

Faculty of Education

The effects of TAFE/University articulation on the
education of librarians in Australia

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CERTIFICATE

It is certified that this thesis is the sole work of Christine Kathryn Richardson. Due acknowledgement has been made of all quotations from other works. This thesis has not been submitted, in whole or in part, in respect of any other award at Curtin University of Technology or elsewhere.

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ABSTRACT

The thesis examines those students in the department of Information Studies at Curtin University of Technology who have articulated into the Bachelor of Applied Science (Information and Library Studies) through holding an Associate Diploma which qualifies them as paraprofessional library technicians.

An analysis of students in the department over a period of ten years examines the number and characteristics of library technicians upgrading their qualifications and compares the academic performance of articulating students with those who have no previous qualifications in librarianship. This examination reveals little difference in the academic performance of the two groups. Interviews with academic staff and students reveal attitudes towards articulation, articulating students, education and the relationship between the professional and paraprofessional levels in librarianship which will need to be taken into account in future curricula and course development.

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Chapter One: Articulation and Librarianship

Introduction

Articulation is a word which is frequently used to describe a process in which students are given recognition for previously acquired formal educational qualifications. The Western Australian Department of Training defines articulation as:

...the linkage between different levels or different sectors of education and training. Articulation arrangements allow students to complete a program of study by moving to a higher level course or a course offered by another institution.

(Western Australian Department of Training, 1996)

This definition implies that a structured program of study over more than one institutional level exists. However, for the purposes of this thesis, articulation has a less formal meaning. It refers to the recognition by an educational institution that completion of a lower qualification in a particular field of study might qualify a person to be accepted on a higher level course in the same field and/or be exempted from part of the higher level curriculum on the grounds that the material has already been covered. It does not necessarily imply formal curriculum cooperation between the levels.

Within the field of librarianship, two formal levels of tertiary education qualification exist, the library technician qualification, normally an Associate Diploma and the profession librarian qualification, either an undergraduate degree or a postgraduate qualification. This field of study is therefore one which is open to the possibilities of articulation and such articulation is well-established.

This thesis describes the process of articulation to university-level courses of library technicians who have graduated with an Associate Diploma. In order to do this, it was decided to study a group of students who are upgrading their qualifications by undertaking the Bachelor of Applied Science (Information and Library Studies) at Curtin University of Technology. The students had received their Associate Diploma qualifications from either the Central Metropolitan College of Technical and Further Education (TAFE) or Edith Cowan University (ECU).

The thesis examines issues involved in the articulation process and compares the academic performance of students who have articulated with those who enter university directly. A report of a focus group and a range of individual interviews provide a rich description of how articulated students view the articulation process, its impact on them, and their course of study. Interviews with academic staff reveal how they perceive the concept of articulation and library technicians' competence in studying for an undergraduate degree.

The aim of the research is to form a greater understanding of the opinions of the academic staff and the students in relation to articulation and to examine the impact, if any, of articulation on the academic achievement of students.

Library technicians and professional librarians

The Australian Library and Information Association (ALIA) describes a library technician as “an individual who is competent to fill a paraprofessional level position in library and information work, with a focus on the operation, maintenance or control of established systems” (ALIA, 1995, p. 7). In ascertaining whether an individual is competent, the requirements set down by the Association include:

Successful completion of a certificate, associate diploma or equivalent course in information studies. (Mandatory). While not anticipating that such a course would necessarily match all the curriculum elements listed below from the ALIA education policy statement for

the recognition of first award courses at technician level, it should comprehend a substantial proportion of them... (ALIA, 1995, p. 7)

ALIA's strategic plan and policy statements define the role of the library technician as being different to that of the professional librarian. Librarians are defined as professional staff members whose "work focuses on management, direction and policy formulation and application whilst the work of the technicians has an operational focus" (ALIA, 1995, p. 41). In order to distinguish between the roles, ALIA has published work-level guidelines which are intended to clarify the duties and tasks of librarians and library technicians as well as provide a comparison of work carried out across the differing sectors of the profession.

A general description of the librarian's duties and tasks is given in the "ALIA Handbook" as:

- Analysing the library and information needs of the community which the library serves.
- Designing the most appropriate library and information services and systems to satisfy those needs.
- Selecting appropriate information to meet client needs.
- Creating and maintaining data bases relevant to the library's needs.
- Developing and implementing policies for the provision of services.
- Devising acquisitions systems and procedures for library resources.
- Original cataloguing and classification of library resources.
- Designing circulation control systems.
- Assisting clients in the use of library and information systems.
- Answering reference and information enquires.
- Managing and administering library and information systems.
- Reviewing, evaluating, modifying library and information services and systems against measures of responsiveness to client needs and quality control.
- Budgeting.
- Promoting library services.

- Selecting, evaluating, managing and training staff.
- Monitoring developments in library practice/technology.

(ALIA, 1995, p. 126)

The duties and tasks of a library technician are set down as:

- Processing and accessioning new material.
- Operating, maintaining and advising on the selection of audio-visual and photographic equipment.
- Producing publicity displays and multi-media kits.
- Duplicating print materials, slides, tape recordings, etc.
- Cataloguing using MARC records and assisting with serials cataloguing.
- Checking and maintaining name and subject authority files.
- Searching and verifying bibliographies data.
- Entering data into computer held databases and editing the records contained therein.
- Overseeing the repair and binding of items.
- Supervising loans and circulation systems including inter-library loans.
- Locating full descriptive information on library items from reference sources.
- Carrying out procedures for ordering and accessioning library, materials.
- Adding local information to machine-readable records for books.
- Ordering library materials and maintaining necessary records.
- Advising users about the collection.
- Compiling subject bibliographies.
- Assisting the librarian with reference enquiries.
- Supervising and training of non-professional staff.
- Shelving or filing of library material.

(ALIA, 1995, p. 129)

Additional detailed information about the tasks and duties of the two positions can be found in the Association's work-level competencies guidelines.

Discussion about the need for a paraprofessional position in libraries arose in Australia in 1963 by Margery Ramsey in her paper “Solution in search of a problem”. She believed that a strong body of non-professionals should be developed to carry out responsible tasks under professional supervision (Ramsey, 1963). This was very forward thinking as it was only in 1961 that the education of professional librarians had moved into the tertiary sector with the introduction of courses at the University of New South Wales’ School of Librarianship (Edwards, 1985).

In 1967 the Victorian Branch of the Library Association of Australia (now ALIA) set up a committee to examine the need for paraprofessional training and this led to the establishment of a library technician’s course at the Box Hill Girls’ Technical School in 1970. Other States and Territories followed with the last course established in the Northern Territory in 1982 (Edwards, 1985; Hyland & Naylor, 1993).

In Western Australia, the first course for library technicians was offered in 1975 at Perth Technical College, now the Central Metropolitan Campus of TAFE, to employees of TAFE. It came into being, according to Cynthia Dziggel, the foundation Head of the Department of Information Studies, because of recommendations made by the *Kangan Report on TAFE in Australia* (Australian Committee on Technical and Further Education, 1974). “This report recommended massive amounts of funding to upgrade TAFE libraries in Australia, and the allocation of funds for training library technicians was part of this package” (Layzell Ward, 1990, p. 267).

One year later, in 1976, the Western Australian Branch Council of the Library Association of Australia (LAA) requested TAFE to revise its course so that it met the Association’s guidelines for the education and training of library technicians and asked that it be made more generally available. This request led to the introduction of a Certificate of Library Practice in 1977 which was offered as a three-year part-time program. The course was revised in 1984 and offered at certificate and diploma levels in full and part-time modes. In response to changing workplace needs and educational restructuring, further revision saw the introduction of a two-year full-

time, or equivalent part-time, Associate Diploma in Applied Science (Library and Information Studies) in 1988 (Dziggel, 1990).

Western Australia also saw the development of an Associate Diploma of Applied Science (Library Media) at the then Western Australian College of Advanced Education's Department of Library and Information Studies. The Department, now known as the Department of Library and Information Science at ECU, also makes the claim of offering the first library technicians' course in Western Australia (Layzell Ward, 1990). The current coordinator of the Associate Diploma program believes that the course began in 1975 within a month or two of the commencement of the course at Perth Technical College. The coordinator pointed out that the program with which she is involved was the first at an Associate Diploma level (Clayden, 1996).

At present, the two technician courses are involved in the introduction of major changes for the academic year of 1997. The Department of Library and Information Science at ECU is moving from an Associate Diploma to an Associate Degree in Applied Science (Library and Information Science). The course will remain a two-year full-time award but will be the foundation component of a Bachelor of Science (Library Technology). Students will be able to exit after two years with a qualification at Associate Degree level or continue with their study and receive a Bachelor's degree.

The Department of Library and Information Studies at TAFE introduced a library technicians' course at a Diploma level in semester one, 1977. The course length is unchanged but the current Head of Department sees the changes as a response to Federal Government policy and the need to conform to the national qualification framework agreed to by the Ministerial Council For Education, Employment, Training and Youth Affairs (Starre, 1996).

The reason why the call for the introduction of a paraprofessional level increased in the late 1960s is difficult to establish definitively. There is very little literature in the area and, as Edwards pointed out in 1985, "tracing the emergence of library

technicians as a group in Australia creates a problem in itself as their history is inadequately documented and the chronological list of important dates for library technicians is incomplete” (Edwards, 1985, p.1). Despite this, it is possible to speculate about the reasons behind the emergence of a paraprofessional level in librarianship.

The late 1960s saw the acceptance and recognition of audio-visual media as a legitimate source of information. That is, information stored in an audio-visual format gained a degree of authority it had not previously enjoyed. The use of audio-visual materials increased correspondingly, particularly in the field of education, throughout the 1970s. Libraries had to deal with information acquired in this format and that brought about a need for staff who had capabilities in this area. Training in the use of audio-visual equipment was an integral part of the curricula of library technicians at that time (Education Department of Western Australia, 1979). This was also reflected in the nomenclature of the award from the Western Australian College of Advanced Education: an Associate Diploma in Applied Science (*Library Media*). (The emphasis is mine.)

Coupled with the growth in audio-visual media was the introduction of automated systems. Automated systems were applied to everyday housekeeping routines in libraries and had the effect of removing much of the repetitious and tedious work from the professional librarian. Automation was thought to lead to a downgrading in the skills required to be a librarian and the trend in thinking was that paraprofessionals would carry out routine tasks, leaving the professional librarians to manage (Hyland & Naylor, 1993, 64).

Hyland and Naylor put forward the idea that the paraprofessional position of library technicians emerged in the early 1970s when the LAA decided that the minimum qualification to be a professional librarian would be a bachelor’s degree (1993, p. 64). This decision led to the phasing out of the LAA Registration qualification; no new Registration candidates were enrolled after 1976 (Edwards, 1985). This had a significant impact on libraries. During the time the Registration qualification existed, it was only available in part-time mode. Most candidates for registration

were employed in libraries and studied on a part-time basis. As Hyland and Naylor describe it, with the move away from Registration, there were not as many library staff in “apprenticeship while preparing for the registration papers” (1993, p. 64). Libraries found the loss of partially qualified staff difficult to cope with.

During this time of technological change, Australia also saw significant social, economic and political change. In 1972, the long-standing Liberal Government lost the Federal election and the Australian Labor Party (ALP), with its platform of social change, took office. The ALP introduced many decisions which impacted on the shape of Australian society, but one of the most significant was in the area of tertiary education with the abolition of scholarships and a policy of no fees. Connected with this change was the introduction of unmatched grants to universities and colleges of advanced education for the purpose of acquiring library resources. The unmatched grants provided the tertiary sector with an unrivalled opportunity to purchase enormous amounts of resources. An example of this was the then Western Australian Institute of Technology (WAIT) which received a \$5 million unmatched grant. The grant could not be used for capital works or for salaries; it had to be spent on the purchase of library materials. In addition to the normal recommendation and buying procedures, two professional librarians were employed as full-time subject specialists, one in the humanities and one in the sciences, to recommend purchases. The consequence was a massive backlog of approximately 30,000 library materials which needed to be processed, leaving them unavailable to the Library’s clients for use or loan. The other universities in Western Australia - Murdoch University and the University Western Australia - also found themselves with significant backlogs (Traill, 1995; Genoni, 1996).

Backlogs, such as that mentioned above, led to the recognition of the need to process materials more quickly so they could be made available to clients. One way of doing this was to train clerical support staff to take over a number of the tasks and duties normally carried out by professional staff. This had the effect of freeing professional staff to concentrate on more complex tasks or those which required professional training or subject expertise. As an increasing number of clerical staff undertook tasks previously carried out by librarians, the need to reward them in some way for

the higher level of work they carried out arose. One way of doing this was to have a recognised career path which involved the formal introduction of a paraprofessional level. Attaching qualification to the position would lead to a recognised award and hence salary raises for those in this position.

The introduction of a paraprofessional level into the management structure of libraries has not been without controversy. Clayden quotes Neil Radford's 1978 talk on education entitled "Items from the too hard basket", in which he identified the problem of incorporating "technicians into the rather rigid staff structures of the that time..." (Clayden 1993, p. 140). Edwards noted the difficulty in distinctly defining the roles of the library technician and the librarian. She commented that the LAA had set up a working party to establish whether this was possible (Edwards, 1985). It is obvious from the work-level guidelines quoted above from the ALIA handbook, and the more detailed competency level guidelines found in Appendix Three that some degree of overlap has been acknowledged. A degree of overlap is inevitable because of the wide range of library environments in which librarians and library technicians work. The tasks they carry out often depend on the nature of the organisation in which they are employed. A large institutional library, which employs a number of staff is more likely to have a formal management structure in which various staff levels, and hence tasks and duties, are defined. In a small environment, such as a special library, where there may be only a couple of library staff the formal division between staff and consequently their tasks will not be present. ALIA, itself, is currently considering amending its policy statement on the roles of the librarian and technician to reflect this situation. A proposal regarding this is currently with Branch Councils for comment before being sent to the General Council for a final decision (Smith, 1996).

Articulation and university entrance

The process of articulation involves two separate aspects of university admission. The first is matriculation, that is the recognition that applicants have shown themselves to be qualified for university admission. The second is credit transfer,

that is the granting to the applicant of advanced standing in the university course based on previous study. Both of these aspects apply to articulation in librarianship. The Associate Diploma award (which allows the recipient the status of library technician) qualifies the applicant for admission to Curtin University of Technology and also qualifies the applicant for advanced standing.

Matriculation

Traditionally universities have not taken into account any prior non-school awards or training for matriculation and there were, until recently, only two basic methods of entry - school examinations and special tests for mature-age admission. Both of these use measures which are to a debatable extent a measure of intellectual ability.

School-leaver applicants to Western Australian universities receive Tertiary Entrance Examination score. In 1995 they had to achieve a score of 290 or higher and have met literacy requirements in order to qualify for matriculation at Curtin. Applicants who have taken their tertiary entrance examinations in states other than Western Australia have scores converted to Western Australian equivalents via agreed formulae. This is also true of mature-age applicants who have tertiary entrance scores from earlier years, when the method of calculation was different.

Students who do not meet the traditional university requirements in Western Australia, and who are of mature-age, are able to sit for an examination which grants direct entry. This examination is administered by the Tertiary Institutions Service Centre (TISC) and is known as the Special Tertiary Admission Test (STAT). It consists of three parts: an essay, a test based upon mathematics and science, and a test based upon humanities and the social sciences. The essay is compulsory and the candidate must complete one of the other sections, though completion of both is acceptable. Successful completion of the essay section is required to pass the STAT. Marks gained in this examination are converted to a TEE score. The usual university requirements for entry then apply.

The conditions under which holders of an Associate Diploma in a library-related field are granted matriculation are completely different. Under an agreement between Curtin and the Australian Credit Transfer Agency (ACTA), Associate Diploma holders are automatically assigned a TEE score of 335. This score is assigned regardless of the marks achieved while studying for the Associate Diploma. A student who receives marks of 95% is treated no differently from a student who has failed numerous times and has an average of 50%. This lack of discrimination in the assigning of the score for Associate Diploma holders has caused the academic staff of the Department of Information Studies great concern. The introduction in 1997 of competency based assessment at TAFE means that only whether a student has passed a unit or that the mark is held (i.e.: the student has not as yet passed the unit) is recorded. This will exacerbate matters as academic records will not record how many times a student has attempted a unit before a pass mark was awarded. The implication of assigning a standard score is that anyone who holds an Associate Diploma is more than capable of meeting the assessment standards set by the University, since other students may be matriculated with a score of 290.

Applicants' TEE scores, or their equivalent, are numerically ranked in a computer and offers of a place are made based upon the number of positions available and the student's score. The higher the applicant's score, the more likely they are to receive the offer of a position. Therefore, an applicant who has received very poor marks at TAFE level may receive an offer over a school leaver with a TEE score well above the lowest level for matriculation.

There is the possibility within the system whereby those controlling individual courses may affect who receives an offer. It is possible to put a stop on an offer or artificially inflate the 'score' of an applicant. This has been used by the Department of Information Studies at Curtin to screen Associate Diploma Applicants (see below) but it is ethically questionable to interfere with the TISC process.

Advanced standing

Once the student has been accepted on a course, the question of advanced standing arises. Deciding what advanced standing might be given is not an easy task. Articulation recognises prior formal learning in the same or a closely related field. However, as already stated, it does not imply that the lower level course is the necessary first step for all those entering the field, whether or not they will move on to professional levels of education. Most entrants to university-level courses in librarianship have no previous study in the field and there has never been any suggestion that they should have acquired TAFE level qualifications first.

Librarianship courses in Australia, in general, do not take into account the possibility that a part of the student intake each year may hold an award which qualifies them as a library technician. First year courses are not designed to mimic the subject content studied for an Associate Diploma, nor the level at which it was taught. There is a great degree of difference in the structure and curricula of courses at library schools, although all must meet the core curriculum guidelines set down by ALIA if they want to have a professionally accredited program.

The significant difference between the Associate Diploma level courses and the degree courses of universities is that universities are much more likely to begin teaching courses from a theoretical perspective. The degree of overlap and the position of content within the structure of a course varies from institution to institution and depends upon the philosophy of the academic staff as well as university policy. For example: the School of Information Studies at the University of Technology, Sydney, has an extremely theoretical first year that concentrates upon the theories and concepts involved in information and communication. It is not possible to identify any of the skill-based techniques and practices which are found in an Associate Diploma course. Only in the second and third years of study are some of these techniques and practices incorporated into the curriculum, albeit set within a theoretical framework (University of Technology, Sydney, 1997). In contrast, Curtin's Department of Information Studies has a first year which is a mixture of skill base techniques and practices, and theoretical aspects of information, communication and technology. There are aspects of commonality between the content of the Associate Diploma courses running in Western Australia and the first

year course at Curtin. The differences are apparent in the depth of content and the theoretical framework within which it is set (Curtin University of Technology, 1996).

Prior to the adoption of a formal articulation agreement, entrants to the Bachelor of Applied Science (Information and Library Studies) at Curtin, who held an Associate Diploma, were, on occasion, granted a small amount of advanced standing. There was no formal written policy on how much advanced standing was granted or on how the amount was decided upon. The Head of Department made the decision on an individual basis.

The Australian Vice-Chancellors' Committee' Australian Credit Transfer Agency, which provides services in the area of credit transfer and the recognition of prior learning, has now organised a formal articulation agreement. Under ACTA guidelines university applicants who hold an Associate Diploma, in the field of librarianship, will be granted up to the equivalent of one year's advanced standing*. That is, they will study the equivalent of two years in a three-year Bachelor's degree. Successful applicants to the Curtin course, whether they have graduated from TAFE or ECU, are currently granted 200 credit points advanced standing in a 600 credit points program; that is, the equivalent of one year of study.

The granting of the equivalent of one year's advanced standing to university entrants holding an Associate Diploma is not as simple as exempting them from the whole first year such as was done in the Department of Information Studies at Curtin from 1992 until the end of 1994. The problem with adopting this approach is that if there is any element of theory within the first year of study, then the implications are that the library technician upgrade is left to cope as well as they can, or any essential content they need from the first year has to be covered in some way. This could be

* It should be noted that the introduction of the Bachelor of Science (Library Technology) at ECU, which uses an Associate Diploma as its first and second year of study, is not a degree in librarianship. It is a degree for library technicians and does not intend to be an avenue for the upgrading of qualifications from library technician to librarian. Currently, the Department of Library and Information Science has no plans to seek professional recognition from ALIA.

done by the student on a self-study basis, or through an official bridging program. The practice at Curtin was that the student was left to cope as best as they could.

Unless a degree course has been deliberately structured so that the first year of study reflects an Associate Diploma, it is almost impossible to identify whole unit equivalents for exemption. Much more likely is the identification of parts of units which could be exempted. Unfortunately given the way universities are structured and the procedures they operate under, it is not practicable to exempt students from part of a unit. When a student formally enrolls in a course they are committing themselves to a particular course of study. University procedures require them to be formally enrolled, and to successfully complete, a series of units to receive their degree. For every unit in which they are enrolled they have to meet the charge levied by the Higher Education Contribution Scheme (HECS). It is not possible to pay for part of a unit, and it is unethical to require a student to enroll in a unit, partially complete the syllabus and pay the full cost of the unit under HECS. Nor is it possible to allow students to complete part of a unit without being formally enrolled: for assessment to be recorded, a student must be formally enrolled.

During 1995, entrants to the Bachelor of Applied Science (Information and Library Studies) at Curtin were exempted from six of the eight units in first year, that is, first year units made up 150 credit point of the 200 granted for advanced standing. The other 50 credit points were made up from two units in the third year that were related to professional practice. The reasoning was that, as library technicians, they were aware of professional practice, if not as a participant, then as an observer. Even so, articulating students still had to cope with three second year units without the benefit of any of the theoretical aspects taught in the pre-requisite first year units.

Substantial changes in the structure of the undergraduate degree in 1996 brought about further changes in the units from which articulating students were exempt. They are now exempt from seven of the eight first year units, a total of 175 credit points. The remaining 25-credit points advanced standing is taken from a minor or elective unit in the second or third year. The students still have to cope with direct

entry to three second year units without the theoretical components found in prerequisite first year units.

Issues

There is a perception that articulation, coupled with the policy on assigning scores, has led to a significant increase in the number of library technicians who apply for, and gain entry, to university. Curtin Departmental staff have expressed concern about the advisability of having a large number of library technicians upgrading to a professional level, because of possible effects on the curriculum, concern about the suitability of some applicants for study at this level and implications for the relationship between technicians and professional librarians.

The Department of Information Studies has made some attempt to screen the number of library technicians granted entry since 1994. The undergraduate coordinator, in conjunction with the Acting Heads of Department, has examined the academic transcripts of Associate Diploma holders and those with marks in the 50 -60%, or C and D ranges have not received an offer of entry. This is at best a crude method of assessing applications. The use of interviews has been canvassed but there is a perception that an interview is not an accurate indicator of academic success. Also interviews would have to be stringently conducted if allegations of bias were to be avoided on equal opportunity grounds. This would be a time-consuming exercise.

The academic coordinator at ECU is of the opinion that “only a few” of those who graduate from ECU with an Associate Diploma should be encouraged to articulate into university. She does not see the majority of library technicians as having the aspiration to work at the managerial levels librarianship requires (Clayden, 1996). The Head of Department at TAFE, who is of the opinion that articulation should not be encouraged, echoed this view. She believes that the Associate Diploma is seen as a stepping stone to university, though the perception is that this view is more strongly held among business students at TAFE rather than library technician students. Both of these lecturers saw their students as not wanting to undertake the

managerial work of librarians. One lecturer commented that most technicians were happy with task-oriented positions and no responsibility (Starre & Vinciullo, 1996). Nevertheless, graduates from the Associate Diploma courses *are* applying for university upgrading courses. It is not known when or how this decision is made as it certainly does not appear to be the result of encouragement from Associate Diploma lecturers.

Some members of the academic staff in the Curtin Department put forward anecdotal evidence that library technician upgrades do not do as well as direct entry students in the more theoretical units. There is a perception that although the skills of library technicians may initially be better than those with direct entry, they lack the ability to tackle abstract and theoretical concepts. Comments about a ‘technician mindset’ are made regularly, as are comments about the difficulties in teaching ‘upgrades’. Such perceptions, if they are not supported by the facts, can be dangerous and lead to inequitable treatment.

In addition, staff may find the experience of teaching upgrading students in the same classes as direct entry students difficult and challenging, due to the poor curriculum match between the Associate Diploma courses and the units at Curtin from which the upgrading students are exempted. Nevertheless, the obvious solution, that is to make the match closer, may not appeal because, as explained above, it would change the whole approach of the university course, which is to introduce theoretical material in the first year.

Research questions

The rationale behind this study is that perceptions and beliefs should be rationally based. Factual evidence is needed to examine whether or not there has been an increase in the number of library technicians seeking entry through articulation and what is the actual attrition rate in comparison with direct entry students. Students’ academic results need to be examined to establish whether or not there is any

significant difference in the marks assigned to students who have articulated against those who entered directly.

Staff views on the articulation process and their perception of library technician upgrades need to be examined, as does the current attitudes of students who are in the process of upgrading.

In order to do this a number of research questions have been formulated. These are:

1. What are the demographics of the articulating students and how do they perform academically in comparison with other students of librarianship?
2. What are the opinions of articulating students of their educational experiences?
 - What was their prior knowledge of the courses?
 - What was their reason for upgrading their qualifications?
 - What are the views of those who have completed their professional education?
3. What are the views of academic staff on the desirability of allowing articulation and what is their perception of the competence of Library Technicians who have articulated? Are these perceptions soundly based?
4. Does the process of articulation have an impact on curriculum design? If so, what, if any, are the implications of the articulation process for the design and implementation of curricula?
5. What does the library school's experience with articulation imply for the future relationship between the technician and professional levels within the library profession?

Limitations

This thesis addresses the question of articulation in librarianship in Western Australia only. Because of the varying education structures in other States, the findings may not be generalisable. However, in view of the relative lack of research in this area, the project should provide useful insights which will be applicable to future research elsewhere.

The research on data obtained from one library school only. It is impossible to answer question 1 above without using confidential data collected by university administrations, who are normally reluctant to release it. However, it was possible to obtain the data for Curtin University through a special agreement with the university administration because the researcher is a member of the academic staff. Since there is only one generalist library school in Western Australia and, as discussed above, the detailed findings only apply to that state, this limitation in the coverage of data was considered acceptable.

Data collection for this study was undertaken between 1996 and 1998. Terms used have the meaning which they had during that period.

Summary

Formal agreements for articulation between TAFE and university are in place for a number of professional fields, including librarianship. As will be reported in the next chapter, there has been relatively little research on the effects of these policies, despite the fact there is anecdotal evidence that increasing numbers of students are taking this route to professional qualification.

An in-depth study of a complete cohort of articulating students in librarianship offers the possibility of providing the basic data on which an understanding of this process may be built.

Chapter Two: Literature review

This chapter reviews the literature which relates to the process of articulation in Australia, as it applies to this study. The works discussed in this chapter fall into two major categories: firstly those which examine the results of the articulation process and in particular, the performance of students who have articulated to university; and secondly those which describe the articulation process in relation to the field of librarianship in particular. In addition to the literature on articulation, related material regarding the relationship between professional librarians and paraprofessional library technicians is discussed. The impact of this relationship in terms of the career path aspirations of technicians is also examined.

There have been relatively few, though significant, studies which have examined the performance of TAFE graduates who have articulated to university. This is pointed out by Dobson et al who comment on “The relative dearth of comprehensive student performance studies in Australian tertiary education” (1996, p. 4). The seminal work is that of Golding (1995), and there are other major studies which have been identified as being relevant to this project: Trembath, Robinson & Cropley (1996); Ling & Devlin (1993); Lewis (1994, 1991) and Burns, Hill & Levenson (1992).

Golding (1995, p. 34 –35) introduces the concept of articulation or credit transfer by stating that it is based on the idea that ‘an increase in the frequency and amount of credit awarded in tertiary transfer is desirable on the grounds of efficiency and equity’. He goes on to raise the point that articulation is also based on the idea of an “uninterrupted” transfer from one tertiary sector to another. That is, a student is moving directly from one sector to another; usually in the same field or a closely allied one. This, he postulates, is not an unreasonable idea but to work efficiently the transfer needs to be based on a seamless transfer – one which is based on a coordinated or interlocked system of training and education.

Assessing the number of students who have articulated has been described as difficult by a number of writers. Golding points out that, although many universities

collect data on “prior study commencers”, the quality and the availability of the data leaves a lot to be desired. What is collected is usually not detailed enough and normally relates to only one prior area of study, an area which may, or may not be, related to the student’s current course of study. The disparity in the type of information gathered by the universities means that comparisons are difficult to make and this leads to inaccuracies in the data and any analyses which are based upon it. Golding quotes Department of Education and Training figures which assess the information as being “only 50% reliable, on the basis of inappropriate inclusions and omissions” (1995, p. 35 – 37).

Despite the difficulties in accurately identifying the number of articulants, the Australian Vice Chancellors Committee found that in academic year of 1993 only 5% of students studying at university held a complete, or incomplete, TAFE award. This is a lower figure than that found in the Graduate Destination Survey of the same year which put it closer to 13% (AVCC, 1994; GCCA, 1993).

The question of whether a proportion of students intentionally study at TAFE level and then progress to a university award is one which researchers have found difficult to assess. Burns et al, as quoted in Golding, state that “Few data have been available on the extent to which TAFE to higher degree articulation is or is not intentional” (1995, p. 38). However, an earlier study by Burns provided some empirical data which suggested that 46% of TAFE students surveyed had no knowledge of credit transfer arrangements in the field of business accounting, despite the fact that the articulation arrangements had been well publicised, and 77% were unfamiliar with the details of the arrangements (1992, p. 142). In 1993 Ling and Devlin surveyed students and found that “two-thirds of respondents replied that they did not receive enough information about credit transfer/exemption (p. 54). Trembath, Robinson and Cropley reinforce this finding when they describe another study in the same year by Alba, Lewis and Dawes who found that in New South Wales former TAFE students had an “inadequate understanding of university policies regarding admission and credit transfer” (1996, p. 4). Allied to these views are those of Golding who states that “It is more likely that more articulating students are following an

opportunistic track than are following and being motivated by a planned credit transfer highway” (1995, p. 39).

The lack of student knowledge about the articulation process is highlighted by Trembath et al. As well as revealing that there was not sufficient advertising of the process, they reported that students also found credit transfer was difficult to obtain. “Poor communication between the two sectors regarding credit transfer and course content” was the major factor. Interestingly, they also reported that 6 % of articulated students found “higher education staff belittle former TAFE students, and do not agree with the articulation process” (1996, p. 30 - 33).

Researchers who examined the performance of articulated students at university found that on the whole their grades were not significantly different to those achieved by non-articulating students. Evidence for this can be found in a range of studies. One of the early studies was that by Lewis who examined credit transfer between TAFE and university and found that “On the basis of this and previous studies, there is solid evidence that former TAFE students, including those awarded advanced standing, generally do as well or better than other university students. As a consequence, the transition between TAFE and higher education ought to be encouraged” (1991, p. 43). This was followed up in 1992 by a study by Burns, Davey, Hill and Lewis which examined performances of articulating students who moved into an accounting degree at the Royal Melbourne Institute of Technology and La Trobe University. Burns et al concurred with the above conclusions, commenting that “overall, these students, when admitted into accounting degrees, performed academically at the same level as the non-TAFE students” (1992, Abstract). Ling and Devlin’s study investigated a wider range of students. They came from the disciplines of applied science, business, engineering and fine arts. Again the results were on a par with non-articulating students. Despite identifying some subject areas where performances were substandard, they commented that “overall ... former TAFE students do about as well as other students” (1994, p. p. 53). Lewis, writing in the same year, concurred, although he noted that although “... former TAFE students generally perform on par with other university students, little is known about the relationship between TAFE performance and subsequent

university performance because of the difficulties in obtaining comparable samples of sufficient size” (1994, p. 6). Lewis believed that the evaluation of performance was important because it acted as a quality measure which assured that different modes of entry could be monitored to ensure comparability. Studies since that time have confirmed this trend. In a media release published by ACTA in 1996, it was stated that the students perform no worse, and sometimes better, than those who enter university directly from school. This national study was based on all students who entered university during the 1993-1994 academic year.

The literature revealed one study which differed in its findings. Burns carried out a study for a Masters degree between 1994 and 1995 which examined the performance of accountancy students at RMIT. In contrast to the consistent results which have been identified above, he discovered that “ the former TAFE students performed at a significantly lower level than the non-TAFE population” (1997, Abstract). The relationship between this research project and that of Burns et al quoted above is unknown.

Interestingly, an article by Lewis emphasised the point that those students who entered university from TAFE on the basis of a professional qualification did not perform significantly better than those who entered straight from high school. (1994, p. 35); the inference being that exposure to the same subject knowledge, albeit at a different level, had no impact on academic results.

Hribar and Heazlewood compared other factors which related to the articulation process, including that of attrition and the length of time taken to complete a degree. They found that the attrition rate for TAFE graduates was less than for non-TAFE students - a ratio of 23.8% to 46.1%. They also found that articulating students took a longer time to complete their degree (1991, p. 29).

A number of studies examined the perceived value of studying at TAFE and then at university. Ling and Devlin asked articulated students if it had been worthwhile studying at TAFE. “Most students replied that they felt that it had been worthwhile ... and that it had increased their awareness, given a feeling of accomplishment

and/or provided a tangible reward”. The authors went to state that: “A very small number of students indicated that they did not find their TAFE qualification was worthwhile...”(1994, p. 53-54). Other studies confirmed the view that TAFE graduates believed their TAFE qualification was of value (Trembath et al, 1996; Hribar &Heazlewood, 1991). In the Hribar study, 88% of students believed it was advantageous to hold a TAFE qualification (1991, p. 77). Trembath et al’s research asked students to explain why they had articulated to the university system. Over 80% indicated that they saw it as a way of improving their future prospects. Two specific ways in which they believed articulation would help this was in relation to planned career paths and financial gain (1996, p. 28).

Ling and Devlin identified a small group of students who felt they had been disadvantaged by taking a TAFE course due the amount of repetition they experienced in course content at the university level (1994, p. 57). Trembath et al quote a Swinburne study by Pigeon which took place in 1995, in which Pigeon found that 25% of articulating students believed the amount of advanced standing granted was inadequate. A follow-up telephone survey reinforced this view when “forceful complaints” which students had been unwilling to commit to paper were made (1996, p. 42).

The Ling and Devlin study asked students whether they had experienced any difficulties in studying at university. Less than one-fifth commented that they had, but where they had, they identified “lack of essay writing skills and research skills” as being problem areas (1994, p. 55). This question was allied to one which examined how well TAFE prepared them for a university level course. Three categories of responses were elicited. The first category was made up of responses which indicated students felt they were well prepared. Students in the second category felt the preparation was sufficient or adequate, while those in the third felt there was no preparation at all or only on a limited basis. A further analysis of the responses revealed that the majority of students felt that their TAFE experiences had not prepared them for university academic requirements in terms of the teaching load, the amount of individualised work involved and the structure of lectures and tutorials. In particular, students emphasised the problems they felt they had in

adjusting to changed teaching methods. Students commented on the high number of class contact hours at TAFE in comparison to university and the “conceptual approach to [teaching] matter” (1994, p. 56). In addition, the researchers noted that positive comments about “university teaching methods were not as common as those about TAFE teaching” (1994, p. 57). These findings were supported by the Trembath et al study. Their survey revealed that students were concerned about the adjustments which had to be made to new or different modes of teaching. Heavier workloads and less class contact hours were also areas of concern with students commenting that TAFE was friendlier, that there was more assistance available and that class sizes were smaller (1994, p. 5 – 30).

A number of the studies made recommendations for enhancing the TAFE/university transition process. Trembath et al argued that TAFE students required “ a greater exposure to note-taking, essay-writing, presentation skills and mathematical skills...It was these areas which were identified by the students themselves as deficiencies when undertaking university study". The researchers also recommended modification of TAFE and university curricula so there is a more integrated approach and flagged the possibility of running bridging courses for TAFE graduates to help with the process of adjusting to university (1994, p. 44). The modification of TAFE and university curricula along these lines also features in recommendations put forward by Ling and Devlin (1994, p.57).

When one examines the literature which specifically relates to library technicians and the articulation process, there is a limited range of sources to call upon. Most comments can be found as sidelines in papers presented at conferences and in articles which are addressing the blurring of the roles between professional librarians and paraprofessional library technicians.

An article by Dagmar Schmidmaier on work level guidelines, written in 1987, “poses the question [of whether] the library technician qualification should be the basic component of a professional qualification" (p. 15). Dawe, writing in the same year, discussed the issue as if it had already acquired the status of a historical problem. “In the first place, an early view held by some was that the education and training of

the library technician could and probably should serve as an threshold qualification to those of librarians” (1987, p. 2). This idea was not a universally accepted one, even when the concept of having a paraprofessional level in the profession was introduced. Neil Radford (quoted by Clayden, 1993, p. 140) stated in 1978 that:

“The technician’s qualification should be a terminal one, in that it should not be an automatic stepping stone into professional qualification...this course, being differently based, should not be thought as an automatic equation with the early levels of a professional course.”

Wainwright examined the reason behind why someone chooses to study at a paraprofessional rather than a professional one. He believed that:

“Many library technicians have embarked on technician programs because they initially lacked the confidence or motivation to embark on a professional course. Once in position and gaining confidence, some technicians realise that they are at least as capable as many professionals and want to progress further in the careers into the professional grades” (1989, p. 21).

Presenting a paper at a library technician education conference in 1996, Chambers highlighted the need for library technicians who wished to articulated to ensure that they are fully informed of the differences between the courses. She emphasised the practical aspects versus the “theoretical and philosophical focus” and the need to help students who articulate into the second year of a university course because of the amount of advanced standing granted. Chambers felt that these two actions would help alleviate the high rate of attrition that was anecdotally referred to within the profession (1996, p. 49 – 50). Commenting on this anecdotal evidence she said:

“I suspect a lot of the blame may be placed on a lack of understanding of what is involved, and I would like to offer a couple of suggestions. One would be to encourage universities to offer an introduction or a bridging subject for library technician applicants. The subject would give students an introduction to university demands but they would receive extra help and

information beyond what would be normal with second year subjects. This would ease the transition and lay a foundation for further study. Another suggestion would be to send applicants more detailed information on what will be required of them, subject outlines, sample notes and assignments” (1996, p. 50).

An examination of the literature on the relationship between professional and paraprofessional levels in the information industry revealed that it has always been an uneasy one. “There has probably been more discussion, and more written on this question than any other, especially the relationship between the librarian and the library technician” (Dawe, 1987, p. 1). This has been the case ever since the role of library technician was created.

The division between the roles of professionals and paraprofessionals is not a clear-cut one. Writing in 1990, Hyland noted that: “Relationships between librarians and library technicians in the workplace can be uneasy owing to the sometimes unclear perceptions of the roles of librarians, particularly at the entry level” (p. 109). She went on to state that: “These situations arise partly because the profession as a whole has never fully debated and resolved the professional/paraprofessional nexus” (p. 117).

In the time since Hyland first expressed the views above, the issue has remained a source of controversy.

Role conflict is still alive and well in some environments, but evidence of overlap in job descriptions and lack of definition between professional and non-professional library workers has given us concrete reasons for its existence (Pitkeathly, 1991, p. 87).

Relatively recently, Davies stated the following at a library technicians’ conference:

The concept of the trained paraprofessional worker in libraries is recognised and accepted nationwide. What is arguably not recognised and accepted is

what library technicians should do in the library, and how they can be best employed. There are divergences of opinion about the proper division of labour between professional, paraprofessional and clerical staff (1996, p. 95).

This overlap between the roles of the professional and paraprofessional levels has been brought about not only through a lack of discussion, but the continuing introduction of technology (Flowers, 1979; Nettlefold, 1989; O'Brien, 1987; Oberg, 1992; Martyn, 1995). However, Sciacca points out that the task gap may have lessened between librarian and library technician "but this has been an evolutionary process, not a revolutionary one" (1994, p. 53).

Despite the blurring of roles between the two levels in the profession, there remains a perception amongst some professional librarians that library technicians have an inferior role. Bailey commented:

...there seems to be a certain ambivalence amongst some educators about the value of library technicians. Such ambivalence has been, and continues to be, reflected in the often covert messages given to students that the professional qualification holds greater merit, and therefore implicitly that being a library technician is not good enough (1993, p. 140).

This view is reinforced by Pickers, who wrote: "A major problem with our image as library technicians is that some librarians still harbour the notion that as technicians we are just marking time while we sneak into librarianship by the back door" (1993, p. 98). This negative perception was also examined by Scott:

However, it is probably fair to suggest that among librarians the library technicians role is seen as a subsidiary one rather than a complementary one, a mechanistic input rather than an intellectual one. This attitude is probably the single largest barrier to the promotion of advanced skills in library technicians (1993, p. 95).

The barrier that Scott alluded to has been of very real concern to library technicians. Bradley sees it as the responsibility of the profession to ensure that career opportunities exist:

Leaders of all occupational groups should seek to position both education and training arrangements and industrial negotiations so that

- Permeable barriers are established within occupational levels and between occupations in an industry
- Education and training pathways are clear (1993, p. 96).

The profession has not heeded Bradley's plea. A range of sources refer to the fact there has been and continues to be a "short career structure for library technicians" (Hyland, 1990, p. 111). Scantlebury, in a paper which examined career paths for library technicians, commented on practices which may have led to the situation described above. She argued that staff restructuring needs to take place because "In many instances library technicians have been grafted on to existing staffing structures ... A restructure could result in a better-defined career path for library technicians which allows for lateral as well as vertical movement" (1987, p. 91). Despite the time lapse since the Scantlebury's paper was delivered, little has changed. In 1991 Pitkeathly, in an examination of the aspirations and expectations of library technicians, identified a continuing concern over the lack of a career path. She linked the lack of a clear direction to a lack of job satisfaction. The results revealed library technicians' aspirations were linked to money and knowledge, while their expectations were job satisfaction and training (p. 81). She also examined the staff development practices for library technicians in Australian academic libraries. She found that "tasks appear to be allocated on the basis of job position, rather than the actual qualification of the person doing the job." The continuation of this practice with its concomitant lack of a career structure would, she warned, lead to a situation in which "...technicians will become persons on the way to a higher qualification" (1991, p. 83).

This literature review has already examined how Ling and Devlin raised the issue of how you might provide curricula to upgrade the qualifications of TAFE graduates

generally. There is little detail in the literature which discusses what curricula should be developed for library technicians who wish to undertake further study, but Bailey has suggested that an extra year could be added to library courses to produce a library technologist who was highly skilled (1993, p. 144). Others such as Crosbie suggested that there should be a series of credits for participation in professional development courses and that when one could prove that they had reached a professional level of education, as set by the ALIA Board of Education, then one could apply for professional status as a librarian. She pointed out that this would be advantageous to those library technicians who wanted to study a degree in a different discipline (1991, p. 115). Denny felt that it would be better to study for a different degree and keep the paraprofessional qualifications. Lateral career paths would be open and subject specialised knowledge would lead to more interesting opportunities (1993, p. 103-108). However, others have seen dangers. Clayden points out that “the situation may arise were too much diversity of educational opportunity becomes a problem, if only one of choice” (1993, p. 141). Despite all the confusion, David Clarke was prepared to say that a single career structure was possible. He argued that there should be a single carer structure of three tiers – a library technician qualification, a subject degree and a post-graduate degree in librarianship (1987, n.p.).

The above discussion has shown that there is some significant work on articulation in general and that there is evidence of concern in the librarianship literature about the technician/librarian relationship. However, there has been little research specifically on the problems of articulation in librarianship. The next chapter will explain the method which was used in this research to obtain both quantitative data about a complete cohort of such students and qualitative data from both a sample of students and staff involved in teaching them.

Chapter Three: Methodology

Introduction

The range of research questions which need to be investigated in order to carry out this study are wide ranging and therefore no one research methodology can suffice. Since little work has been undertaken on articulating students in librarianship, a quantitative analysis of demographic and academic information about the students needed to be undertaken. However, such data cannot provide information about perceptions, experiences and motivation. Qualitative data therefore needed to be collected from a sample of students. Academic staff teaching in library schools are a completely different source of data and may need to be investigated using a different method. Finally, the research is set against a policy framework which itself needs to be understood. Consequently a multi-instrument approach that combined four data collection techniques was adopted. These included a content analysis, a quantitative statistical analysis of an academic results database, a focus group, and a series of semi-structured interviews.

The content analysis was to be used to examine any documentation produced by Curtin University, either of an internal or public nature, covering both policy and procedures. The intention was to establish what concepts, philosophies and emphases about articulation have been conveyed in the documentation. Unfortunately only five significant documents, one of which appeared in three versions between 1996 and 1998 could be readily identified.

The creation of a database containing all relevant demographic information about students, in conjunction with a comprehensive record of their academic performances across the curriculum, allowed for a detailed quantitative analysis of the respective competencies of articulating and non-articulating students as well as an examination of variances, if any, in their demographic characteristics. The database contained details of 675 students of whom 100 were articulating students. These students were studying between 1985 and 1995.

The use of a focus group to investigate student ideas and opinions about articulation, and the use of semi-structured interviews with academic staff, provided a qualitative aspect to the study, revealing descriptive information about the social and personal aspects of the study. Twelve students attended the focus group and six academic staff were interviewed. The focus group and interviews took place in 1998.

Though each of the above data collection methods are fundamentally different in approach, together they are complementary and their use allowed the researcher to develop a rich description which could be used to explore the concept of articulation within the Information Studies setting. Each of the methodologies is discussed below.

Content analysis

Articulation is a formal process which should be based on formal documentation which details policy and informal documentation informing students of how the articulation process might work for them. Such documentation provides the necessary context for this study. It was therefore expected that there would be a range of documentation which would need to be analysed in order to provide a methodologically sound process for analysing this documentation. It was decided to investigate content analysis as a possible approach.

The formal analysis of a document's content as a research tool is not a new phenomenon. Krippendorff (1980, p. 9) writes of the first well-documented case of analysis taking place in the eighteenth century in Sweden. The methodology which has been in use since then has been known by a number of different names, the term content analysis coming into usage around fifty years ago.

The foundation of modern content analysis can be traced back to the analysis of communication: in this century originally the analysis of newspapers. Known as quantitative newspaper analysis, it grew from a need to have a scientific method that

could be used to understand mass markets and the influence of public opinion. As the growth in the mass media continued, particularly the development of the electronic media, the need to understand the degree of influence the mass media had on society increased. At the same time, the methodology of the social sciences was expanding and there was a move towards more empirical methods of research inquiry. Increasingly, content analysis became a useful research tool; a tool which was further honed during the second world war, when it was used to maximise the influence of propaganda and ironically, at the same time, used to help understand and predict the actions of those on the opposing side (Krippendorff, 1980, p. 9).

Content analysis has not just been confined to the mass media or to the social sciences. It has been used in a wide range of disciplines including linguistics, psychology, psychiatry, anthropology, education, philosophy, history and literary analysis. In fact, it is of use in any area that has a need to focus, in a disciplined way, on documentation. It is, according to Carney, a technique which “forces us to be very conscious about just what we are looking for, and why we are looking for it - about what is sometimes called our frame of reference” (1972, p. 6).

That content analysis provides this frame of reference is important, because it increases the reliability and validity of the research results. Carney (1972) describes it thus: “Content analysis is a way of asking a fixed set of questions unflinchingly of all of a predetermined body of writings, in such a way as to produce countable results” (p. 6).

The development of content analysis as a research methodology and its application in a wide range of areas has seen a corresponding development in the way it has been defined. One of the earliest definitions is that offered by Berelson in 1952. He defined content analysis as: “A research technique for the objective, systematic and quantitative description of the manifest content of communication” (cited in Krippendorff, 1980, p. 21).

Berelson’s definition was subject to criticism from others in the field. Carney (1972, p. 24) described it as being a minimalist and defensive definition on the grounds that

Berelson used the terms quantitative and manifest. The use of the word quantitative may be criticised because it excludes any qualitative aspects of content analysis and the word manifest because it excludes any inferences being made from the document. Document tone, style and nuances of language should not be ignored. Berelson's definition has been described by Carney (1972, p. 5) as attempting to deal with a "frozen" communication. Krippendorff (1980, p. 21-22) also found the definition wanting because using the term manifest excluded all the qualitative aspects of content analysis that had the potential to give so much richness to the understanding of a document.

The continuing development of theories in communication led to a view that communication was not frozen but a series of ongoing interactions. Carney (1972, p.5) quotes a 1967 definition by Budd, Thorpe and Donohew that attempts to express this view. They state that content analysis is "a systematic technique for analyzing message content and message handling ...the analyst is not concerned with the message *per se*, but with the larger questions of the process and effects of the communication." This was a significant change in the definition of content analysis because it marked the point at which it was recognised that drawing inferences from communications, verbal or written, is a valid technique in content analysis. This view was supported by Holsti who writes: "Purely descriptive information about content, unrelated to other attributes of documents or to the characteristics of the sender or recipient of the message, is of little value" (1969, p. 5).

Carney also refers to the drawing of inferences in content analysis. He states that:

Content analysis is a technique that aims to improve the quality of inferences we make. It is based on analyzing communications, be they verbal, written or even pictorial. It analyzes by objectively and systematically picking out characteristics in specified parts of those communications. And it involves demonstrating how these characteristics are related to our own inferences (1972, p. xv).

Stone et al. in their definition of content analysis reflected this view, writing that: “Content analysis is a research technique for making inferences by systematically and objectively identifying specified characteristics within a text” (cited by Krippendorff, 1980p. 23).

As can be seen from above, there are many definitions of content analysis to be found. What they all have in common is the use of the terms systematically and objectively. The Collins Concise Dictionary defines objectivity as “existing independently of perception or an individual’s perceptions; undistorted by emotion or personal bias” (1988, p. 781). According to Holsti the required objectivity must come from an explicit set of rules and procedures. This ensures that the research is replicable, reliable and valid; that is, another researcher using the same documentation and using the same rules and procedures would come up with the same set of results (1969, p. 3).

The term systematic is defined by the Collins Concise Dictionary as something which is “characterised by the use of order and planning; methodical” (1988, p. 1200). In relation to content analysis this implies that, according to Holsti the “inclusion and exclusion of content of categories [of information in documents] is done according to consistently applied rules” (1969, p. 4).

Krippendorff also mentions the need for replicability and validity and is confident that content analysis can fulfil its purpose - “to provide knowledge, new insights, a representation of ‘facts’ and a practical guide to action” (1980, p. 21).

In an earlier section of this chapter it was stated that the technique of content analysis has been applied in a wide range of disciplines. The nature of the various disciplines, the disparity in the sort of documentation and the purpose of the analysis, means that it is impossible to give a definitive description of how one carries out a content analysis. Writing about this disparity and about what could be seen as a common thread, Krippendorff states: “ ... we maintain that all content analyses share a logic of composition, a form of reasoning and certain criteria of validity” (1980, p. 11).

There is also a common agreement that content analysis has to involve both quantitative and qualitative methods. They are seen as supplementing each other. Pool (as quoted by Holsti, 1969) encapsulates this viewpoint:

It should not be assumed that qualitative methods are insightful, and quantitative ones merely mechanical methods for checking hypothesis. The relationship is a circular one; each provides new insights on which the other can feed (p. 11).

Researchers such as Merriam reinforce this view. She writes that the character of the document must be examined, not just the actual content. It is the character which helps to reveal the nature of the document (1988, p. 117). Krippendorff describes this in slightly different terms. He discusses the fact that content analyses can only be seen in the context of the material being examined (Krippendorff, 1980, p 22).

The process of content analysis begins with the researcher considering carefully knowledge in the area, the proposed documentation to be analysed and what exactly it is that the researcher wants to know. The actual research design tends to be sequential in nature, moving from the identification of appropriate documentation, to the construction of the categories of information which are to be identified, the actual collection of data from the documentation, data analysis and data interpretation.

In referring to documentation, Scott (cited in Kellehear, 1993) states that one major requirement is that of comprehensiveness. “Comprehensiveness - which means examining all the relevant sources and not just those which support your own theory” (p. 35). Other researchers describe relevant documentation as being anything connected with what is being investigated.

Following the identification of the documentation, the development of categories takes place. Categories are the classifications into which the data collected from the documentation are placed. The researcher develops these categories either prior to

the documentation being analysed or by sampling the text. What categories are developed solely depends upon the nature of the documentation and its subject coverage. As Carey states, there are no rules for formulating categories despite the fact that: “A content analysis is only as good as the categories, or classification system, underlying it” (1972, p. 39-40).

The lack of standardisation in categories, even within one discipline, has been raised. Standard categories would facilitate comparisons of research results and replicability of projects. They would allow for the cumulation of results and provide for more reliability and validity in the research process. But standardisation would also preclude reading ‘between the lines’ and would make the use of contextual factors when interpreting documents impossible. The ability to draw inferences would be severely constrained. On a more pragmatic level, the task would be difficult to achieve. To have an overall standard of categories one is talking about dealing with the whole universe of knowledge. The analysis of this into meaningful categories (leaving aside the question of whether there is meaning without context) is an impossible task. It is analogous to what librarians have attempted, not very satisfactorily, to achieve with their universal classification schemes. Even in a particular discipline the amount of time and effort involved makes such an attempt of dubious value.

Holsti quotes Pool on this issue:

It is questionable, however, how ready we are to establish standard measures ... in context analysis. Such a measure is convenient when a considerable number of researchers are working on the same variable, and when someone succeeds in working out a good category for that variable. It is doubtful that either of these criteria can be met in most areas of content analysis (1969, p. 102).

What is clear from the literature is that there are a number of factors which must be kept in mind when formulating categories. Scott (cited by Kellehear) believes that it is essential categories be specific and clear. “The categories must not be

overlapping. A thorough typology of categories that are independent of each other is important to minimise ambiguity and maximise reliability.... [a] requirement that categories be subject to clear definitions” (1993, p. 35).

Having defined the categories, the documentation is analysed and the data gathered from it is coded into the established categories. “Coding is the process in which the raw data is transformed and aggregated into units which allow for the precise description of the content characteristics” (Holsti, 1969, p. 94). The process is often referred to as unitization. Krippendorff argues that, ideally, coding should be done by more than one researcher to ensure there is no personal bias (1980, p. 52).

The question of sampling can be an issue in content analysis. Where there is a large number of documents to be analysed it may be that various sampling techniques need to be examined to establish which one would be appropriate in the circumstances. In this thesis there is only a small amount of documentation and it has been agreed to examine it in total.

The data, which has been recorded, must be analysed quantitatively and qualitatively. Quantitative analysis can be as simple as a frequency count of the recording units to establish what aspects of a document have received the most emphasis (while acknowledging that frequency alone does not always reflect importance). The context units will need to be examined both qualitatively and quantitatively. A quantitative examination will reveal data about how many times context units are linked to particular recording units and about the contextual nature of documents. Of necessity the analysis involves a degree of interpretation supplemented with an examination of any patterns and relationships which are revealed. Krippendorff discusses the need for the data collected from the content analysis to be related to data collected from other research methods used, “to either validate the methods involved or to provide missing information ” (1980, p. 109).

The question of validity and reliability in the analysis is an important one. Reliability in the analysis, according to Holsti is dependent upon how well the researcher coded the documentation and on the degree of insight they have. How

valid the outcome of the research will be depends upon the extent to which the method measured what it was intended to measure (1969, p. 135).

The methodology of content analysis has been subject to much debate. Carney raises what can be seen as a fundamental criticism: that content analysis is an “overelaborate” way of examining a text when this could be done intuitively (1972, p. 10). Nevertheless, despite its elaboration it is possible to criticise content analysis as lacking rigour. This can lead to an over generalisation of the research results. Carney responds to this criticism by stating that content analysis makes an attempt to be objective and systematic in its approach to textual material. He makes the point the methodology is more rigorous than that of intuitivism or impressionism and raises the question of whether complete objectivity is ever obtainable (1972, p. 10-14). Kellehear also addresses this criticism: “The systematic nature of the approach allows researchers to control their intuitions and tendencies towards distraction and bias” (1993, p. 37).

The question of objectivity in content analysis is an interesting one. While the researcher can ensure that sampling is statistically valid and objective, it is difficult to claim that the process of establishing categories is just as objective. A systematic approach does increase the degree of reliability but the original choice of categories is dependent on the researcher. Factors which will influence choice include the researcher’s knowledge of the area and of the documents, as well as their insight about the concepts within the documents - both factually and contextually.

The most significant criticism, which has been levelled at content analysis, is the action of breaking down documents into conceptually discrete categories. Kellehear expresses his concern that content analysis’ “fetish for frequency makes this technique atomistic” (1993, p. 37). This is of significant concern particularly when content analysis claims to be more than a quantitative frequency count. It is the researcher’s ability to interpret the data, recognise context, and draw conclusions and inferences which gives content analysis its richness as a research method.

Content analysis process for this project

As has already been explained, only a few relevant documents were identified for content analysis. The following sources were approached for any documentation relevant to the articulation process:

- Advanced Standing Officer at Curtin University of Technology
- Academic Registrar at Curtin University of Technology
- Australian Credit Transfer Agency (ACTA)
- Tertiary Institutions Service Centre (TISC)
- Central Metropolitan College of TAFE, Perth

The following is a list of the documents which were obtained.

- *A step further: The Curtin guide to advanced standing 1996-1998* (Curtin, 1996; Curtin, 1997; Curtin, 1998).
- *Your guide to advanced standing for TAFE and University students* by the Western Australian Department of Training (1996).
- *Library and information studies: Credit transfer in degree courses at Australian universities*, by the Australian Vice-Chancellors' Committee (1996?).
- *Giving credit in universities for prior learning: What's in it for the universities?* by the Australia Credit Transfer Agency (1996).

and

- *ACTA: Getting credit in universities for what you already know or can do* (1995).

Since the content analysis was designed to examine largely formal documentation about a formal process it was considered appropriate to determine the categories in advanced based on the research questions. The following are the categories used:

- Articulation
- Prior learning / Credit transfer

- Curriculum planning /curriculum design
- TAFE / university curricula
- Length of course
- Post-compulsory educational cooperation

The documents were read to ensure that no other categories of meaning which were relevant to the research should be added to the above list but this did not prove to be the case. The documents were then marked-up according to the categories and, in addition, the perspectives of the authors of the documents were carefully assessed since not all of them were designed for student use. As will be discussed in the following chapter a more complex method of analysis was not necessary because of the paucity of documents and their failure to provide significant amounts of data relevant to the research questions.

Academic results database

Once the context had been established through content analysis the next stage of the research was to collect factual data about the progress of students at Curtin who had articulated compared with those who had no previous education in the field. This factual data represents the quantitative aspect of this project and was designed to provide data analysable using statistical methods.

The database was based upon data gathered from Curtin University's student database which contains academic records for all students who have been enrolled at Curtin and have established an academic record. It should be noted that the Curtin database was used only after the University's Ethics Committee had granted permission and the written approval of the Academic Registrar had been given. Conditions on usage were set down by the Registrar and adhered to. These included no direct identifying link between a student and any data so that privacy was maintained and the destruction of the database upon successful completion of the research.

It was decided to analyse student records for the Department from 1985 to calculate the percentage of students who have fallen into the category of articulated students, and to establish if there are any observable trends in the number of library technicians taking the course. The reason for doing this is that the number of library technicians taking the course has significant implications, not only for the design of the curriculum, but for the financial status of the School. In effect, each library technician who enrolls in an undergraduate degree causes a shortfall of one year's recurrent funding.

In addition, it was decided to compare the academic results of students who have articulated to Curtin through holding an Associate Diploma which qualified them as library technicians, with those who have matriculated to university either through the TEE, or by sitting for the STAT test for mature-aged students.

An eleven-year time period from 1985 to 1995 was chosen because prior to this time, and after, there is difficulty in establishing equivalencies in units due to substantial course changes. Within that time period it is possible to map changes in unit names and curricula. In a rapidly changing field such as librarianship, course changes take place regularly. In the Department there were course changes in 1990, 1992, 1994 and 1996.

As detailed in Chapter One, articulating students are granted advanced standing of 200 credit points under a formal arrangement between the University and the Australian Vice Chancellors Committee. Consequently, for articulating students, only the second and third years of study are available for analysis. To allow for some comparative analysis, the database also contains records of non-articulating students covering their last two years of study.

An examination of the degree structure revealed that it could be divided into parts: a professional core and a supporting minor course of study. Within the professional core it is possible to identify a number of areas which form distinct streams of units. These make up the reference, cataloguing and classification and information needs unit streams. The remaining units in the professional core are difficult to group,

though an argument can be made for identifying them as aspects of professional practice. Included in this area are units such as management, archives and records management, research methods and technology workshop. Careful development of the database would allow analyses of aspects such as whether academic performance changes when units in this stream move from being skills based to having a theoretical foundation.

Likewise, the identifying of the minor stream would allow for an examination of performance in academic content units as opposed to vocationally oriented units.

Before discussing the setting up of the actual database it is important to make clear that no sampling was involved. All students within the time period mentioned were included in the database and all analyses based on it. Therefore no figures for statistical significance are included in the analyses.

As mentioned previously, the Curtin student database was used to provide full academic histories in order to make the collecting of data as accurate as possible. It was possible to identify students through their course code 181 and their recorded first year of study. For ease of data entry, a hard-copy print of students' records was produced and the data was entered onto a Primary Data Collection Sheet (see Appendix One). The data collected on the sheet was input into a Microsoft Word processing document and then exported into SPSS for Windows via an ASCII file. This program is suited to the coding of categorical data as well as the analysis of numerical data. Expert help with SPSS is also available within the Department and SPSS is already available on the Department of Information Studies' server.

The data categories chosen, a description of their content and the reason for the establishment of that field is given below:

Record number: To identify a complete student record there was a need to have a uniquely identifying element. To meet the ethical requirements of the University this could not be a student number, as this would allow individual students to be identified. Consequently, it was decided that a simple running number would be

attached to each student record. This would maintain student privacy and, at the same time, create a unique record identifier.

Technician status: A data field was established for capturing information about whether a student had an Associate Diploma. A code was devised so that the potential for analysis was maximised.

1=Yes

2=No

Gender: A coded field recorded the gender of the student.

1=Female

2=Male

Birth date: Date of birth recorded as a standard year, i.e.: 1965.

The three fields above completed the personal information gathered.

Course related information had to be quite detailed and to provide this depth of information the following fields were created.

Start of course: The year of commencement.

Finish of course: The last year of enrolment.

Completion of course: This field records the status of the student at the time of the study. A code was used to maximise the differing statuses.

1=Graduated

2=Left. (The student had left the course without graduating but had established an academic record.)

3=Left immediately. The student had enrolled but had left before establishing an academic record.)

4=Terminated.

5=Ongoing.

Total Advanced standing credits: The number of credit points assigned for a previous qualification or study at a tertiary level.

The remaining data fields related to the students' academic performance. Fields were established to record the number of credit points gained, course and stream averages, and the marks awarded in a range of subject areas.

To facilitate the type of analyses outlined above, the following data fields were also created.

Total credits: The total number of credit points gained by the student while studying.

Total units failed: The number of units in the professional cores which the student failed. (Note: this does not include minor units.)

Minors failed: The number of minor stream units failed by a student.

Course weighted average: The average mark gained excluding minor units.

Minor average mark: The average mark gained for the minor units which have been studied. Minor units can be drawn from across campus and range in discipline from Geography and History in the Social Sciences to Information Systems in the Computing field.

Inf and soc: A percentage mark is recorded for the Information and Society 101 unit. This is a unit which represents a sociological and theoretical approach to information in the undergraduate degree. Units included under this heading were previously known as Information and Society 101 and its precursors Principles of Information 101 and Theory of Librarianship 202.

IR201 mark: A percentage mark is recorded for the Information Retrieval 201. This is the first unit in the cataloguing and classification stream. Previously titled: Organisation of Information 123, Organisation of Information 204 and Bibliographical Organisation 201.

SA202 mark: A percentage mark is recorded for Subject Analysis 202. This is the second unit in the cataloguing and classification stream. Previously titled Organisation of Information 202, Organisation of Information 206, Organisation of Information 226 and Bibliographical Organisation 202.

IRT mark: A percentage mark recorded for Retrieval Theory 302. The third unit in the cataloguing and classification stream. Previously known as Information Retrieval 301 and Information Retrieval Theory 302. The most theoretically based unit in the undergraduate degree.

IP201 mark: A percentage mark recorded for Information Provision 201. The first unit in the reference stream. Previously identified by the titles Information Resources 201 and Information Resources 127.

Res Meth mark: A percentage mark recorded for Research Methods 301.

Inf Theory mark: A percentage mark for Information Theory 201. Previously known as Information Needs 201.

Comment: A comment field was added so that notes could be taken if it was thought to add important or interesting detail to the study.

Data analysis consisted of simple frequency counts for coded variables, cross-tabulations between categorical variables and comparisons of means for numerical variables between categories of students.

Focus groups

The central source of information about experiences of articulation is clearly the students who experienced this process. The focus group was chosen as the most appropriate technique to elicit information from students as the researcher felt they would benefit from peer support. As a group there would be opportunities for students to listen to other views and build on thought and ideas generated.

The term *focus group* was coined in 1956 by Merton, Fiske, and Kendall to describe a situation in which an interviewer was asking a group of people structured questions about a specific subject. It grew out of the more formal interview but because of its less formalised structure was non-threatening in nature. This non-threatening setting facilitated discussion but, at the same time remained focussed. The format helped participants to articulate their feelings about a topic. Yorovich states that its advantage over other research methods is that the focus group stimulates new thoughts and ideas while the group pressure makes these thoughts and ideas realistic (1991, p. 41 –43).

Traditionally, the focus group has involved approximately ten to twelve participants and a moderator. The participants should have common characteristics, or shared experiences, which they bring to the discussion.

The focus group has been subject to criticism. Seymour et al lists a number of limitations such as the artificial setting in which the participants find themselves, the concern about social posturing which might take place, and, the inability to consistently generalise results from the process (1987, p. 50 – 60).

Other writers focus on the important role the moderator plays within the process. Greenbaum summarises most of the concerns when he points out how vital the right moderator is. The moderator should be fully aware of the subject under discussion, as well as having the appropriate skills to lead the group without imposing their own views. Enthusiasm, energy and the ability to help the group members conceptualise their ideas within the allotted time frame are also important (1991, p. 31 – 32).

The focus group held for articulating students, within the Department of Information Studies, had twelve participants. The group was of mixed gender, though predominantly female. Their ages ranged from 21 to 47 years of age and had varying modes of study – full-time, part-time and by distance. The researcher acted as a monitor and there was a note taker to record the names of those who responded to the questions put forward. The proceedings were taped for later transcription.

A number of questions were constructed to cover issues raised by the research questions. They were:

1. What did you think, or know, about the technicians' course when you first applied for entry?
2. What did you expect from the course?
3. What did you actually get from the technician's course?
4. Can you identify when you decided to upgrade your qualifications?
5. Where were you in your course when you first heard about the concept of articulation?
6. Is this when you decided to upgrade your qualifications?
7. In retrospect, what do you think about your technician's course now?
8. When you came to Curtin to enrol, what did you think about articulation? What did it mean to you?
9. The agreement between the University and the Australian Vice Chancellors' Committee gives you the equivalent of one-year's advanced standing towards

your degree. Do you think this is an appropriate length of time? Is it sufficient?

10. Do you think the units you were exempt from were the appropriate ones?
11. Would any of the units you've studied be more appropriate? Why?
12. What changes could be made to the curriculum, or to the course structure, so that it's easier for library technicians to fit into the course?
13. Do you believe the route you're taking i.e.: gaining an Associate Diploma and then a degree has any benefits?
14. Do you believe that upgrading your qualifications will be worthwhile?

Interviews

From the beginning of the research design process it had been recognised that the research needed a qualitative aspect if it were to provide a rich picture of staff and student experiences of articulation. It was decided to interview members of the academic staff involved in teaching articulated students.

Staff were interviewed to elicit their in depth opinions on curricula, personal views on the articulation process and feelings about the upgrading of qualifications. Six of the eight full-time academic staff of the Department of Information Studies at Curtin University were available for interview.

Interviews can provide a insight into the personal experiences and attitudes of individuals. Merriam states that qualitative research interviews help to find out what is going on in someone else's mind. If we wish to have an understanding of how individuals feel or interpret a phenomenon then an interview becomes necessary (1988, p. 72). It is a technique which is a major source of data for understanding

phenomena and because of the varying perspectives which are revealed in the interview situation, it gives a "reasonably representative picture of the phenomena ... and thereby provides a basis for interpretation of the phenomena" (Tuckman, 1988, p. 393). The validity of the information revealed and its interpretation are dependant upon how well the interviewing has been carried out.

Interviews are not casual conversations but "conversation(s) with a purpose" (Merriam, 1988, p. 71 quoting Webb & Webb). Successful interviewing is a difficult task; it is not simply a matter of asking a question and receiving a response.

Cannell and Kahn (cited in Moser) list three concepts which they believe are necessary for a successful interview to take place. They are: accessibility, cognition and motivation. Accessibility refers to the fact that interviewees need to know the information in order to answer. In particular, they need to be aware of the context in which a question is being asked so they respond within the question's terms of reference. Cognition involves the interviewee understanding what is required. They need to understand what information they need to give, in what detail and to ensure that it is relevant. (The interviewer has a role to play in ensuring that these needs are met.) A desire to be involved and answer questions accurately comes under the heading of motivation , (1986, p. 271).

To ensure that the concepts mentioned above are present, the researcher must give thought to the purpose of the interview. What is it that the researcher wants to find out? Moser gives the example of a large-scale survey conducted through interviews. He states that if one is dealing with a very large sample then it is wise to have a very structured interview; that is, a set of questions in a pre-determined order which are asked of everyone. No unauthorised supplementary questions and no variation in the wording of the questions are allowed. This type of interview technique allows for large data sets to be quantified with an acceptable degree of accuracy. It also allows for the accurate testing of hypotheses (1986, p. 275). However, if one is dealing with a small interview sample and you are interested in the richness of the data, then a more flexible, in depth interview would be more appropriate as the interviewees

would be discussing their view of the situation in their own way, and consequently, giving access to their perspective of the situation.

It was decided that structured interviews would not elicit the type of information required for this project. In order to overcome the problem of keeping the questions and responses coherent and meaningful so that a valid analysis of the data could be made, it was also decided that a totally unstructured interview would be unsuitable. As a result, it was decided to use a semi-structured interview which would ensure that the same basic information would be collected from the interviewees. It would also allow the interviewer to tailor the wording of the questions and their sequencing to suit the individuals involved, and enable the possibility of following up new or interesting information. This would be particularly helpful if any responses were considered to be inadequate. The act of drawing up appropriate interview questions would also help the researcher to clarify the research questions so that the objectives of the project are met.

It seems self-evident to state that any data that can be gathered during an interview is dependent upon the question being asked, but if one wants to gather the best type of information about a phenomenon, or a given situation, then great thought has to be given to the questions that are chosen. Tuckman discusses the limitations that the choice of question can have and recommends that when questions are being formulated the following criteria be applied:

To what extent might a question influence respondents to show themselves in a good light?

To what extent might a question influence respondents to attempt to anticipate what researchers want to hear or find out?

To what extent might a question ask for information about respondents that they may not know about themselves? (1988, p. 213)

It is particularly important with a semi-structured interview, in which you are gathering rich data, that these criteria are taken into account.

It is important that the set of questions provides the framework within which the interviewer operates. The framework helps the interviewer to shape the interview (Slater, 1990, p. 136-7). The shaping of an interview involves the setting of the scene with an appropriate introduction, an explanation of the background to the research, the reason why the interviewee has been chosen to participate and the confidentiality (if appropriate) of the interview.

Despite this shaping process, the interviewer needs to begin interviews with an open mind; that is not to bring to the interview views which may distort the results. Slater suggests beginning the interview session with neutral or general questions, so that the interviewee has the opportunity to relax and talk. Focusing on key issues or attempting to elicit an in depth response too quickly distorts the natural flow of an interview. Topics should be allowed to "evolve" out of the conversation. She also makes the point that interviewees need to be allowed to "unwind" at the close of an interview (1990, p. 137).

The actual process of the interview is a complex one. Moser describes it as being "a social process involving two individuals" which due to its very nature depends upon the interaction between the interviewer and the respondent (1986, p. 272). The type of relationship they establish will influence the outcome of the interview. Merriam also supports this view. She quotes Dexter as defining "three variables in every interview situation which determine the nature of the interaction: '(1) the personality and skill of the interviewer, (2) the attitude and orientation of the interviewee, and (3) the definition of both (and often significant others)" (1988, p. 74).

Merriam recommends that, to minimise the distortion, which inevitably occurs in an interview, the interviewer needs to be non-judgemental and neutral in the way questions are posed. She states that arguments are to be avoided and recommends that the interviewer be sensitive to verbal and non-verbal messages (1988, p. 75). Moser supports this view stating that to increase the accuracy of the data gathered interviewers should not reveal their own views and should ask questions in an impartial way. He describes the need for the interviewer to have a "permissive attitude" so the interviewee feels able to express any viewpoint held (1986, p. 272).

Technical aspects of interviewing are discussed by many researchers: the need to use open questions; to make use of probing responses such as "Can you tell me what you mean by that?"; the use of positive pauses, encouraging glances and verbal comments; and the necessity to use language which is familiar to those being interviewed.

The data from the interviews would be recorded on tape. Tape recording allows the interviewer to concentrate on the interviewee and on asking questions. As Slater states: tape recordings allow the interviewer to be "fully alert and quietly responsive". There is not the distraction that takes place with note taking and it does away with any possible bias or selectivity in what is recorded (1990, p. 135). Merriam makes the point that recording allows the data to be closely analysed, while Kellehear believes it allows researchers to check on themes which may have emerged during the interview (Merriam, 1988, p. 82; Kellehear, 1993, p. 38). An added advantage is that a recording gives access to actual words and phrases which those being interviewed have used. Accurate quotation can lend greater richness to information and to the contextual description.

Slater not only suggests the tape recording of interviews, she recommends that the interviewer makes supplementary notes after the interview. These notes will consist of "external observations" which describe contextual details such as the interviewee's manner and the interviewer's impressions of how the session went (1990, p. 137).

The following questions were put to the academic staff:

1. What do you feel about the process of articulation?
2. How desirable is it to have an articulation process?
3. Currently, library technicians who have articulated to Curtin receive 200 credit points advanced standing, or the equivalent of one year, towards their

degree. Do you consider this to be appropriate? If so, why? If not, why not? What should the amount of advanced standing granted?

4. What is your perception of the competence of library technicians when they graduate with an Associate Diploma?
5. How well do you think they perform academically when compared to students who haven't articulated?
6. Do you believe there is any difference in the achievement levels between the two groups when the results are broken down into specialist areas such as reference or information retrieval, or even the minor?
7. Do you believe library technicians, who have articulated, have particular requirements in the approach to study?
8. Does the process of articulation impact on curriculum design? If so, how?
9. We have experienced an increase in the number of library technicians applying to articulate to Curtin, what does the Department's experience with articulation imply for the future relationship between the technician and professional levels within the library profession?
10. Do you see the Department's experience as having any implications for the future planning of articulation, either in librarianship or in other fields?
11. Are you aware of any discussions in the Department about the quality of library technicians? Do you recall any conversations which expressed concerns about library technicians?

As there were only six interviews, it was possible to compare the responses on particular issues without using software for qualitative analysis. The semi-structured

interview made it possible to compare responses to the predetermined questions on which the interviews were based.

Analysis and synthesis of results

Data from the quantitative database, the student interviews and the staff interviews were separately analysed in order to provide answers to the first three research questions. Since these three questions addressed very different aspects of the project, little synthesis of the results from different methods was necessary. However, the subsidiary question in research question 3 (which asked if the views of staff about articulating students were soundly based) required that data collected from both the interviews and the database be synthesised in order to establish the answer. The qualitative data gathered from staff interviews and from the student focus group, when analysed, not only revealed information about the respective groups perceptions, but when synthesised revealed whether or not students were aware of the perceptions held by academic staff. With the exception of the content analysis, all other research methods were required to establish if the articulation process should influence the relationship between the TAFE and university sectors, in particular, in relation to curriculum design. The synthesised data was also able to examine the validity of paraprofessional/professional divide. A combination of the data collected through the interviews and the results of the content analysis provide data on the amount of information made available to potential students and assess whether it is adequate.

Conclusion

All the methods chosen clearly have their advantages and disadvantages. The combination of methods used ensures that the context of the research is clear, that it has a basis in hard factual evidence but that it was also informed by the views of those most closely involved.

Chapter Four: Results

In Chapter 1, a number of research questions were developed. This chapter analyses the results of the investigation in the light of these research questions. The first part of the chapter reports the results of the content analysis and the analysis of student records. The second part discusses the responses of students and staff to questions posed in the focus groups and interviews.

Content analysis of articulation documentation

In order to become more familiar with the philosophy and practices of articulation at Curtin, it was proposed that documentation concerning articulation be examined. Unfortunately the content analysis did little more than provide background information. The researcher had hoped to locate documents which revealed that serious academic discussion had taken place within the University on articulation policy and its impact; that the question of articulation had been discussed as an academic issue in forums such as the Boards of Study, Departmental Academic Advisory Boards, Divisional Board meetings in those Divisions which had articulated students, or in the University Academic Board. Discussions with the University Advanced Standing officer and the Deputy Academic registrar proved that this was not the case. The Deputy Academic Registrar stated that the University accepted articulation as being Federal Government policy and therefore it was to be implemented (Pugh, 1996). The impact of the acceptance of such a policy on curricula, the relationship between the TAFE and university sectors, and the economic impact of enrolling a high number of articulating students on a Departmental budget were seen as matters which could be dealt with on an ad hoc basis by those areas who had articulating students. Apart from the publications referred to in Chapter 3, no documentation existed.

In the published Curtin documentation the categories referred to in Chapter 3 were not mentioned in any meaningful way but occurred as entries in a glossary of terms or as procedural references. Which courses accepted credit transfer claims. How to apply for advanced standing. The focus of the documentation was the potential student.

The Australian Vice Chancellors' Committee publication emphasised the time to be saved by potential students who were eligible for articulation. The categories of Articulation, Credit transfer, Prior learning and the Length of course were all referred to from this perspective. Again the focus of the documentation was the student.

The publication by ACTA, which was aimed at universities, was primarily concerned with focussing on the administrative benefits which may be gained from using ACTA for the assessment of prior learning. The publication highlights the cost savings that can be gained by the universities not having to carry out assessment procedures. Other benefits such as the ability to target a pool of "new to higher education targets" are mentioned (1996, p. 2.)

Numbers and success of articulating students

The first research question posed in Chapter 1 was:

What are the demographics of the articulating students and how do they perform academically in comparison with other students of librarianship?

As explained in the previous chapter, a database was created containing details of students who studied on the degree in librarianship at Curtin University in the period 1985-1995. This data was analysed to provide information on the demographics of this group and their academic success, and enable a comparison to be made between articulating and non-articulating students.

Proportion of students who hold an Associate Diploma

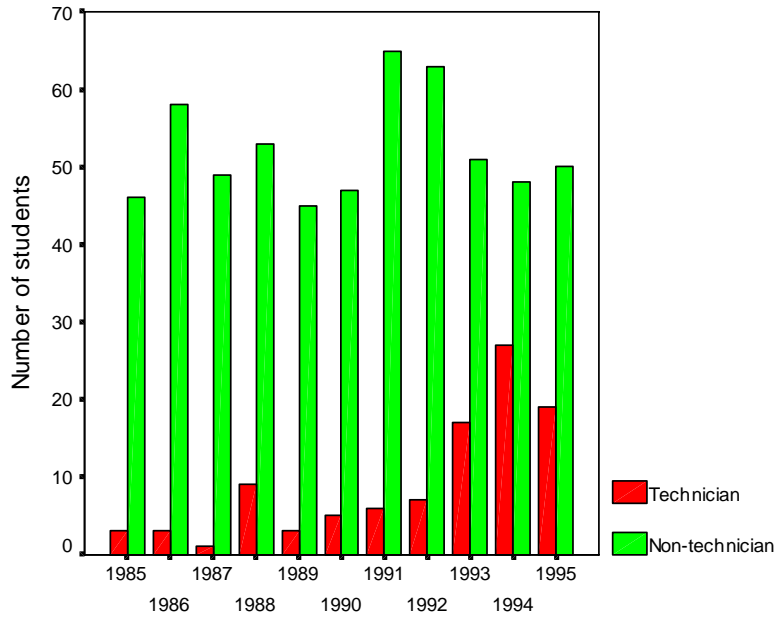
Since 1985, 14.8% of all students in the Department of Information Studies have been library technicians who have decided to upgrade their qualifications to a Bachelor of Applied Science (Information and Library Studies).

Table 1
Technician upgrades as a proportion of all students

	Frequency	Percent
Technician	100	14.8
Non-technician	575	85.2
Total	675	100.0

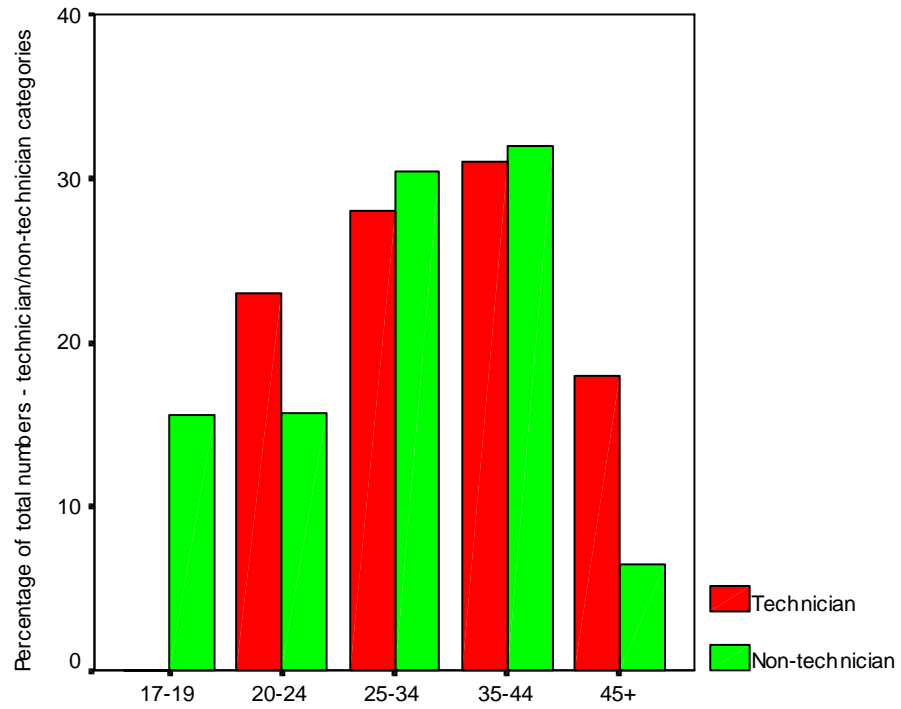
An analysis of each year's intake of students shows that in 1985 the percentage of students who were library technicians was quite low at 6.1%. The figure then fluctuated until there was a sharp rise in numbers in 1988 before returning to a fluctuating level. It was not until 1993 that a substantial rise in the proportion of technicians took place with the largest intake occurring in 1994 when 36% of the new students held an Associate Diploma.

Table 2
Proportion of students admitted who were technician upgrades by year of entry



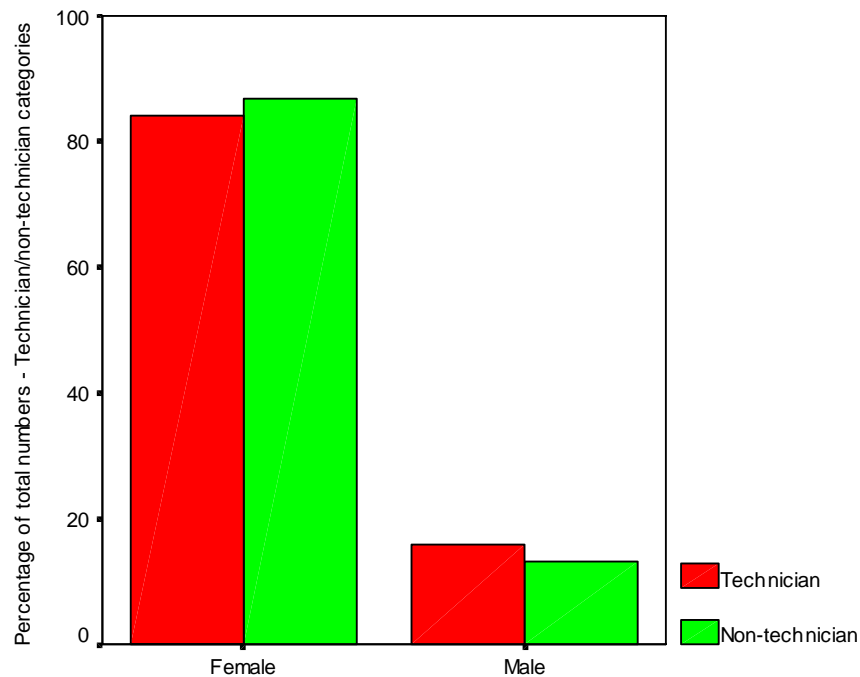
If one examines the age profile of the Department’s student body, technicians tend to be slightly older when they begin studying their course. There are obviously no school leavers because the technicians have attended TAFE or a university to gain their Associate Diplomas. Proportionately more technicians begin the course as over-45s (18%) as opposed to 6.5% of non-technicians. It should be noted that there are no figures available for the gap which may exist between when an articulating student completes the Associate Diploma and begins to study at degree level. Curtin’s student records database does not contain this information.

Table 3
Age of entrants by status of entry



There is only a minor variation in the gender profile of the student body with the technician cohort having a slightly higher percentage of males than females.

Table 4
Gender of entrants by status of entry



Attrition rate of Associate Diploma holders

In order to examine the attrition and graduation rates of students in the Department, five categories of student status were identified. As stated previously these were:

Completed,

Did not complete,

Left immediately,

Terminated, and

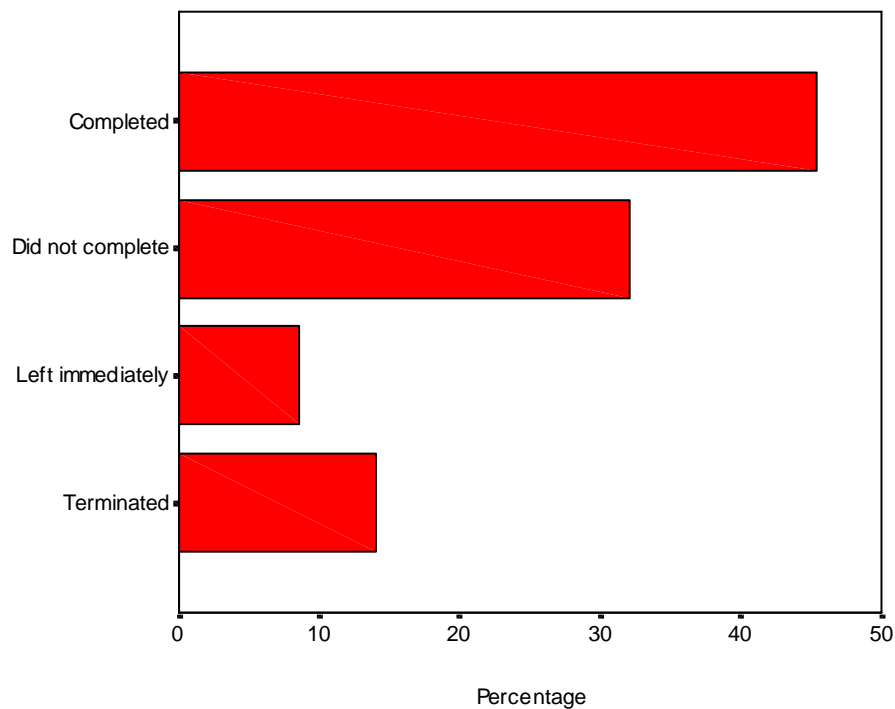
Not yet complete.

Completed was used to describe those students who had met the Curtin requirements to graduate, that is they had reached the appropriate number of credit points and had covered the required curriculum. The *Did not complete* category described those students who left the university of their own volition. Students who enrolled in the degree course and then failed to complete any units at all, that is they failed to

establish an academic record, were placed in the *Left immediately* category. *Terminated* meant that students had failed to meet the academic standards required and had been officially asked to leave the university. The *Not yet complete* category was used to describe students who were currently enrolled and had the intention, at that time, to complete their degree.

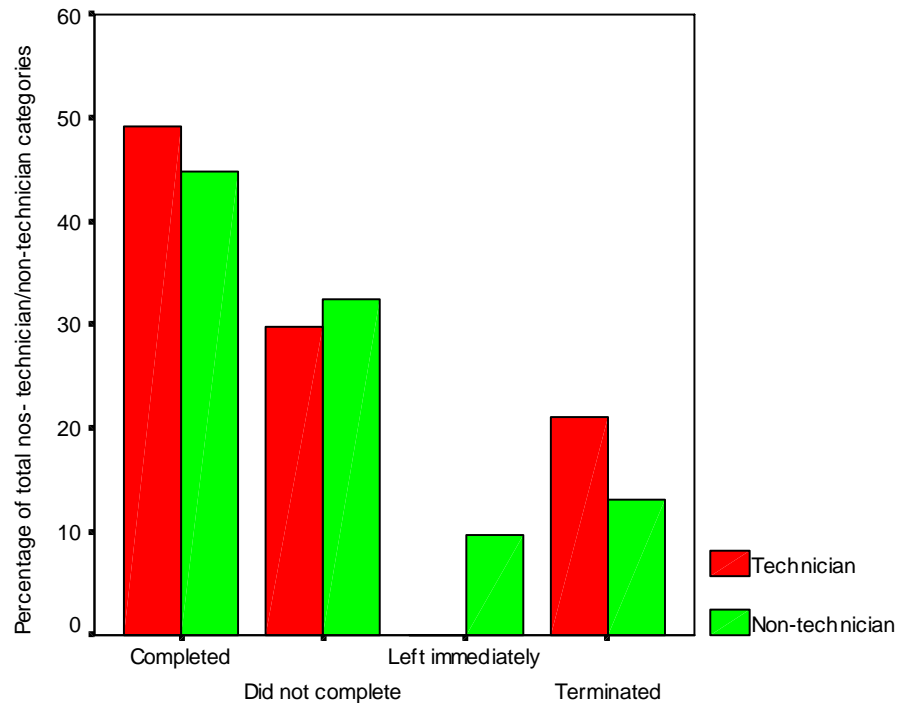
As can be seen by the table below, the overall graduation rates for all students who have completed their course, or who are not currently studying is quite low at 45.3%.

Table 5
Outcome of course (excluding students currently studying)



If one compares the statistics for graduation and attrition rates of library technicians and non-technician students (excluding students currently studying), it can be seen that non-technician students have a slightly higher rate of attrition 32.4% as opposed to the technicians' rate of 29.8%. In addition, the technicians had a higher course completion rate of 49.1% compared to 44.9% of the non-technicians.

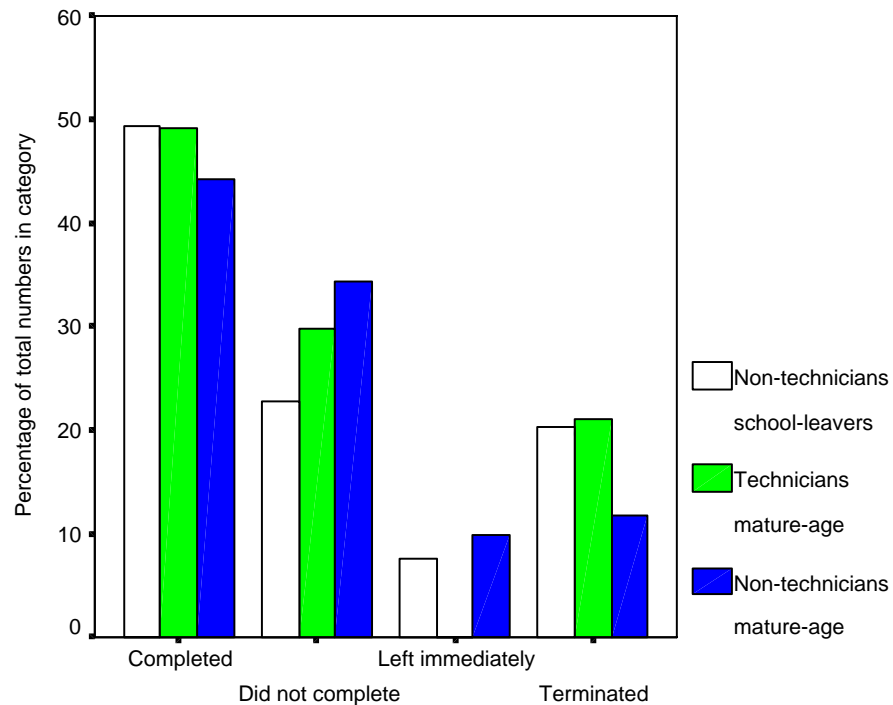
Table 6
Outcome of course by status of entry (excluding students currently studying)



What is interesting about the above table is the higher termination rate for technicians when compared to that of non-technicians. Although it only involves 12 persons, in percentage terms the termination rate is clearly higher at 21.1%.

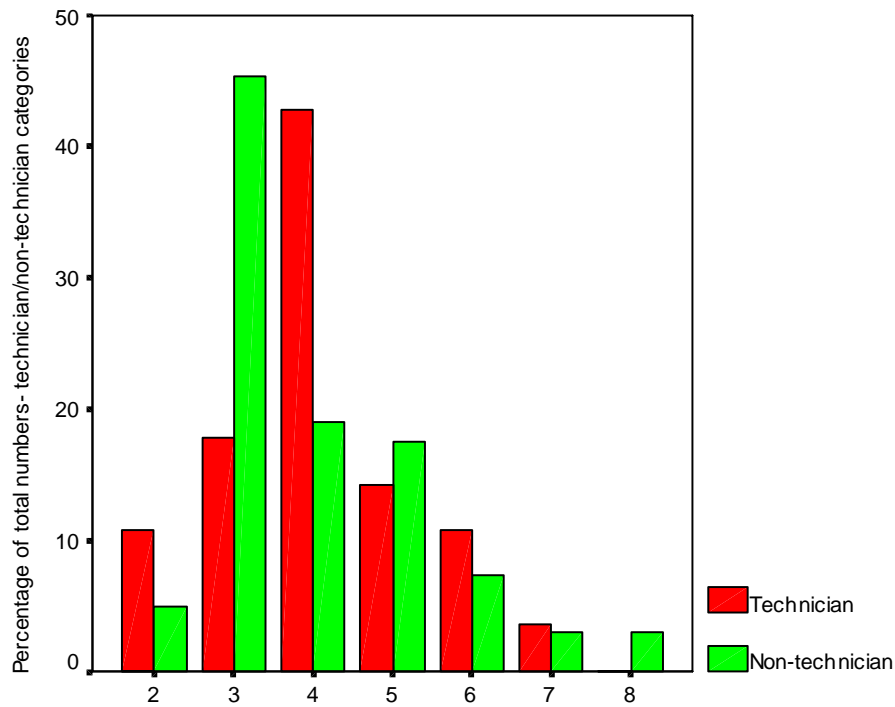
It might be considered from the above table that the differences are due to the fact the technicians are all mature-age students whereas the non-technician group includes school leavers. It could be suggested that all mature age students are harshly treated with regard to termination compared with school leavers and that this explains the results in Table 6. In fact, the reverse is true. School leavers are more likely to be terminated than non-technician mature-age students, a difference which is very similar to that found for technicians.

Table 7
Outcome of course by student status and age (excluding those currently studying)



The length of time taken to complete the degree was also examined. It is clear from the table below that technicians take longer to complete their degree, even when one takes into account that most of them have received advanced standing for the completion of an Associate Diploma. The natural explanation of this is that they are already qualified paraprofessionals, many of whom are working and are, therefore, predominantly part-time students. The majority of technicians, 71.5%, take four or more years to complete their degree. In comparison, only 49.7% of non-technician students take four years or more to complete their degree.

Table 8
No. of years to complete course by student status (completing students only)



Academic performance of articulated students

Before analysing the academic performance of students, there is a need to look at the advanced standing given to students on entering the course so as to build up a clearer picture of the differences between the technicians who have articulated and non-technicians. This also allows for the amount of advanced standing to be examined as it may have changed over time.

The two major categories of non-technicians who are granted advanced standing are Library Association of Australia Registration holders who are upgrading their professional qualifications, and those given exemption for minor/major study because of previous study at a university level. The figures below show that the credit points granted for advanced standing is greater on average for technician upgrades than for non-technicians taken as a group.

Table 9
Total advanced standing granted by student status (all students including those given no advanced standing)

Total advanced standing obtained

	Mean	N	Minimum	Maximum
Technician	150.09	100	0	421
Non-technician	26.61	575	0	450
Total	44.90	675	0	450

Does this mean that there is more advanced standing given to technicians than to other categories of entrant? When those students who are given no advanced standing at all are excluded from the calculation of means, it is apparent that there are other groups given as much advanced standing as technicians, but that the majority of students are given none. (See table below.)

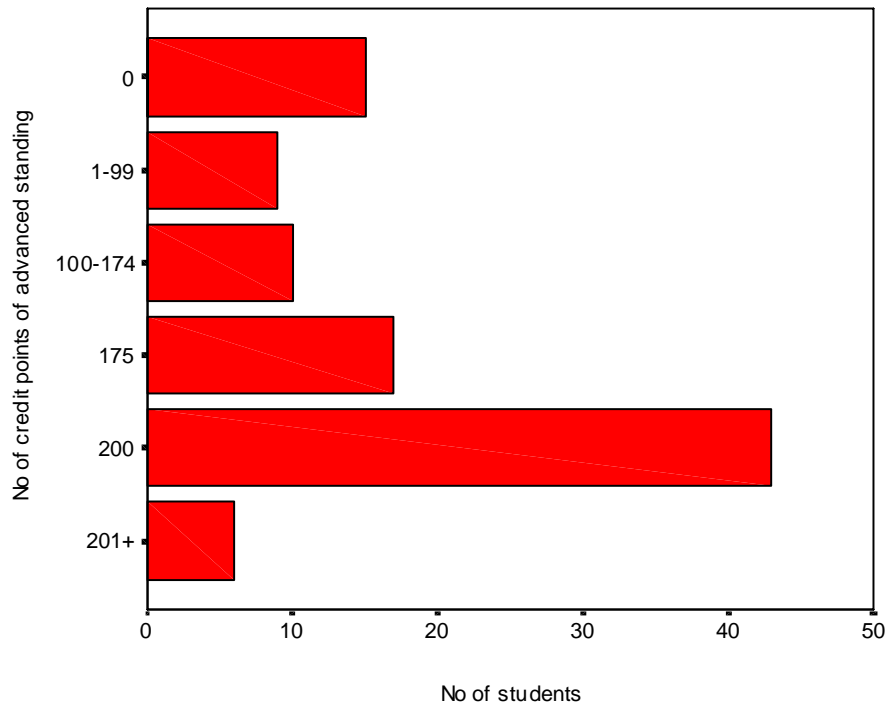
Table 10
Total advanced standing granted by student status (excluding those given no advanced standing)

Total advanced standing obtained

	Mean	N	Minimum	Maximum
Technician	176.58	85	15	421
Non-technician	177.91	86	20	450
Total	177.25	171	15	450

If one looks solely at the technician group it is possible to see the range of credit points granted as advanced standing.

Table 11
Ranges of advanced standing granted to technician entrants

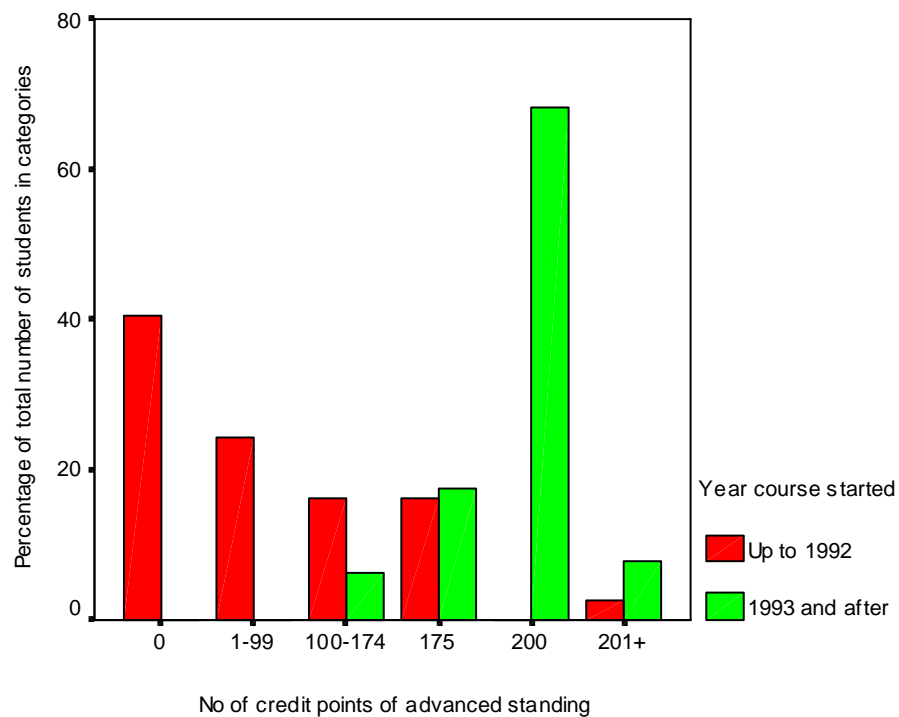


It is interesting to note that while most technicians received varying degrees of advanced standing, fifteen students did not receive any at all.

This information was examined in relation to the year technician students commenced studying at Curtin. Prior to 1992 the amount of advanced standing granted to technicians who articulated into the course had been primarily at the discretion of the Head of Department. In 1992, the University adopted an articulation policy which complied with policy set down by the Australian Credit Transfer Agency (ACTA) and was implemented by the Department for 1993 entrants. The figures below show increased conformity to a general policy after 1993, although 23.8% were given less than 200 credit points advanced standing, but even these were given a substantial amount. The most probable reason for these students receiving less advanced standing is that although they were library technicians they held Certificate level qualifications rather than an Associate Diploma.

The table reflects the fact that before 1993 there was much more variation in the amount of advanced standing granted. Note that the fifteen students who received no advanced standing commenced their course prior to 1993. Students awarded more than 200 credit points advanced standing must have both held an Associate Diploma and have studied at a university level. The Department never gave advanced standing for work-related experience.

Table 12
Ranges of advanced standing given to technician upgrades by date of entry to course



It has already been established that the termination rate for library technicians is greater than for non-technicians. The difference is particularly marked when technicians (who are all mature students) are compared to mature-age non-technicians. The question is whether this shows that technicians are achieving less academically, or giving up their course more easily, than non-technician students.

There are a number of possible indicators which might show that technicians are treated more harshly than non-technicians and these will now be examined.

Termination is suggested to the Board of Examiners by a crude computer calculation of average marks for the semester, but is evaluated by the Board in terms of the student's complete previous record. The evaluation takes into account the amount of progress a student has made, based on credit points gained, and the number of units failed.

The tables below examine those students who did not complete the course to ascertain the number they of credit points gained prior to termination or leaving of their own volition. There is also an analysis of the number of units they failed.

Table 6 showed that 21.1% of the technicians were terminated, a small number in total, but a larger proportion than for non-technicians (13.1%). Table 13, below, shows that they were also terminated earlier on in their course than non-technician students.

Table 13
Mean number of credits points earned on course (terminated students only)

Total credits earned				
	Mean	N	Minimum	Maximum
Technician	59.75	12	0	150
Non-technician	125.22	60	0	522
Total	114.31	72	0	522

Conversely, the number of units failed was less for technicians, ie. again they were treated more harshly than non-technicians. The mean number of units failed before the technicians were terminated was 3.08 as opposed to 4.12 for non-technicians. Interestingly, the maximum units failed by a technician was five, whereas for a non-technician it was fifteen.

Table 14
Mean number of units failed (terminated students only)

No of units failed

	Mean	N	Minimum	Maximum
Technician	3.08	12	2	5
Non-technician	4.12	60	1	15
Total	3.94	72	1	15

If one examines the data for those students who left of their own volition, as a group the technicians left earlier than non-technicians. As Table 16 shows, technicians gained an average of 50 credit points before leaving, whereas the number of credit points gained by non-technicians was 134.44 credit points on average.

Table 15
Mean number of credits points earned on course (students leaving before completion but not terminated)

Total credits earned

	Mean	N	Minimum	Maximum
Technician	53.88	17	0	150
Non-technician	134.44	148	0	410
Total	126.14	165	0	410

Although the number of units failed for those who left for their own reasons is very small; it is again even smaller for technicians.

Table 16
Mean number of units failed (students leaving before completion but not terminated)

No of units failed				
	Mean	N	Minimum	Maximum
Technician	.65	17	0	2
Non-technician	.92	148	0	9
Total	.89	165	0	9

Some students who complete the course have failed units, therefore it is possible to calculate the mean number of units failed for this group. For the non-technicians the number is markedly lower than for those who fail to complete, which is what maybe expected. For the articulating students, however, the contrast is not so obvious.

Table 17
Mean number of units failed (students completing course only)

No of units failed				
	Mean	N	Minimum	Maximum
Technician	.50	28	0	4
Non-technician	.52	205	0	7
Total	.52	233	0	7

Although the above comparisons reveal general information about technicians and non-technicians, they have not dealt with the actual performance of students in terms of marks. The standard measure of this at Curtin is a course weighted average.

The following table shows that non-technicians have slightly higher course weighted average.

Table 18
Mean course weighted average mark (all students)

Course weighted average mark		
	Mean	N
Technician	62.093	100
Non-technician	66.991	575
Total	66.266	675

Table 2 which showed the number of technicians who were admitted each year to the course, revealed a significant increase in the percentage of library technicians studying for the Bachelor's degree from 1993 onwards. It was interesting to see if there was any difference in the course-weighted average after the number of articulated students increased. As the table revealed there was no real change.

Table 19
Mean course weighted average mark (students entering course in 1993 and after)

Course weighted average mark		
	Mean	N
Technician	62.369	63
Non-technician	68.437	149
Total	66.634	212

If the data for those who completed the course is examined, what little difference there was between the two groups disappears.

Table 20
Mean course weighted average mark (students who completed course)

Course weighted average mark		
	Mean	N
Technician	71.132	28
Non-technician	72.116	205
Total	71.998	233

Interestingly, for those students who had left before completing their degree, the technicians, as a group, had not done so well as non-technicians.

Table 21
Mean course weighted average mark (students who left course before without termination)

Course weighted average mark		
	Mean	N
Technician	55.250	17
Non-technician	61.316	148
Total	60.691	165

There was no real difference in the course-weighted averages for terminated students, both groups have marks which are low. However, it should be emphasised that the decision to terminate is not one the Department takes lightly. All students are placed on conditional status for at least one semester before a decision is made to terminate.

Table 22
Mean course weighted average mark (terminated students)

Course weighted average mark		
	Mean	N
Technician	33.133	12
Non-technician	33.210	60
Total	33.197	72

It is very interesting to look at marks gained in major/minor study areas as all results for units in the Department are potentially biased by the attitudes of the academic staff towards technicians. This is not true for those teaching in other subjects. In fact, when the mean is calculated for major/minor units it can be seen that library technicians do slightly better when all students are taken into account.

Table 23
Mean average mark for minor study units (all students)

Minor average mark

	Mean	N
Technician	64.709	55
Non-technician	63.037	340
Total	63.270	395

A slight change in the mean of the major/minor is discernible if one examines the post 1993 intake of students, but this is not enough to conclude that the technicians are performing at a lower standard than previously.

Table 24
Mean average mark for minor study units (students joining course in 1993 and after)

Minor average mark

	Mean	N
Technician	64.997	29
Non-technician	66.256	48
Total	65.782	77

The result for all students is slightly different from that for students who have completed the degree, but, again, not enough to claim that technicians do less well than non-technicians.

Table 25
Mean average mark for minor study units (completed students)

Minor average mark

	Mean	N
Technician	67.708	26
Non-technician	68.688	190
Total	68.570	216

For students who left of their own volition, the marks are distinctly lower for technicians than non-technicians. This also reflects the results for course weighted average in general, and shows there is no tendency for students who left on their own initiative to be more harshly treated in library and information studies units than in other subjects.

Table 26
Mean average mark for minor study units (walkers)

Minor average mark

	Mean	N
Technician	51.475	4
Non-technician	58.379	58
Total	57.934	62

When it comes to students who were terminated, the technicians have much better academic results than the non-technicians. This lends substance to the belief that technicians are treated more harshly than non-technicians are when it comes to termination.

Table 27
Mean average mark for minor study units (terminated students)

Minor average mark

	Mean	N
Technician	52.400	5
Non-technician	33.886	35
Total	36.200	40

Individual units of study

One of the assertions of those staff teaching in the Department, is that studying at university is very different from studying TAFE, and that technician upgrades may well have some difficulty with the transition. Certain streams/units have been

separately analysed to determine if this perception is borne out by results. In particular, those units/streams, which were felt to be more theoretical than their TAFE counterparts, were chosen.

Information and society/Information theory

Information and society is about the nature of information and its use in society. Information theory examines the theories of communication, information and introduces basic ideas in behavioural science, cognition and information processing. Together, they are two of the most theoretical units in the undergraduate course, with little or no practical emphasis. In both cases non-technicians achieve slightly better results, but only marginally.

Table 28
Mean mark for Information and Society 101 and its predecessors (all students who undertook these units)

Information and Society mark

	Mean	N
Technician	67.59	56
Non-technician	69.21	328
Total	68.97	384

Table 29
Mean mark for Information Theory 202 and its predecessors (all students who undertook these units)

Information theory mark

	Mean	N
Technician	65.14	65
Non-technician	68.20	309
Total	67.67	374

Retrieval stream

A significant amount of the curriculum for the first two units in this stream is similar to material studied in the Associate Diploma, but it is consciously presented from a theoretical perspective. The first unit in the retrieval stream is one which articulating students do not have to study - it is part of the advanced standing granted to them. The next unit, Information Retrieval 201, contains some material which articulating students have studied previously. The final two units, Subject Analysis 202 and Retrieval Theory 302, are generally new curricula for technician upgrades. Of the three units reported here, overall there is no difference in the results for technicians or non-technicians, however, the technicians do less well in Subject Analysis 202, before going on to achieve higher results in Retrieval Theory 302. Subject Analysis 202 is a very creative unit and contains little that can be learnt from reading and synthesising the work of others.

Table 30
Mean mark for Information Retrieval 201 and its predecessors (all students who undertook these units)

Information retrieval 201 mark

	Mean	N
Technician	68.85	74
Non-technician	68.45	304
Total	68.53	378

Table 31
Mean mark for Subject Analysis 202 and its predecessors (all students who undertook these units)

Subject Analysis 202 mark

	Mean	N
Technician	65.84	58
Non-technician	68.00	271
Total	67.62	329

Table 32
Mean mark for Retrieval Theory 302 and its predecessors (all students who undertook these units)

Retrieval theory mark		
	Mean	N
Technician	68.17	30
Non-technician	65.89	152
Total	66.27	182

Reference stream

Only one unit from the reference stream, Information provision 201, was chosen because course changes made the identification of earlier equivalent units impossible. The marks for the two groups of students are, again, very similar.

Table 33
Mean mark for Information Provision 201 and its predecessors (all students who undertook these units)

Information provision 201 mark		
	Mean	N
Technician	67.99	74
Non-technician	68.16	297
Total	68.13	371

Research methods

This research unit has objectives which would not be usually found in a vocational course. The results for the two groups of students are indistinguishable. This could be a reflection that, at this late stage in the degree course, only those students who are very likely to complete the degree are studying. Other students would have been terminated or have chosen to leave.

Table 34
Mean mark for Research Methods 301 and its predecessors (all students who undertook these units)

Research methods mark		
	Mean	N
Technician	70.06	32
Non-technician	70.51	222
Total	70.45	254

Students' perceptions of their study experiences

The next three research questions dealt with students who had articulated to Curtin. Students were asked in the focus group what they knew about, and expected from, their Associate Diploma courses and their reasons for upgrading their qualifications. They were also asked to comment on matters relating to the degree course.

At the time the focus group was held, the Department had eighteen articulating students residing in the Perth metropolitan area, and all were invited to participate in the focus group. Due to work commitments some were unable to attend and when it was held, the focus group had twelve students in attendance. There were of mixed gender but predominately female, and ranged in age from 21 through 47 years of age. Some studied on-campus, and others through distance education.

Expectations of Associate Diploma students when they entered their diploma course and feelings after graduation from a paraprofessional course

The focus group questions began by asking students what they had originally known about the Associate Diploma when they had initially enrolled.

All but one of the focus group students had been initially unaware of what was involved in the library technicians' course when they applied for entry. Nor did they understand that there were two different work levels within librarianship, the paraprofessional and professional. One of the students actually believed that she had enrolled in a professional course.

“I started teaching in Queensland, and I was no good. The guidance officer filled out a form and I thought I was applying to ECU for librarianship and I got this thing back which said I was doing a technician’s course. I didn’t know the difference so I did it.”

The remaining student had been working in a library, in Tasmania, and had been acting in a library technician’s position when she decided to undertake an Associate Diploma. She spoke about how the course controllers’ had “interviewed every student before admitting them to the course and then ran over the course in some detail.” She later transferred to TAFE in Western Australia and then ECU.

The content of the curriculum and the actual work involved was not known. Typical comments, which supported this view, are:

“I just answered a job in the library and I went to the technician’s course, but I didn’t know what to expect. I knew there was a lot to it; I was a little shocked [there was] much more than I thought.”

“I was pretty much the same. I didn’t know what it was about, I was just encouraged to do it. I found it interesting.”

When asked about what they had expected to gain from the library technician’s course, there was a surprising degree of agreement in the responses. Two of the students said that they expected the course to lead to employment as library technicians.

“That is the expectation. You’re doing a course of study because you want to work in the library.”

All except one agreed. The exception to this explained that at the time of enrolling in the Associate Diploma, that was the level of study she was interested in. “I really didn’t want to be a librarian....”

In order to ascertain whether there were any differences in the students' expectations when they began the Associate Diploma, as opposed to when they had completed the course, they were asked to comment on how they felt when they had graduated.

The focus group students emphasized the benefits which came from the practical approach taken in the Associate Diploma. All spoke about how useful this had been whether in the work place or in studying at the degree level at Curtin.

"I thought it was a good grounding in the aspects of librarianship."

"And it was very practical, I worked in a library and went to TAFE and, in theory, I found ...I got the same grounding as I got in the library. I found that very handy for the job."

"One thing about the course – it did give you a leg in to be employed."

One student raised the point of employers requiring an Associate Diploma if one wanted to be employed.

"In Tasmania, they were weeding out the clerks. There was no advancement if you didn't do the technician's qualifications ... [they were] weeding them out and encouraging the technicians."

The articulating students were then asked to consider their comments about the Associate Diploma, and reflect on whether they were currently valid.

All students present at the focus group believed the Associate Diploma had been worthwhile. One, in particular, found that it had given him the confidence to study at the degree level. However, there was a consensus that despite holding the qualification, they were unable to put into practice all of the skills they had learnt on the course.

“Don’t talk about it. There are lots of areas they [librarians] don’t even consider you know anything about, and it seems to be such a waste, but it is not a waste, knowledge is not a waste, but it seems to me that you have gone through and done all of these different things that people in positions don’t see a technician as being qualified to do, and that can be very frustrating.””

“... It’s just that there is a lot of it you don’t just get to use, which is a shame.”

This led one student to question the depth of the syllabus at the Associate Diploma level.

“It depends on what you want to do; if you are happy doing that level of work then I think a technician’s course is good, but it actually goes into it a bit too much depth in some areas, which you never get a chance to do. Technicians very rarely, unless you are in a small library, do not often get the opportunity to do anything in-depth.”

Decision by students to upgrade their qualifications

When asked about their decision to upgrade, the group overwhelmingly stated that they made the decision after a period in employment. Only two of the students reported that they had made up their mind to upgrade their qualifications while they were studying at the Associate degree level. Two other students believed they had seen the move from Associate Diploma to degree as a natural progression.

The students, who were in employment when they made the decision to upgrade their qualifications, referred to work considerations playing a major role in the decision.

“I got a job as a technician and just wanted more. The job did not seem to have as much as a challenge as I thought it would.”

“... I don't find it unchallenging, or boring, just the reverse in fact... I would have been quite content to carry on as I was. It was only the special circumstances of having an employer who gives me the time off, and the backing to do it and, I must admit to being mercenary... and, of course, it is better in the end.”

“[I] was working as a technician when I finished the course back in '91. I decided I did not want to do any further study, and I was quite happy having finished that [qualification] and working in the area looking for a career path. There are no career paths for technicians ...and that is why I decided I had to do something about it.”

Interestingly, two students who had decided to upgrade their qualifications while they were studying the Associate Diploma had mistakenly enrolled in the course in the first place. The first student quoted below was quoted earlier about believing she had enrolled in a librarianship course.

“Just about September of the last year. I can't really say why, because I had thought I was going to be a librarian in the first place...[I think] mainly as a back-up in case I didn't get a job.”

The other was an overseas student who belatedly found out the Associate Diploma was not recognised by the country from which she came.

“I decided to do the degree course while I was studying in TAFE because I knew there was no way I would get a job as a technician when I go back to my country....”

The two students who believed articulation was a natural step were also working as technicians.

“I mainly thought it was a natural stepping stone. I mainly wanted to get a degree, so the way to do it was to do a TAFE course first.”

“I just wanted to qualify. I did qualify and I was quite pleased, but looking back on it I thought it was a great achievement, and I thought, I could do this. Why not one more step.”

The next two questions put to the focus group asked when the students had first become aware of articulation, and when they made the decision to upgrade their qualification to degree level. Unfortunately, the questions failed to generate any substantial discussion. The three students who responded spoke only about where they had got their information about articulation; no one mentioned having come across the concept while studying. One had read about it in a newspaper published by the Department, another had seen a brochure distributed by the Department, and the remaining respondent had heard about it while attending a function at the Department.

Students were then asked about enrolling at Curtin and what articulation meant to them at that time. A number of the students said that they hadn't heard of the term articulation prior to enrolling at Curtin. This might account for the lack of response to an earlier question which asked when they had first heard about the concept. Through discussion, it was found they were more familiar with the term credit transfer. There was strong agreement that having advanced standing of one year encouraged them to apply to upgrade their qualifications.

“It was more of an encouragement to do the course, because you know it wasn't going to be so long.”

The agreement between the University and the Australian Vice Chancellors' Committee, which gives one-year's advanced standing towards the degree, was introduced. The students taking part in the focus group were asked their opinion in the amount of advanced standing granted. Only one student thought the amount of advanced standing should be increased. All others thought it was an appropriate length of time and most expressed concerns that an increase would not give them enough time to learn all the was required.

“It was very different to the course I’d done before and you have a lot to learn in the two years, and if it was any shorter [the course] you wouldn’t have enough time.”

“I think it’s more [than enough] ...you’ve got a lot to learn. You need those two years.”

“It’s pretty damn right.”

When the discussion turned to the actual units students were exempted from, they were unsure whether the right units had been chosen. Most felt they didn’t know enough about unit content to be able to comment. However, one student raised the question of whether technicians are discriminated against because they are unable to complete a major, and thus lacked a subject expertise non-articulating students were able to gain.

Students were asked if there were any units, other than those they were currently exempt from, which they thought should be part of the advanced standing. There was a lot of general discussion with a range of dissenting views, but no consensus was reached. Some students expressed the view that they had previously studied parts of Curtin’s units but no one raised a unit which mirrored one studied previously.

The students had no comments to make when asked if they had any ideas about the way the curriculum could be changed so articulated students fitted more easily into the course structure.

When the focus group participants were asked if they felt there were any benefits in studying the Associate Diploma and then the degree course, all but one student felt that there had been tangible benefits. Those who responded positively all mentioned that they thought having two qualifications gave them an edge when it came to employment prospects.

“Yes, I do because a person with two qualifications can be employed in either [field].”

“I know it happens, and perhaps it shouldn’t, but if you have two qualifications you have a certain ... right to apply for either position...”

The student who disagreed with the others expressed her concerns about the amount of time spent studying.

“If I had known about this course before I had started my other course, I wouldn’t have ever done it and I think it has been a slow route to where you wanted to end up. Personally, I would much prefer to do a straight degree and a Grad. Dip. In something rather than an Associate Diploma and an undergraduate degree.”

Another benefit mentioned by the articulating students was the confidence which having the Associate Diploma had given them.

“It gave me encouragement to want to do the course [the degree], before that I didn’t want to do the librarianship course...”

“A lot of people do have to build up though don’t they? You mightn’t have the confidence to go straight to a degree especially if you are a mature age student and you’ve never considered university. Then becoming a library technician is perhaps far more achievable at that time than taking a degree appears to be.”

At the conclusion of the focus group, participants were asked if they believed upgrading their qualifications would be worthwhile. Most articulating students replied positively, that it had been worthwhile, because technicians really had no career path to follow. Others explained that the remuneration a librarian could earn

was far higher than that of the technician. One continued to express dismay that she had taken the route that necessitated articulation.

“My first answer is that there is no career path for technicians...”

“Where I work, in a large organisation, there are no career paths. You sit on one level and that’s it. You may end up with the responsibility but you don’t get the money at the end of it. So I really think that by up grading there are places to go.”

“Some where to go in furthering your career. Definitely!”

“Something better to travel with.”

Attitudes of academic staff to the process of articulation

These attitudes were investigated during individual interviews with academic staff members. As stated in Chapter 3, these interviews were designed to explore individual opinions about the articulation process and perceptions about the academic performance of library technicians while completing an undergraduate degree. The questions posed initially were very general in nature, asking about articulation as a process and the its desirability. They then focused on staff perceptions of students who have articulated, and concluded by asking the academic staff if articulated students were treated any differently from other students, or if staff were aware of any conversations which expressed concerns about the quality of library technicians.

It should be noted that interviewees used the word TAFE was to describe both TAFE graduates and those from ECU, in short, anyone who held an Associate Diploma.

Views of academic staff on articulation

When asked about their feelings with regard to articulation, all staff members agreed with articulation in principle:

“I would agree with it in principle...”

“I’ve got no problem with it in one sense, because people should have the opportunity.”

“From a career path point of view it’s a neat process if someone really thinks they want to take it on.”

“I think it’s fair enough to give them credit...”

It is very significant that, despite the agreement implied above, only one respondent gave a comment without reservation:

“I don’t have any difficulty with it at all. I think that’s because I’ve seen some quite good people get drawn into the TAFE course, probably because they were badly advised in the first place, and then I think it’s a logical progression for them to take more study and become librarians rather than technicians. So, I think it’s a good idea that there’s a process in place which actually acknowledges prior learning and enables that to happen.”

The others qualified their in-principle agreement with caveats such as:

[If] they can justify the skills would be equivalent to the 200 credit points we have here. No, if it equates with that, then it would be ok.”

“I think you have to be awfully careful about what credit you give them. ...I’ve made them do them [units] again and they’re still only getting around 70%, whereas having already had a first pass at the, so to speak, I would have thought they would have got much better than that...”

“And the other one [problem] is that because if they pass a TAFE course they can come into this course irrespective of the quality of their pass at the first level, and I think some of the students we’ve got in the past through articulation simply haven’t been able to cope. Or they have not had the personality to be professional.”

“I’ve talked about why we did we ever have this thing called the library technician in the first place, and I guess I still do have a philosophical problem with branding people, because it is tending to differentiate in an environment which I didn’t feel we needed to have that branded differentiation.”

The question also elicited concerns that TAFE’s focus emphasizes practical tasks and it produces graduates who reflect that practice.

“They think like technicians, they’re very concerned with the practical aspects but they don’t think more broadly, and even going through this course they still end up believing, just a few of them, that the practical skills of running a library are all that counts.”

“I mean if you come [to university] from school then there’s been scholarship. They certainly do a lot of essay writing and they have had to think what they had to write about. Does this happen at TAFE? I don’t know. I really don’t know. I’m told it doesn’t. ... What I’m told is that it is a training ground – into an area of scholarship and scholarship requires an intellectual and thoughtful and philosophical approach towards what you want to do. Now, if you don’t get that background in TAFE ... I can perceive a gap.”

One staff member wanted to comment further. She stated that articulation was desirable because it was setting a trend that would become commonplace. The inference was that educational practice was moving towards an American model of education which would see professional courses taken at a post-degree level.

Currently, library technicians, who have articulated to Curtin, receive 200 credit points advanced standing, or the equivalent of one year, towards their degree. Staff opinions about this amount of advanced standing were sought, in particular, whether the amount was too much or too little.

Three staff members felt that 200 credit points were the appropriate amount of advanced standing to grant to articulated students. Responses included:

“I wouldn’t give them any longer because they need time to be here to develop higher level skills.”

“... I think a year is probably an appropriate amount of time “

Two other staff members were reasonably happy with the level of advanced standing but were concerned that the **right** units were chosen to make up the advanced standing credit points.

“I think in the right subjects, I don’t have a problem at all.”

“I don’t like to give core units.”

One staff member was unsure, believing that in relation to the technical skills library technicians had acquired, the amount of advanced standing was “probably too little”, but then went on to say that if one examined the thinking skills which are required to function effectively as a professional librarian then the amount granted was too much.

With the exception of one staff member, no one expressed a desire to grant articulated students more than the equivalent of one year’s study.

” So if you are going to give them two years [advanced standing] they’d only have a year to develop those skills. It’d be like the Graduate Diploma; they [students] don’t really have time to develop them.”

“I certainly wouldn’t want to see it longer. I think I’d be very concerned if it became any longer.”

Others referred to the advanced standing model put forward by the Edith Cowan University, which granted 18 months of advanced standing to those holding an ECU Associate Diploma if they completed a degree.

“But I’m not in a hurry to give them 18 months because I think it’s also an issue of learning.”

“I think that it will come ... we will be told to give 18 months advanced standing because it will get them through quickly.”

Perceptions of articulating students

Having covered the fundamental aspects of articulation, the interviews focused on the staffs’ perceptions of articulating students. The responses were interesting. They ranged from:

“The one’s I’ve worked with have been very good.”

to

“I wouldn’t call them competent at all.”

Most respondents took the middle view, reporting mixed experiences.

“Some of the people from the technicians course seem to have a very good grasp of the practical aspects.”

“That’s a difficult one. The difficulty is that we’ve had some very good ones and then we’ve had some bloody awful ones.”

“Well, it’s very variable, but it’s probably no more variable than with our own students and we have had good technicians, but we’ve clearly had some that are very poor as well.”

During the discussions about the competence of library technicians, staff members raised a number of issues which had influenced their views. Most reinforced their belief that technicians had strong practical skills, particularly in the equipment and computer fields, however, they also found them to be lacking in the theoretical and managerial areas. These comments correlate with previous statements concerning the practical focus of the Associate Diploma.

Two staff members again referred to the fact they believed there was a group of technicians who should have never have studied at the Associate Diploma level but should have entered university directly.

“The others, who are really good, probably should never have gone through the technician’s course...”

Conversely, there was also discussion about some Associate Diploma graduates whom it was believed, should never have made the transition to university.

“... Badly advised in making the transition to coming here. They weren’t well prepared for it and I don’t think they have the capacity or potential to do well in our course. It doesn’t mean they won’t eventually pass, but they certainly struggle.”

“Some of them are in very dire straits...”

Interviewees were then asked about their perceptions of the academic performance of Associate Diploma graduates and how they compared with non-articulating students.

One staff member abstained from answering the questions. She was new and felt that she hadn't been employed long enough to know the students. Interestingly, all of the remaining staff claimed they were unsure, or unaware, of whom the articulating students were in their classes.

“Well, I had to go back and look because I couldn't remember who they were.”

“I don't often know who the upgrades are... probably, I've no idea whether they are or not...I'm totally unaware.”

“... I don't always know who they are.”

“Well, that's a funny question actually because... I've had to think about it. And I have no idea who the technicians are.”

The sole staff member who did admit to being able to identify the articulating students stated that he perceived them to have a lower level of writing skills.

Those who said they were unable to identify articulating students made additional comments about their perceptions. One, quoted above as having gone back to look at student records, stated she had found articulating students to be “very middle of the road”. Another gave a more detailed response:

“Sometimes it becomes a point because if you identify them as weak students then you might look for a reason and then say, ‘Oh yes, they went through the technician course – that explains why they're weak students.’ But it might also explain something about the standard of their work they're used to producing. I think part of the problem is that we don't always identify the good technician upgrades – they tend to meld a little more with out main student body so we don't tend to identify the better students.”

Someone else wondered whether someone was a technician because of the way they approached their topic; “it’s very process oriented.”

In comparison with non-articulating students, staff members reported that the students were “middle of the road” and “they don’t stand out in anything”, though one staff member did say that if he had to generalise then: “yeah, generally below average”.

As a number of staff members had clearly referred to the study approach taken by articulating students, they were asked about their perceptions of how articulating students performed when the course was broken down into specialist areas such as the reference or retrieval streams.

Responses to this question varied. One staff member believed that the differences would not be in the streams of units but would depend on whether the work/unit was applied as opposed to conceptual. Another raised the issue of the type of work being undertaken but his view was quite different.

“No! I think that, I guess it would be instinctive to answer yes. It might be that they’re more likely to do better at the more technical parts of the course and perhaps less well at those which demand a more analytical approach. But then, I don’t have any evidence. Then again, you’re aware when you’re marking students’ work that some students will be better at some assignment topics because of the nature of the work involved and they may not do well at something that asks a bit more of them intellectually, but I can’t really say that I categorise them into being articulated or non-articulated students.”

The reference in the above comment about an instinctive response is interesting, because one staff member claimed that “we are being conditioned to expect that”. When asked to expand on her comments, she explained that she believed the librarianship profession, ALIA, Curtin, TAFE and colleagues all contributed to the conditioning process.

“Even the adverts on television conditions you to expect TAFE to be a training ground without much expectation of brains.”

The interviewees then discussed whether articulated students had particular requirements in their approach to study when compared to non-articulated students. Most staff reported that they had not noticed any differing requirements.

“Nothing I can identify...”

“I don’t usually make any distinctions.”

“Well, if they do it’s escaped me...”

Staff discussions of articulation

The last section of the individual interviews focused on whether there had ever been any discussions within the Department about the quality of library technicians. In particular, staff were asked if they could recall any conversations which expressed concerns about library technicians.

One staff member was unsure. She felt that concerns about articulated students had arisen a few times but couldn’t remember in what forum. She also believed that if comments were made, then they tended to be about individual students.

Another staff member had a mixed response to the question.

“I think there’s been a general feeling about them... things we’ve talked about...I don’t think I have. There might have been an off-hand comment made after a lecture or something, but not really.”

All others agreed that concerns the quality of library technicians had been raised, and that there had been conversations about this subject. However, staff recollections varied about the amount of comment made.

“Nothing specific, I can remember, but when I first came here I just got this impression that library technicians were pretty looked down upon because they didn’t perform well. But, I’ve never seen anything to back that up...”

“I have. I mean the gist rather than anything else. I think there’s a general perception, and I don’t know whether it’s true or not, a general perception that library technicians don’t always perform as well as the others in the same units. And, I guess, a feeling that what they have already done has molded their attitudes and ways to know how they behave in this course as well. I think it’s a bit like one of those things that people allude to but don’t always know whether it’s true or not.”

“Yes, things are said, and that’s why when you were asking me yesterday ... I sort of thought, that everyone sort of assumes, and presumes, even from advertisements and so on, that a certain level comes out [of TAFE]. And I think that’s where it comes from. I think I’m probably as guilty as everyone else ... you think they’ve only been to TAFE ... there’s a sort of level of forgiveness there because a lot of people who do go to TAFE are not the types of people who can cope with the university level. Yeah, I’m aware those comments are made. Usually at [Board of] Examiners’, I suppose.”

The strongest response to the question was:

“Yes, I certainly do. I remember a number of times at staff meetings, or maybe not at staff meetings but general discussions at morning tea. There have been things said about technicians which could be taken as derogatory. And, I think, it’s something that has slipped in as a bit of a habit and sometimes, even if you identify someone as a weak student, it seems that often

the first question is: 'Are they a technician upgrade?' as if that, in itself, would explain why they are weak."

After completing the section of the interviews which dealt with perceptions about articulating students, staff members were asked about the impact of articulation on curricula.

Influence of the articulation process on curriculum design

The syllabus of the undergraduate course at Curtin has undergone a number of substantial changes during the period since the establishment of the degree in 1973. However, there has never been any attempt to design the course with reference to courses offered at the Associate Diploma level, or, since the establishment of a uniform 200 credit point advanced standing, of any desire to make the first year of the course equivalent in content to the Associate Diploma syllabus (Exon, 1998). Therefore, it might be expected that this would cause stresses within the delivery of second year units taken by articulating immediately on entry to Curtin.

However, when staff interviewees were asked about the influence of the presence of articulating students on curriculum design, the question did not elicit many responses, and it did not appear that this was a question which they had thought a great deal about, except in terms of the individual student who might have difficulty in dealing with university-level study. Two examples which reflect this view are:

"[They] need greater assistance in basically developing ... an academic level of reasoning."

"The one's you become aware of, yes, I think that is sometimes the case. That you feel there is a need to do a bit of catch-up. They need to have explained to them what is required of them, particularly in terms of standards, type of work required as an output. That they're not going to be

taught everything. We've got a much greater dependence on independent learning."

Only one staff member, the longest serving, felt that articulation had impacted on curriculum design.

"I think we've had to be aware. I think it does [impact on curriculum design] because there are areas with prerequisites which assume a level of knowledge."

The others had not thought about it

Future relationship between technicians and professional level staff

Given the increase in the number of library technicians, who were upgrading their qualifications from a paraprofessional to a professional level, academic staff members were asked what this implied for the future relationship between the two groups within the library profession. One staff member felt an increased number of workers who had trained and worked at both paraprofessional and professional levels would lead to an increased understanding of the appropriate roles for each. He felt it was a natural progression. Another staff member also took up the idea of it being a natural progression. She felt that if the move from a paraprofessional level to a professional one was becoming a natural process then the profession would need to rethink the role of each group, and the expectations of them. There was speculation whether there had been an increase in the numbers of articulated students because of the economic conditions.

"...Why are people going through the technicians' course and almost immediately coming to us. Is it that they don't see the employment out there as a technician?"

An interesting comment referred to the relationship between technicians and librarians.

“... And the other aspect, I suppose, is the idea of the profession merging.... Now a lot of technicians, I would say, probably believe that to be so.”

Another interviewee expressed a more detailed view.

Are we diverging or converging, do you mean? I think it says something about the nature of the work that's done in libraries. There's obviously a lot of people going into it with not very high expectations, or for a quick entry into library work. Suddenly, they look at the work that's being done and think I can do that as well and I can make a career for myself by making this transition. And I think, I believe that there is a convergence going on whether we like it or not ... the notion, if you like, between what a technician does and what a librarian does is largely seen by both ends of the profession as being fairly seamless. One or other [will be] done away with.”

Although there seemed to be a general perception that blurring is taking place, one staff member clearly felt the distinction between the technician and the librarian was worth preserving.

“...it's an area which really worries me as a professional – this blurring in the profession of the lines between the technician and the professional; and it's certainly within the interest of the technicians that this blurring takes place as rapidly as possible. I think ALIA itself is quite stupid in allowing blurring to take place. I was told that all library courses should be taught at TAFE. That actually takes us downward. We're very foolish to get into that trend.

Another expressed a similar concern:

“I think that’s a huge issue because, I mean, it comes back to the original problem I have with why do we have to have demarcation in the first place? And the other thing I ask myself is why do people go in to be a technician? And why aren’t they happy staying as a technician? And the message I’m getting ...is promotion and money. And they’re the wrong reasons.”

This staff member went onto state this will affect the profession:

“And it will be an issue which will shape the profession. And it’s not the way I want the profession to be shaped. If they are really driven by money and not by more idealistic things. What sort of people are we going to have as librarians?”

The most striking aspect of these interviews was that staff clearly did not believe that technicians should be treated differently from other students, but their views on the differences between university and TAFE-level teaching influenced their general perceptions of articulating students. In fact, their views were, in general, not clearly expressed.

Summary of results

The most important results which have been discussed in this chapter may be identified as:

- The process of articulation is not described in a large number of documents available to students.
- There is no significant difference in the academic performance of articulating and non-articulating students.
- Academic staff have, in some cases, strong perceptions of the quality of articulating students which are not substantiated by the actual performance of these students.

The next chapter will discuss the general issues which lie behind the findings and their implications for future developments in library education.

Chapter Five: Analysis and conclusions

Introduction

This chapter examines the results of the research questions which were described in Chapter 4. The discussion is presented in two separate though interrelated sections. The first section Professional considerations examines the findings with reference to the library and information profession; the second, University and higher education considerations, examines the results and their implications for the tertiary sector and for the institutions which teach paraprofessional and professional courses.

The final part of the chapter contains a number of recommendations which need to be addressed if there is to be a successful articulation process.

Professional considerations

As reported in Chapter 1, discussion about the concept of paraprofessional positions in librarianship first arose in Australia in 1963. Margery Ramsey saw the paraprofessional as having an operational role within libraries under professional supervision (Ramsey, 1963). Seven years later, in 1970, the first course was offered at a Certificate level by the Box Hills Girls' Technical School, and the library technician came into being.

The establishment of library technician education took place in Western Australia during 1975, at the Perth Technical College and also at the then Western Australian College of Advanced Education (now ECU). Initially, the TAFE course was at Certificate level, but TAFE responded to calls for the award to be at Associate Diploma level. Since that time, the course at ECU has become an Associate Degree which forms the first two-years of a three-year Bachelor of Library Technology degree for library technicians. The TAFE Associate Diploma has been redesigned and is now a Diploma. Despite the differences in nomenclature, both are recognised

as paraprofessional qualifications by ALIA. These changes in nomenclature, and in the levels of the awards, have brought about a degree of confusion. More recently, ECU has proposed the introduction of a four-year double degree in library technology and computing. In Chapter 2 there is a quote from Clayden (1993, p. 141) which puts forward the idea that there is some inherent danger in the diversity of educational opportunity. The increasing diversity, as evidenced by the current proposed ECU courses, increase the potential for confusion in relationship to the library technician qualifications and those held by professional librarians. Bradley was right to call for educational pathways to be clear (1993, p. 96).

The students who took part in the focus group displayed this confusion. At the time of applying for entry to the Associate Diploma, all but one had been unaware of the two levels of employment within librarianship, and had no idea of what each position involved. The sole student who was aware of the situation was already working within the field. This highlights the need for well designed publicity material which is targeted at potential students whether they are of school or mature-age. An explanation of the differences between library technicians and librarians and the guidelines for the work each carries out needs to be given. This would help overcome an evident lack of knowledge.

Academic staff need to be aware of potential students' lack of knowledge about the profession and ensure that they clearly explain the difference between working at a paraprofessional level and a professional one. Potential students need accurate information if they are going to make decisions about their study plans.

Although the work-level guidelines set down by ALIA reflect, in part, the more operational role of the library technician, the differences between the two levels are not distinct. In practice, the roles of the paraprofessional and professional are heavily influenced by the institution or organisation which employs them. Potential students need to understand that this is the case, so that their expectations of the work environment are not misplaced. This lack of distinction is also reflected in the Associate Diploma curriculum which is discussed below.

One of the major reasons expressed by the articulating students for upgrading their qualifications was the lack of a career path available to them. Their concerns reflect those which were found in the literature review. The lack of a career path when coupled with the confusion as to the roles of the two groups has brought about a situation which the information profession, as a whole, needs to address. It was the professional librarians, in the first place, who saw the need for a technician level and if technicians believe, as did the focus group participants, they are not being allowed to practice all the skills they learnt during studying, or that they feel frustrated at the lack of opportunity, then two things need to be done. One is to ensure there is appropriate guidance and publicity as mentioned above. The second, is for the curricula of the Associate Diploma to be examined to see if they do teach skills which are inappropriate or engender false expectations.

Whatever the case, the Federal Government has established the practice of articulation and it is operational in the information profession. Nevertheless, concern is still being expressed about the relationship between technicians and professional librarians. Is the profession happy for the two levels to continue? Should changes be made? If it is decided that the present system should continue, then the question of work levels needs even more discussion. This is difficult because of the disparity in employment environments and conditions but there is a need stop seeing technicians as cheaper librarians and using them instead of librarians for economic reasons. The need for satisfying career paths for library technicians needs to be addressed. It is an issue which has been of concern for many, many years and still has not been seriously tackled.

An added complication is the 3-year library technician degree and the proposed 4-year double degree. In relation to the 3-year library technology degree the question is why anyone would undertake it when you can be a professional librarian in the same amount of time. The 4-year qualification will muddy the waters even more. It will bring into existence a paraprofessional who has a specialized subject degree. Where such a person will fit in the librarianship structure is debatable. This development may have a significant effect on the current structure of the profession. It may push the profession into becoming a graduate profession. In other words,

professional librarians will have to have a subject degree, followed by a post-graduate qualification.

It would be possible to envisage a single career structure as alluded to by Clarke in Chapter 2. The career structure could be a progressive one. That is, a person could move through from a clerical officer, through to library technician with a concomitant TAFE qualification, through a specialist subject degree, followed by a post graduate qualification in librarianship.

A career structure such as that outlined above would require that educational institutions, at both the TAFE and university levels, take seriously the issues of recognising and giving credit for workplace experience and prior learning. Currently, at Curtin at least, only academically assessed qualifications are accepted for advanced standing. Mechanisms could be developed to address competency concerns.

A single career structure nevertheless has problems. Should appropriate counselling be given to students who have the academic ability to advise them to go to university immediately. Should this be allowed to happen? I believe that there are many students who should still be encouraged to go directly to university, because of frustrations they may feel at studying at the TAFE level. The Associate Diploma should not be used as a confidence booster as suggested by Wainwright in Chapter 2 and mentioned by students who took part in the focus group.

Any decisions about the career structure will inevitably involve curriculum change. This is discussed in the next section.

University and higher education considerations

Curtin University of Technology implemented the Federal Government policy of articulation when it was first introduced for librarianship in 1992, and actively promoted the process. This process should be discussed in academic forums at the

University and Departmental levels as it is only in these areas that the ramifications of having an articulation policy can be canvassed. At a university level, articulation has the potential to impact on any movement towards inter-Divisional co-operation, the continued introduction of double degrees and the general liberalisation of the degree structure. Any move towards a common first year would also need to take into consideration the effect of articulation.

At the Departmental level, if the experience of Information Studies holds true for other areas, then the impact on curricula needs to be examined. This will be discussed further in this chapter.

It is disappointing that there was little documentary material available on the concept of articulation and the credit transfer process. Academic staff who are in the position of advising potential students about articulation, and those involved in the designing of new courses and curricula, need to be well informed. Documentation on this and on the experiences of articulation in other fields would not only be useful background information but would form part of a valuable decision making tool.

As can be seen by the database analysis in Chapter four, there was a significant increase in the number of library technicians articulating into the Department. As outlined in Chapter one, academic staff members have expressed concern about this rise in numbers and there has, since 1993, been some attempt to screen applicants who hold an Associate Diploma. However, this has not been done as a matter of course and has been an erratic practice. The Department of Information Studies needs to seriously discuss the number of library technicians upgrading their qualifications to degree level. Staff members need to ask themselves whether or not the Department needs to be concerned about the increase in the numbers of articulating students.

If it is established that the Department is concerned about the number of articulating students then consideration should be given to the imposition of a quota system, such as that in operation at the University of South Australia or University of Technology, Sydney. Any discussion about the imposition of a quota would need to examine the

ethical and moral issues involved, as well as how a quota would operate. Questions such as: Is it fair to discriminate because someone wants to articulate? If Associate Diploma graduates meet the University matriculation requirements, can one morally say they should not gain a place at university because of their educational background? Can a quota system be based on previous academic results? This may be theoretically possible, but only if one has access to meaningful scores. Pass/Hold results are measures which cannot be successfully used to discriminate academic performance.

If the Department is not concerned about the number of articulated students, then it should help to facilitate articulation by ensuring that the path is sound in terms of curricula. It would also need to address any shortfall in re-enrolling student numbers because it would have a proportion of students studying for two years rather than three.

One positive aspect of having a formal articulation process is the standardisation of the amount of advanced standing granted to articulating students. Having a formal agreement between the University and ACTA ensures that decisions about the amount of advanced standing are not made on an individual basis or by the whim and favor of an individual. Since the agreement came into force in 1992, it can be seen from the database analysis that credit points awarded has been standardised at 200.

In order to make some sensible decisions about curricula, there needs to be an in-depth analysis of what is actually taught at the Associate Diploma level. This analysis should examine the breadth of content of units taught as well as the depth. Such a study would reveal whether a superficial examination of the course structures which reveals them to essentially cover the elements one would expect to find in a course about librarianship is actually true. It would then be possible to make sensible decisions about the structure of the professional degree. One would be in a position to decide whether the first year of the degree course should mirror the Associate Diploma. If it was decided that this was not the case then the Department would, at least, have some factual information so they are in a position to identify units from which articulating students should be exempted. The ability to properly

integrate the two courses would allow for proper articulation process, rather than the piece meal approach presently in place. This would help to alleviate staff concerns, about the exemptions granted to articulating students, which were alluded to in the staff interviews.

Staff concerns about the skills of TAFE graduates in relation to university-level work could be address through the introduction of a bridging unit, such as that alluded to by a range of researchers in Chapter 2 (Chambers, 1996; Ling and Devlin, 1994: Trembath, 1994). Such a unit could ensure that articulating students were made aware of any material which is was believed they had not covered in their previous course. The unit could be designed so that students received help with skills such as essay writing and on learning to cope with a more independent learning style.

Staff members believed that the amount of advanced standing granted was appropriate but expressed concern when the issue of granting an increased amount was raised.

Staff interviews revealed a lack of trust in the paraprofessional courses. One staff member, in particular, disliked granting exemptions from core units. This is an attitude which, if acted on, impacts of the major/minor, elective units students can study. This attitude is of serious concern as it undermines the whole thrust of articulation – the idea that one is recognising that prior learning has taken place and that this should be acknowledged. Acceptance of articulation would mean that core units would not have to be repeated and this would mean articulating students are able to pursue some of the other units studied by their peers. (This reinforces the need for a more structured, or formal, relationship between Associate Diploma and degree courses.) Such a move would reinforce the idea that a degree course involves an element of liberal education as well as its professional core. In most cases it is these units which broaden the educational experience of the student, lead to a more liberal education which has a more educationally sound outcome.

As revealed in the focus group, most students were quite satisfied with the amount of advanced standing granted. Indeed, all but one student expressed concern that any

increase in the amount of advanced standing would not allow them sufficient time to learn what was required to function at a professional level.

What was of more concern to staff members was the decision about which units should be exempt as of the advanced standing given to articulating students. Given that the undergraduate degree was developed without reference to any Associate Diploma curriculum the issue is an important one. Without a first year which mirrors the Associate Diploma, one is left with trying to identify the best match units, or units which are seen as having a lesser importance. This is practice which is not sound in curriculum terms and not satisfactory from the viewpoint of staff or student. Some staff members also displayed evidence of a lack of trust about what is taught at the Associate Diploma level. This has led to a situation in which the granting of core librarianship units was disliked. One staff member, in particular, was quoted as stating this. The consequence of this attitude is that one is left in the position of having to grant exemptions of major/minor areas of study and electives.

There needs to be an attitudinal shift in staff opinion about the paraprofessional level and articulating students, so that adverse comments and/or actions are not present. There is a need to ensure that all students are dealt with in the same manner as much as possible. Currently, this is not the case. A comparison of the termination rates of articulating and non-articulating students clearly shows that in percentage terms there is a higher termination rates of articulating students. This is despite the fact that the analysis also reveals that technicians were terminated when they had, on average, failed a mean number of 3.08 units while the mean number of units failed for non-technicians was higher at 4.12. The reason for this is not known but one could speculate that the academic staff have decided that as the technicians are already working in the profession, they should have a clear sight of where they are going and they already have an understanding of professional requirements; therefore academics were less tolerant of a poor academic record.

When one examines the database analysis more closely, it is evident that on average technicians perform as well academically as other students. There is therefore no justification for treating them differently. The analysis of course weighted averages

for all students since 1993, when there was a significant increase in the number of articulating students, shows that technicians have a slightly lower average than non-technicians – 62.369 to 68.437 but when one calculates the course weighted average for those students who graduated, the difference is minimal. Technicians had a course weighted average of 71.132 in comparison with non-technicians with 72.116. It cannot be claimed that articulating students do less well.

The result is reinforced if one continues to examine the results for specialist streams of units, the research unit, or indeed, the minor. The differences in academic performance between the two groups are minimal and cannot be used as justification to treat one group in a different manner.

One of the interview questions was not discussed in the results chapter because it was felt that responses to it reinforced concerns about the above attitudes and practices. This question was: Do you see the Department's experience as having any implications for the future planning of articulation, either in librarianship or in other fields? The majority of staff members saw the process of articulation as a growing one. That the number of students who chose to articulate from TAFE to university would escalate. Typical comments were:

“I think there's going to be a great move in other areas to move into this [articulation]...”

“I think other fields are moving in tandem with us...I'm not sure of exact parallels but we can learn from each other.”

If the academic staff members are correct and there is going to be an increase in the number of articulating students in an increasing range of professional areas, then it is vital that the issues raised above are addressed and resolved. Resolving them would involve a great deal of cooperation and discussion between the university sector and the TAFE sector. At present, there is little evidence of good communication practices between the two.

Whether, in practice, there will be significant change in the Curtin syllabus to take into account concerns about articulation is doubtful. At present, the Department of Information Studies is at the point of merging with another academic area to form the School of Media and Information, with the introduction of a new degree, the Bachelor of Arts (Media and Information) in 2000. The need to create a new course which teaches in a number of different professional areas is itself a time-consuming curriculum exercise, the results of which may well be a course in which articulation is more, rather than less, difficult.

Recommendations

1. There is a need for an in-depth analysis of the Associate Diploma curricula to identify exactly what is taught and at what level. This is essential for the development of workable and effective university curricula.
2. There should be a whole of Australia study into the percentage of technicians who decide to upgrade their qualifications so that a factual basis of information about articulation is formed. If the percentage of library technicians who decide to upgrade their qualifications is high, then we need to question whether there is a need for a paraprofessional role.
3. Better communication channels, documentation and counseling opportunities need to be provided for students wishing to enter professions where the career structures are becoming increasingly complex.
4. Academic staff need to be better informed about the articulation process and the philosophy which lies behind it in order to ensure that treatment of upgrading students is equitable.

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Appendix Two: Statistical tables

**Table 1
Technician upgrades as a proportion of all students**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	100	14.8	14.8	14.8
	No	575	85.2	85.2	100.0
	Total	675	100.0	100.0	

**Table 2
Proportion of students admitted who were technician upgrades by year of entry**

			Technician?		Total
			Yes	No	
Year study began	1985	Count	3	46	49
		%	6.1%	93.9%	100.0%
	1986	Count	3	58	61
		%	4.9%	95.1%	100.0%
	1987	Count	1	49	50
		%	2.0%	98.0%	100.0%
	1988	Count	9	53	62
		%	14.5%	85.5%	100.0%
	1989	Count	3	45	48
		%	6.3%	93.8%	100.0%
	1990	Count	5	47	52
		%	9.6%	90.4%	100.0%
1991	Count	6	65	71	
	%	8.5%	91.5%	100.0%	
1992	Count	7	63	70	
	%	10.0%	90.0%	100.0%	
1993	Count	17	51	68	
	%	25.0%	75.0%	100.0%	
1994	Count	27	48	75	
	%	36.0%	64.0%	100.0%	
1995	Count	19	50	69	
	%	27.5%	72.5%	100.0%	
Total	Count	100	575	675	
	%	14.8%	85.2%	100.0%	

Table 3
Age of entrants by status of entry

			Age at beginning of course					Total
			17-19	20-24	25-34	35-44	45+	
Technician?	Yes	Count		23	28	31	18	100
		%		23.0%	28.0%	31.0%	18.0%	100.0%
	No	Count	89	90	174	183	37	573
		%	15.5%	15.7%	30.4%	31.9%	6.5%	100.0%
Total		Count	89	113	202	214	55	673
		%	13.2%	16.8%	30.0%	31.8%	8.2%	100.0%

Table 4
Gender of entrants by status of entry

			gender		Total
			Female	Male	
Technician?	Yes	Count	84	16	100
		%	84.0%	16.0%	100.0%
	No	Count	500	75	575
		%	87.0%	13.0%	100.0%
Total		Count	584	91	675
		%	86.5%	13.5%	100.0%

Table 5
Outcome of course (excluding students currently studying)

		Frequency	Percent	Valid Percent	Cumulative Percent
Outcome of enrolment	Completed	233	45.3	45.3	45.3
	Did not complete	165	32.1	32.1	77.4
	Left immediately	44	8.6	8.6	86.0
	Terminated	72	14.0	14.0	100.0
	Total	514	100.0	100.0	
Total		514	100.0		

Table 6
Outcome of course by status of entry (excluding students currently studying)

			Technician?		Total
			Technician	Non-technician	
Student status	Completed	Count	28	205	233
		% within Technician?	49.1%	44.9%	45.3%
	Did not complete	Count	17	148	165
		% within Technician?	29.8%	32.4%	32.1%
	Left immediately	Count		44	44
		% within Technician?		9.6%	8.6%
	Terminated	Count	12	60	72
		% within Technician?	21.1%	13.1%	14.0%
Total		Count	57	457	514
		% within Technician?	100.0%	100.0%	100.0%

Table 7
Outcome of course by student status and age (excluding those currently studying)

		Outcome of course				Total
		Completed	Did not complete	Left immediately	Terminated	
Technician?						
Yes	Mature age	28 49.1%	17 29.8%		12 21.1%	57 100.0%
No	School leaver	39 49.4%	18 22.8%	6 7.6%	16 20.3%	79 100.0%
	Mature age	166 44.1%	129 34.3%	37 9.8%	44 11.7%	376 100.0%
		205 45.1%	147 32.3%	43 9.5%	60 13.2%	455 100.0%

Table 8
No. of years to complete course by student status (completing students only)

									Total	
			2	3	4	5	6	7		8
Technician?	Yes	Count	3	5	12	4	3	1		28
		%	10.7%	17.9%	42.9%	14.3%	10.7%	3.6%		100.0%
	No	Count	10	93	39	36	15	6	6	205
		%	4.9%	45.4%	19.0%	17.6%	7.3%	2.9%	2.9%	100.0%
Total		Count	13	98	51	40	18	7	6	233
		%	5.6%	42.1%	21.9%	17.2%	7.7%	3.0%	2.6%	100.0%

Table 9
Total advanced standing granted by student status (all students including those given no advanced standing)

Technician	Mean	150.09
	Median	175.00
	Minimum	0
	Maximum	421
	N	100
Non technician	Mean	26.61
	Median	.00
	Minimum	0
	Maximum	450
	N	575
Total	Mean	44.90
	Median	.00
	Minimum	0
	Maximum	450
	N	675

Table 10
Total advanced standing granted by student status (excluding those given no advanced standing)

Technician	Mean	176.58
	Median	200.00
	Minimum	15
	Maximum	421
	N	85
Not technician	Mean	177.91
	Median	120.00
	Minimum	20
	Maximum	450
	N	86
Total	Mean	177.25
	Median	175.00
	Minimum	15
	Maximum	450
	N	171

Table 11
Ranges of advanced standing granted to technician entrants

		Frequency
Amount of advanced standing (credit points)	0	15
	1-99	9
	100-174	10
	175	17
	200	43
	201+	6
	Total	100
Total		100

Table 12
Ranges of advanced standing given to technician upgrades by date of entry to course

			Advanced standing					Total	
			0	1-99	100-174	175	200		201+
Year start course	Up to 1992	Count %	15 40.5%	9 24.3%	6 16.2%	6 16.2%		1 2.7%	37 100.0%
	1993 and after	Count %			4 6.3%	11 17.5%	43 68.3%	5 7.9%	63 100.0%
Total		Count %	15 15.0%	9 9.0%	10 10.0%	17 17.0%	43 43.0%	6 6.0%	100 100.0%

Table 13
Mean number of credits points earned on course (terminated students only)

Technician	Mean	59.75
	Median	37.50
	Minimum	0
	Maximum	150
	N	12
Non-Technician	Mean	125.22
	Median	60.00
	Minimum	0
	Maximum	522
	N	60
Total	Mean	114.31
	Median	55.00
	Minimum	0
	Maximum	522
	N	72

Table 14
Mean number of units failed (terminated students only)

Technician	Mean	3.08
	Median	3.00
	Minimum	2
	Maximum	5
	N	12
Non-technician	Mean	4.12
	Median	4.00
	Minimum	1
	Maximum	15
	N	60
Total	Mean	3.94
	Median	4.00
	Minimum	1
	Maximum	15
	N	72

Table 15
Mean number of credits points earned on course (students leaving before completion but not terminated)

Technician	Mean	53.88
	Median	50.00
	Minimum	0
	Maximum	150
	N	17
Non-technician	Mean	134.44
	Median	100.00
	Minimum	0
	Maximum	410
	N	148
Total	Mean	126.14
	Median	100.00
	Minimum	0
	Maximum	410
	N	165

Table 16
Mean number of units failed (students leaving before completion but not terminated)

Technician	Mean	.65
	Median	.00
	Minimum	0
	Maximum	2
	N	17
Non-technician	Mean	.92
	Median	.00
	Minimum	0
	Maximum	9
	N	148
Total	Mean	.89
	Median	.00
	Minimum	0
	Maximum	9
	N	165

Table 17
Mean number of units failed (students completing course only)

Technician	Mean	.50
	Median	.00
	Minimum	0
	Maximum	4
	N	28
Non-technician	Mean	.52
	Median	.00
	Minimum	0
	Maximum	7
	N	205
Total	Mean	.52
	Median	.00
	Minimum	0
	Maximum	7
	N	233

Table 18
Mean course weighted average mark (all students)

Technician	Mean	62.093
	N	100
	Std. Deviation	18.410
Non-technician	Mean	66.991
	N	575
	Std. Deviation	20.095
Total	Mean	66.266
	N	675
	Std. Deviation	19.918

Table 19
Mean course weighted average mark (students entering course in 1993 and after)

Technician	Mean	62.369
	N	63
	Std. Deviation	15.683
Non-technician	Mean	68.437
	N	149
	Std. Deviation	18.731
Total	Mean	66.634
	N	212
	Std. Deviation	18.058

Table 20
Mean course weighted average mark (students who completed course)

Technician	Mean	71.132
	N	28
	Std. Deviation	5.676
Non-technician	Mean	72.116
	N	205
	Std. Deviation	6.525
Total	Mean	71.998
	N	233
	Std. Deviation	6.426

Table 21
Mean course weighted average mark (students who left course before without termination)

Technician	Mean	55.250
	N	17
	Std. Deviation	23.977
Non-technician	Mean	61.316
	N	148
	Std. Deviation	20.920
Total	Mean	60.691
	N	165
	Std. Deviation	21.256

Table 22
Mean course weighted average mark (terminated students)

Technician	Mean	33.133
	N	12
	Std. Deviation	18.517
Non-technician	Mean	33.210
	N	60
	Std. Deviation	20.062
Total	Mean	33.197
	N	72
	Std. Deviation	19.687

Table 23
Mean average mark for minor study units (all students)

Technician	Mean	64.709
	N	55
	Std. Deviation	11.968
Non-technician	Mean	63.037
	N	340
	Std. Deviation	18.247
Total	Mean	63.270
	N	395
	Std. Deviation	17.505

Table 24
Mean average mark for minor study units (students joining course in 1993 and after)

Technician	Mean	64.997
	N	29
	Std. Deviation	13.189
Non-technician	Mean	66.256
	N	48
	Std. Deviation	18.014
Total	Mean	65.782
	N	77
	Std. Deviation	16.283

Table 25
Mean average mark for minor study units (completed students)

Technician	Mean	67.708
	N	26
	Std. Deviation	6.652
Non-technician	Mean	68.688
	N	190
	Std. Deviation	7.635
Total	Mean	68.570
	N	216
	Std. Deviation	7.516

Table 26
Mean average mark for minor study units (walkers)

Technician	Mean	51.475
	N	4
	Std. Deviation	21.535
Non-technician	Mean	58.379
	N	58
	Std. Deviation	22.205
Total	Mean	57.934
	N	62
	Std. Deviation	22.056

Table 27
Mean average mark for minor study units (terminated students)

Technician	Mean	52.400
	N	5
	Std. Deviation	15.376
Non-technician	Mean	33.886
	N	35
	Std. Deviation	20.980
Total	Mean	36.200
	N	40
	Std. Deviation	21.129

Table 28
Mean mark for Information and Society 101 and its predecessors (all students who undertook these units)

Technician	Mean	67.59
	N	56
	Std. Deviation	11.21
Non-technician	Mean	69.21
	N	328
	Std. Deviation	13.38
Total	Mean	68.97
	N	384
	Std. Deviation	13.08

Table 29
Mean mark for Information Theory 202 and its predecessors (all students who undertook these units)

Technician	Mean	65.14
	N	65
	Std. Deviation	17.33
Non-technician	Mean	68.20
	N	309
	Std. Deviation	16.13
Total	Mean	67.67
	N	374
	Std. Deviation	16.36

Table 30
Mean mark for Information retrieval 201 and its predecessors (all students who undertook these units)

Technician	Mean	68.85
	N	74
	Std. Deviation	15.26
Non-technician	Mean	68.45
	N	304
	Std. Deviation	15.57
Total	Mean	68.53
	N	378
	Std. Deviation	15.50

Table 31
Mean mark for Subject Analysis 202 and its predecessors (all students who undertook these units)

Technician	Mean	65.84
	N	58
	Std. Deviation	18.20
Non-technician	Mean	68.00
	N	271
	Std. Deviation	16.94
Total	Mean	67.62
	N	329
	Std. Deviation	17.16

Table 32
Mean mark for Retrieval theory 302 and its predecessors (all students who undertook these units)

Technician	Mean	68.17
	N	30
	Std. Deviation	11.22
Non-technician	Mean	65.89
	N	152
	Std. Deviation	16.44
Total	Mean	66.27
	N	182
	Std. Deviation	15.69

Table 33
Mean mark for Information provision 201 and its predecessors (all students who undertook these units)

Technician	Mean	67.99
	N	74
	Std. Deviation	9.77
Non-technician	Mean	68.16
	N	297
	Std. Deviation	14.80
Total	Mean	68.13
	N	371
	Std. Deviation	13.93

Table 34
Mean mark for Research methods 301 and its predecessors (all students who undertook these units)

Research methods mark

	Mean	N
Technician	70.06	32
Non-technician	70.51	222
Total	70.45	254

Appendix Three: Work Level Guidelines