondents gave an average rating of skill level required of just above medium for this area. However, when the survey results are studied closely, an explanation for the conflicting results becomes apparent from two key features in the survey results. Firstly, when the current skill level is compared to the required skill level in this area, a large skill requirement is found, and on average this is the largest skill requirement for the seven skill categories. The implication is that much attention and considerable teacher preparation and staff development resources need to be devoted to TAFE teacher skills in this area in the 1990s. Secondly, the variance in the required skill ratings is highest in this area, indicating the greatest divergence of opinion on this area compared to the other skill categories.

The Delphi surveys found that determining client needs and industry liaison was a likely area for specialisation of TAFE teachers, so clearly some see this area as important for most TAFE teachers and some see it as important for specialised teachers.

The surveys found a skill requirement in 31 of the 32 skills in determining client needs and industry liaison. The skills with the largest deficits were analysing industry training needs, undertaking skills audits, job redesign and knowledge of award restructuring. The only skill in this area showing no significant gap was public relations skills.

Management/administration

Overall there was a small but significant skill gap in management/administration skills of TAFE teachers. The current skill level is medium while the skill level required for the 1990s is expected to be medium to high.

The management/administration skill category was the only category in which there were more skills where the teachers expected a higher skill level required than the Delphi panel. The teachers rated basic accounting, use of common computer software packages, promotion of co-operation among teachers and maintain and repair equipment much higher for the 1990s than the Delphi panel. However, the management/administration area is recognised in the submissions, literature and the interviews as a high priority for staff development.

There were moderate skill needs in most of the 'self-
management’ skills such as self evaluation, management of time, arranging own workload. There were small to moderate skill gaps in business skills such as accounting, budgeting, and database management. There were also small to moderate skill gaps in educational administration skills such as student selection, course co-ordination and timetabling. There were small skill needs in staff supervision and staff appraisal.

The only skill showing a skill gap in which current need exceeded expected need in the Delphi survey was maintain and repair equipment. However, the teachers expected a required skill level in this skill much higher than the Delphi panel. Overall, it appears that teachers undertake much administration and expect this area to require a higher skill level in the 1990s. Basic administrative duties such as repair and maintain equipment and basic accounting are rated much lower by people not ‘at the coalface’ of TAFE teaching.

**Updating own subject**

This area showed a big skill need, second only to determining client needs and industry liaison (skill category C). Unlike skill category C however, updating own subject showed a medium skill level currently in TAFE teachers. Close to a high skill level is required overall in updating own subject in the 1990s, this being confirmed by the surveys, submissions, interviews and the literature.

The biggest gaps were in knowledge of modern quality management principles and development of new technical skills for broadening or multi-skilling. These two skills are vital for current restructuring of industry.

The overall skill gap in updating own subject was greater for Victorian TAFE teachers than NSW TAFE teachers (other pairwise comparisons were not significant).

It is clear that these results indicate that updating in one’s own subject should remain a high priority in the 1990s.

**The workplace context**

Teacher skills concerned with workplace context showed a moderate skill requirement overall. On average, the current skill level of TAFE teachers is just below medium, but a medium to high level of skill is required for the 1990s. These skills were recognised as important for both beginning and experienced TAFE teachers in the interviews, submissions and Delphi and teacher surveys.

Workplace context skills showing the biggest gaps were knowing the operation of the teacher’s TAFE authority, knowing current issues in vocational education and training in Australia and
knowing the strategic plan for the teacher’s TAFE system.

Overall the skill need for workplace context skills was much greater for male TAFE teachers than female TAFE teachers. (In the six other skill categories the differences in skill deficits between male and female teachers are small or not significant.) Also, the need for skills related to workplace context skills was rated as much greater for Victorian TAFE teachers compared with Western Australian TAFE teachers.

**General personal qualities**

General personal qualities is the seventh and last of the broad skill categories, and includes a range of general interpersonal or communication skills that mostly could be included in all of the previous six categories. This group of skills showed the smallest skill gap but the highest skill requirement for the 1990s. Most skills in this category showed a current skill level between medium and medium to high, and a required skill level of close to high.

The skills with the largest gaps were cope with stress and set own goals and career pathways (medium current skill and high required skill in both cases). The smallest gap occurred for the skill of ‘taking responsibility for your work’, this skill showing no skill gap (Delphi survey). Overall, the skill gaps were a little larger for male TAFE teachers compared with female TAFE teachers.

**7.4 IMPLICATIONS FOR STAGE 2**

The findings of Stage 1 of the review of TAFE preparation and development form the essential prerequisite for Stage 2. That is, from this detailed investigation of the training needs and current skills of TAFE teachers will emerge the key directions for initial and continuing education for TAFE teachers in the next decade. The second stage of this project (Stages 2A and 2A) will translate these findings into models of and strategies for TAFE teacher preparation and development in the 1990s.
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