CHAPTER 4 : THE USP DISTANCE VOCATIONAL STUDENT - A PROFILE

4.1 The Chapter in Summary

In this chapter the profile of the vocational student studying at a distance at the USP is derived from frequency analysis and cross tabuation of the questionnaire responses in two-dimensional contingency tables. Various features of the profile are discussed in detail, followed by a summary portrait of the typical student derived from this information at the conclusion of the chapter.

4.2 Introduction

This study set out to achieve two major tasks. Firstly, guided by the literature, it sought to find out what the attributes and features of the USP adult distance learners were, and if these attributes and learning behaviours varied, and in what way, from those identified by the literature. It is hoped that the reasons for these differences will make a contribution towards a better understanding of adult distance learners in a different learning environment. Secondly, using final examination scores as performance indices, this study sought also to find out the extent to which variables within students' personal, situational and study environments could be used to predict persistence and performance. The ultimate goal of these findings was to inform the course development process at the USP in order that learning exercises and opportunities within extension courses and learning support systems might appropriately accommodate the learning tendencies and needs of USP distance learners, and in so doing, encourage course completion and successful performance. The goals and objectives of the study are represented in the conceptual framework of the study (see Chapter 1).

Towards these ends, the study questionnaire (see Appendix 2) which was the major source of data collection for the study was designed keeping in mind both the attributes of learners and principles of adult learning, as well as variables significant to the learner's personal, social, economic and study environment. A detailed description of the questionnaire is provided in Chapter 3. Data

elicited form the 278 responses was analysed using various statistical means. The results of these analyses are presented in Chapters 4 and 5.

One of the shortcomings of this study was the variation in the response rate across countries of the Region. In Table 4.1 below the number of returned questionnaires is shown against total enrolments in the DACS and DMS for t1e period under survey. It is evident from this comparison that while some countries (Fiji, Cook Is ands. Kiribati and Solomon Islands) are well represented by the number of responses from their students, other countries (Tonga, Vanuatu, Western Samoa) are not, and the rest of the countries have very small numbers of enrolments and responses.

It is important to note here that responses from Fiji were dominated by Fiji Indians (55 percent). Because of the unavailability of a breakdown of Fiji student enrolments into the country's various ethnic groups, it is not possible to say whether the predominance of Fiji Indians in the study is a reflection of their disporportionate involvement in these programmes of study or their diligence in returning responses. The structure o' the study sample may therefore be biased and as such, limits the generalisability of study findings.

Table 4.1: Total Enrolments in DACS and DMS and Questionnaire Response Rates Across the USP Region

	Fiji	Ck. Is	Kiri).	Nauru	Niue	Sol. Is	Tonga	Tuv.	Van.	WS/Tok.
Tot. Enr.	1068	41	27	4	4	30	97	9	39	50
Q. Resp.	218	29	16	2	1	10	11	1	7	6

The representations above are borne in mind as the results of the survey are discussed. This chapter provides a description of frequency distributions of various features of the students under survey and contingency tables derived from them, culminating in a profile of dominant attributes of the USP distance vocational students. This profile presents a general description of the features that might be expected of the majority of students enrolled in USP's Diploma in Accounting Studies and Diploma in Management Studies as distance students.

4.3 A Profile of the USP Distance Education Student

The profile description of the USP distance students, and descriptions of other statistical outcomes, are presented under the major sub-headings of the conceptual framework of the study referred to above. This pattern will be followed whenever possible and appropriate to facilitate the handling of the wide range of data in the study and to ensure consistent and clear presentation. In the frequency distributions, total numbers represent those who returned responses per question. In many cases, not all students provided answers.

4.3.1 Demographic features

On examination, the questionnaire data appeared to indicate that most of the features and attributes of adult distance learners at USP were consistent with those described in the literature (see Chapter 2). With regard to demographic features, that more than 80 percent of the students were of 21 years and over clearly defined the group as an adult one. The age distribution, however, showed the USP students to be spread over a wider age range and to be younger than the general average in the literature with 47 percent (n =127) in the 21-30 years bracket and 35 percent (n=96) being between 31-40 years old. This age factor clearly reflected on other demographic characteristics of the sample. A little over a half (56%) of the sample were married (n=152) with one student divorced and one widowed. As expected, there was also a large number of single students (117=43%) most of whom were under 30 years of age. Table 4.2 provides a breakdown of the marital status of the sample in their various age categories.

Table 4.2: Observed Frequencies for
Marital Status of various Age Categories

	single	married	divorced	widow/widower	Totals
under 21	25	1	0	0	26
(21 - 30)	81	45	1	0	127
(31 - 40)	11	85	0	0	96
over 50 years	0	18	0	1	19
Totals	117	149	1	1	268

Another variable that appeared to be affec.ed by the age distribution of the study population was the number of children per sample family The data showed that only 51 percent of the students had children, and the majority of these students (n=93) had between one and two children which might be a reflection of the predominance of younger adults in the study. The distribution of children across age categories is shown ii Table 4.3 below.

Table 4.3: No of Children across Age Categories

	none	(1 2)	(3-5)	(5+)	Totals
under 21	26	0	0	0	26
(21 - 30)	92	32	3	0	127
(31 - 40)	17	52	25	2	96
over 50 years	1	6	9	2	18
Totals	136	30	37	4	267

There was also a predominance of male students (171=63%) in the sample, over female students (100=37%). Seven students did not indica e their gender.

4.3.2 Socio-cultural features

Although the majority of students (57%) lived in a nuclear family structure (n=158), a relatively large number (n=116) maintained extende(families, making this structure an equally important feature of the USP sample. Most student: (n=156) had a household of between two and five people which made up two generations, cne generation being either older or younger than the students.

The ethnic representation of the sample includec the three major ethnic groups of the South Pacific Region - Melanesian, Polynesian ar.d Micronesian - as well as an Asian/Fiji Indian option to represent the large Indian population living in Fiji and minority groups of Asian extraction throughout the countries of the South Pacif.c, and a European option. The location of the various ethnic groups across countries of the USP Region are presented in Table 4.4. The sample was clearly dominated by students of Asian/Fij Indian ethnicity (153 = 55%). Next were the

Table 4.4: Ethnic Groups and their locations across USP Countries

	Melanesian	Polynesian	Micronesian	Asian/Fiji Indian	European	Other	Totals
Suva/Nausori/Naboro	24	5	0	68	0	2	99
Rest of Veti Levu	11	0	0	65	0	. 1	77
Vanua L./Outer Is.	6	1	0	19	0	0	26
Rarotonga	0	24	0	1	1	0	26
Tarawa	0	0	10	0	0	2	12
Nauru	1	0	1	0	0	0	2
Niue	0	1	0	0	0	0	1
S.I - Honiara/GC	10	0	0	0	0	0	10
Nukualofa/Tongatapu	1	8	0	0	0	0	9
Tonga - Outer Is.	0	1	0	0	0	0	1
Tuvalu - Funafuti	0	1	0	0	0	0	1
Vanuatu - Vila/Efate	4	0	0	0	0	0	4
Vanuatu - Outer Is.	3	0	0	0	0	0	3
Apia/Upolu	0	3	0	0	0	1	4
W/S - Outer Is:	0	0	0	0	1	0	1
Totals	60	44	11	153	2	6	276

Melanesians (60 = 22%), followed by Polynesians (44 = 16%) with very small numbers of Micronesian, European and other ethnicity. From the geographic distribution of the various ethnic groups across the member countries of the USP, it was clear that the bulk of the students (202=73%) were from Fiji. All but one of the Indian/Asian students in the sample resided in Fiji, as well as 20 percent of the Melanesian component (n=41). For the rest of the sample, most of the Polynesians were located in countries of Polynesia with a proportionately large return from the Cook Islands (24=55%), and the rest scattered over Fiji, Tonga, Western Samoa/Tokelau and other countries of the Region. The relatively few Micronesians in the study were located in Kiribati (n=10) and Nauru (n=1).

In Table 4.5, the ethnicity variable (X) is considered with general language competence (Y). The numbers on the Y axis represent the following language categories:

1. Fluent and literate in 3+ languages, including English
2. Fluent and literate in 2-3 languages, including English
3. Fluent and literate in English oi ly with some fluency and literacy in 3 other languages
4. Fluent and literate in English on y with some fluency and literacy in <3 other languages
5. Fluent and literate in mother to igue orly and limited competence in English
6. Limited competence in English and at least one other language
7. Competent in English only.

Table 4.5: Ethnicity and General Language Competence

	Melanesian	Polynesian	Micronesian	Asian/Fiji Indian	European	Other	Totals
1	3	0	0	1	1	0	5
2	44	30	4	98	0	2	178
3	0	0	0	3	0	0	3
4	7	10	2	47	1	4	71
5	5	4	2	1	0	0	12
6	1	0	0	4	0	0	· 5
Totals	60	44	8	154	2	6	274

The majority of students indicated being fluent and literate in two to three languages including English (178=65%). Another 27 percent (n=71) reported being fluent and literate in English only but with limited ability in up to two other languages as well. More importantly, the distribution data showed that the USP sample was generally a multi-lingual group with only as few as six percent (n=17) indicating a limited ability in the mother tongue and English. Furthermore, this multilingual capacity was a feature common to all ethnic groups represented in the sample.

In terms of the use of the English language which is the language of instruction at the USP, frequency of use is indicated in Table 4.6. The distribution indicates that English was used for about 50 percent of their time by 36 percent of the students (n=100) and another 34 percent (n=95) used English for more than 50 percent of their time. These figures represented the majority of students in all ethnic groups but for the Micronesians, most of whom were involved in the English language for around 25 percent of their time. In all, about 26 percent of the sample (n=74) fell into this latter category and another eight students indicated they seldom used the English language.

Table 4.6: Ethnicity and General English Use

	Melanesian	Polynesian	Micronesian	Asian/Fiji Indian	European	Other	Totals
(50% +)	12	8	0	67	2	6	95
(50% approx.)	30	20	1	49	0	0	100
(25%)	15	14	9	36	0	0	74
(Seldom)	3	2	1	2	0	0	8
Totals	60	44	1	154	2	6	277

A computation of the time spent in comm itments other than education clearly indicated that study was in heavy competition with other areas of responsibility, the most dominant being work and home. With regard to family and household commitments (treated as inclusive constructs under the general household variable in the survey), 83.5 percent of the students spent more than 15 hours a week on related responsibilities, including being sole or principal provider for the family. In addition, a fairly high percentage of students in the sample were involved in other activities: 47 percent (n=130) spending an average of 1-5 hours a week on religion, 34 percent (n=93) being involved in socio/cultural obligations for up to five hours average per week and 34 percent (n=92) being involved in community affairs on an average of up to five hours per week. Time involvement, however, was minimal.

The dominant religion among the group was Christianity (129=47%), with Hinduism ranking next with 44 percent (n=121) of the students.

96 percent (n=247) of the USP students reported being in paid employment and 90 percent (n=249) said that they spent five hours and more in their employment, on a daily average. Of these, 28 percent (n=68) reported being in the teaching profession, with another 23 percent (n=56) reporting employment in other professional areas such as nursing, government inspectors in specialised areas and trainers in the technical field. A further 27 percent (n=67) of the sample were gainfully involved in Finance/Accounting work in the both the public and private sectors. Together, these three areas provided employment for the bulk of the students.

4.3.3 The economic situation

The largest group of employed students (117 = 48%) earned between $F5,000 and $F9,999 per annum. Another 20 percent (n = 50) fell into the next income bracket making a total of 68 percent of the students in the $F5,000 to $F14.999 annual salary bracket. However, only 41 percent of the students in this group indicated having suitable home study facilities which appears to suggest either that this income was not adequate, or that the financial commitments of the students were high. Most of the rest of the students in lower income brackets also indicated poor or unavailable home study facilities.

With regard to the affordability factor 66 percent (n=181) claimed to be able to financially support their own studies. Another 16 percent supported their studies by means of reliable, external funding.

Given the full-time employment of the majority of students described above, it was clear that studies for these students were being conducted on a part-time basis. Furthermore, the USP sample also confirmed that for them income and employment were key objectives for undertaking these studies. In responding to a question which contained seven optional economic reasons for their studies of which they could choose more than one response, 26 percent of the sample (n=69) said success in their programmes would earn one or more increments at work; 23 percent (n=62) were studying to improve their qualifications and future employment opportunities. For those who gave second choices, job promotion was given as the objective by 30 percent of the students (n=49) and improved qualifications and future employment opportunities were reasons for another 25 percent (n=41). Of the 96 students who gave third choices, 34 percent were targeting improved qualifications and future employment opportunities, and another 28 percent wanted a better paying job. The general economic aspiration to earn more money through improved qualifications for better job opportunities appeared to tie in well with general study aspiration responses elicited through another question. Thirty-two percent of the sample (n=86) were seeking to upgrade their qualifications while another 25 percent were in the programme out of interest which seemed to be job-related in view of the number of students who reported learning success derived from employment experience (see below).

4.3.4 Educational background and current educational involvement

Fifty-two percent (n=136) completed secondary education at sixth form while another 26 percent (n=67) went as far as seventh form or its equivalent. All but six of the students sat for a public examination in their last year of school, the most common being the New Zealand University Entrance Examination (48%) and either a National Form 7 examination or the USP Foundation Programme (24%). Forty-three percent (n=120) passed all subjects in their public examinations and another 24 percent (n=66) failed one subject only.

With regard to post-secondary education, the USP sample showed consistency with the general expectation of adults in that, of the 80 percent (n=222) indicating having done post-secondary study, 10 percent (n=22) had at least an undergraduate degree with a further 50 percent (n=113) having done either a Certificate or Diploma at college level. Furthermore, another 10 percent of the sample had already done a number of university extension courses and/or had an incomplete full-time tertiary programme to their credit.

That very little of the USP distance learner's life was spent at the institution was evident in the responses to a question on frequency of use of the local study centre. Twenty-nine percent (n=76) reported that they sometimes used the Centre; another 20 percent (n=53) rarely visited the Centre; and 16 percent (n=41) never visited the Centre. An examination of the reasons given by these students for infrequent or non access of institutional facilities showed that other activities in their lives were in competition with time for study and related commitment. Forty-one percent (n=68), for instance, found the daily opening hours of the Centre inadequate most likely because they were at work during this period. Another 30 percent (n=49) cited clashes with other commitments as the main reason for infrequent or non-use of the Centre. For a small number of the sample (27=16%) the Centre was either geographically inaccessible, or transport was inadequate.

4.3.5 Student disposition and preparedness to study

Just under 25 percent of the students indicated that they were well prepared for the return to formal study. Of the rest, 48 percent indicated that they needed just a little additional assistance

with the return to formal study. A question was asked on the nature of assistance that students felt they most needed in this transition, with four answer options as follows:

1. study skills
2. cognitive skills (eg. ability to understand, analyse, assess, etc)
3. motivation
4. confidence

More than one answer was allowed, in order of priority. Options 1 and 2 related to the student's preparedness to study while options 3 and 4 were dispositional variables relating to attitude. It was recognised that including these last two abstractions without operational definitions was to invite from the students subjective interpretations of the concepts which would include their own value judgments of the features that constituted being motivated and confident. In the context of the USP Region, these value judgements would be influenced by several other variables including the individual's culture and its attitude towards formal study, English language proficiency, socio-economic status, expectation of environmental support both physical and human, level of formal education achieved and relevance of work exerience. The variance in the level of occurance of each of these features across the countres of the Region, is the central concern of this study. To a degree, how students interpret being confident and motivated is a reflection of how they perceive these variable working together in their lives to evoke in them feelings of confidence and motivation. Taken separately, therefore feedback on levels of confidence and motivation in this case is open to wide and speculative interpretation. Taken, however, with responses to other questions on factors reflecting and affecting motivation and confidence, eg. general and economic reasons for study, circumstances providing both the extrinsic and intrinsic 'push' towards studying, moral and concrete support available to the students and the degree and quality of learning independence, general interpretations of the concepts as features which positively dispose students to studying at a distance can be adequately established. In addition, interview data provided substantially more discussion on the perceived meaning of the two concepts and on other attributes which contributed to motivation and confidence by the interviewees that appeared to generally confirm interpretations of questionnaire responses. A similar subjectivity was anticipated with regard to interpretation of other features such as learning style, independence and self-direction. The same approach was applied in these instances, with interview data substantially clarifying student perceptions.

1. **Self-perception, confidence and motivation**

   Of the 211 students who responded, only six percent (n=13) felt they needed assistance with their confidence levels. One hundred and thirteen students gave second choices and again only 19 students felt they needed a boost in confidence. When questioned directly about their 'confidence to study successfully at a distance', 13 percent (n=36) were very confident and another 58 percen (n=161) said they were confident. The data appeared to indicate a satisfactory level of confidence and self-perception among the USP students in their ability to study successfully at a distance.

   With regard to motivation to study, again as few as 15 percent (n=31) gave motivation for first choice as an area in need of assistance, and a further 27 percent (n=23) needed assistance with motivation as their second choice. As for confidence and self-perception, the USP sample could generally be described as well motivated to study by virtue of their own self-description.

2. **Orientation to learning**

   Again, in assessing their own approaches to learning, 22 percent (n=60) of the students felt they were comfortable studying on their own. The largest group of students (133=49%) opted for group sessions somet mes while the remaining 29 percent indicated a heavy dependence on group sessions in order to learn successfully.

3. **Learning style**

   Four learning style options were presented as choices: memorisation. assimilation and understanding, application, and analysis and criticism. Students were invited to make more than a single choice but in order of preference. The majority indicated a preference for application-type courses as first preference (126=46%), followed closely by understanding and assimilation (115=42%). Tl ese two preferences made up 88 percent of the sample. Of the 150 students who gave second choices, 50 percent preferred applications and 27 percent opted for analysis and criticism. It would appear therefore, that the large majority of students had preferences for application-type learning and courses that required the understanding and assimilation of knowledge.

Figure 4.1 : Comparison between features and attributes of USP adult distance learners and those that a·e generally accepted

Feature/attribute	USP distanc‹ learners	General description
Age	21-40 years	35-40 years
Gender	male	
Marital status	mixed marri‹d and single*	
Children	mixed yes a‹d no	
No. of children	1 - 2	
Family type	mixed nucle‹r and extended	
No. in household	2 - 5	
No. of people supported	3 - 5	
Other income earners	1	
Generations in h/hold	2	
Ethnicity	Asian/Fiji In‹ian	
Location	Fiji	
Language	multilingual	
English	50%+ use	
Other commitments	work, family 'household	higher priority
Employment	employed	employed
Type of employment	middle level professic‹nal; finance/accot‹nting	
Income	$F5,000-$F9 999	
Support studies	yes	yes
Current study	part-time	part-time
Study objectives	income, emp‹oyment	income, employment
Formal education	6th form	
Public examination	NZ Universii‹y Entran‹e	
Performance in exam.	Passed all subjects	
Subject area b/ground	Eng/Math/C‹ mmerce/Science	
Post-sec education	college level	college level
Study Centre	infrequent & limited ‹se	limited use
Other study facilities	Home fair, v‹ork and community inadequate	
Self-perception	confident	confident
Motivation	fair**	intrinsic
Orientn. to learning	group	group
Learning style	application; vork/life exp.	application; work/life exp.
Work experience	up to 50%	
Learning direction	tutor support	independent
Study hours daily	1-2	

* This term is used in the table to in‹licate an approximate balance between components of the feature,
** Based on an assessment by the ‹tudents ‹f their persistence levels rather than the nature of their motivation.

4. Independence and self-directic‹n

On the other hand, the great m‹jority felt the need for direction by the course tutor in varying degrees. Thirty-four p‹rcent (n=91) wanted direction for most of the course;

another 30 percent (n=82) for some of the course and a further 21 percent (n=58) wanted direction by the course tutor throughout the whole course. This data appeared to contradict the information elicited on learning orientation and might be a reflection of the demands of the course rather than the learning preference of the students.

5. **Learning from work experience**

Experience gained from employment was shown to have made a considerable contribution to the learning success, and ability to do the required course assignments and tests for the majority of students. Thirty-eight percent (n=97) indicated that more than 50 percent of their learning success came from their employment experience, with another 33 percent (n=83) attributing between 26 percent and 50 percent to the same. Responses to a four-option question on learning style preferences showed that the largest group of students (126=46%) preferred courses that involved application of new knowledge and information to work or everyday life situations in a hypothetical or real way. Of the 150 students who gave second choices, again the majority (50%) preferred the application-type courses. It would appear that, for the USP sample. the immediacy of application of what was to be learned was a learning motivation factor.

4.3.6 Summary of attributes of USP distance vocational learners

Figure 4.1 above sets out in summary some of the more prominent attributes and features of the USP adult distance student identified and discussed above. A description from the literature is also included where available providing at a glance the opportunity to see similarities and differences between the two sets of information.

4.3.7 Profiling the typical distance vocational student at the USP

The information in Figure 4.2 represents a profile of the features expected of the majority of students enrolled in the Management and Accounting vocational programmes at the USP. In the composition of this profile, it is important to note that some of the features of the USP students

are derived from responses totalling just slight y more that 50 percent and in one or two cases, the difference has been too slim to be c istinct one way or another.

Figure 4.2: A Profile of the Distance Vocational Student at USP

Category of Attributes	Description
Demography	Fiji-Indian male, between 21 and 30 years of age; single, or married with very young children of pre-school or early primary school ages; nuclear family of between two and five people making up two generations, one of which is either older or younger than the respondent's generation.
Socio-cultural features	Suva-based; full-time income earner w th heavy household and family responsibilities; minimum commitment to religious, cultural and community responsibilities; speaks Hindi and up to two other languages including English and uses English for 50% or more of the time.
Economics	Earns between $F5,000-9,999 per annum either as a school teacher or in an accounting position; supports the family with the assistance of one other person either a parent or a spouse; supports own study expenses; main study objectives are to improve income and future employment opportunities.
Educational experience	Completed high school at For n 6, with mixed Commerce/Science background and passed all subjects in his public exam.; also undertook some post-secondary study at college certificate or diploma level; currently a part-time student spending 1-2 hours on studying daily; study is done mainly at home and Centre rarely visited because of other commitments during Centre hours. Study facilities at work and in the community are inadequate for study purposes.
Disposition and preparedness to study	Confident and highly motivated as a distance learner; preference for application-type courses and up to 50% learning from work experience; also preference for group learning and at least some tutor support and direction required.

4.4 Chapter Summary

This chapter focussed on describing the data and analysis towards the production of a profile of the typical distance education vocational student at the USP. The discussion included a comparison of the USP student with students particularly in western contexts where information was available. This made possible the opportunity to note especially areas in which the USP students differed from international counterparts and to attribute these to contextual differences.

CHAPTER 5: RESULTS OF FACTOR AND CLUSTER ANALYSES

5.1 Chapter Outline

In this chapter the 10 factors resulting from factor analysis are interpreted with regard to the associations between and among variables and the extent to which each group of variables accounts for variance in the data. Additionally, the cluster analysis yielded four large clusters of students whose attributes are discussed in detail.

5.2 Factor Analysis

As explained in Chapter 3, the purpose of factor analysis in this study was to reduce the data, necessarily broadbased because of its exploratory nature, to the minimum number of factors needed to account for an acceptable proportion of variance. Thus the subjects' responses were analysed using the principal components form of factor analysis, implemented in the STATVIEW software package. Various trials were run using different criteria to determine the number of factors to be extracted. Each solution was examined to assess whether it satisfied both statistical criteria and yielded interpretable factors. The solution providing 10 factors which accounted for 50 percent of the variance was chosen as that yielding the most acceptable data reduction. Appendix 6 contains the factor loading matrix for that model, and the tables of bivariate and partial correlations. The correlation matrix had a sampling adequacy index of .62, which is considered acceptable (Hair et al., 1995; Tabachinck and Fidell, 1989), and Bartlett's test of sphericity was significant (chi square = 2458.466, DF = 819, p<.0001), indicating a factorable matrix. A summary of the factor loading matrix is given in Figure 5.1 and a description of the factors and their associated variables follows.

Factor 1: Demography
No. of child.   .861
Age range: (resp) .833
Age range: (chn.) .832
Marital status   .785
Income   .486
School subjects   -.425
Post/sec. study   -.177

Factor 2: Household
No. in household   .734
H/h. generations   .635
H/h. earners   .633
Family type   .6
No. supported   .448

Factor 3: Study Environ.
Community facil.   .729
Home facilities   .651
Work facilities   .626
Centre facilities .445

Factor 4: Economics
Ext. assistance. -.76
Support study   .733
Study reasons   -.316

Factor 5: Study Disposition
Transition   .765
Assistance   .689
Confidence   .595
Orientation   .461

Factor 6: Study Habits
Study hours   .769
Economic reasons   .426
Centre use   -.423

Factor 7:Soc. Disposition
No. of languages   -.664
Work experience   .474
Community work   .429

Factor 8: Soc-cultural Env.
Ethnicity   -.663
Cultural work   .536
Religious work   .481
First language   .416
English use   .366

Factor 9: Gender
Household work   .575
Gender   -.416
Learning style   .376

Factor 10:Educ. B/ground.
Last school form   .652
Exam. performance .615
Learn. direction   .482

5.2.1 Factor 1: Demography

Factor 1, which accounted for 18 percent of the direct and joint proportionate variance in the data, was associated with mainly demographic variables which had the highest loadings on Factor 1. Factor 1 variables and their loadings were as follows: age range of respondents (0.833); marital status (0.785); number of children (0.861); and age range of children (0.832); subjects studied by the respondents at school (-0.425); income (0.486); and post-secondary study (-0.177).

As seen in the profile description in Chapter 4, a key feature of this study was the relative youth of the sample. More than 50 percent of the respondents were 30 years of age and under, the majority of whom were unmarried (see Table 4.2). These features were represented by low numbers on the age and marital status variables. The sample was also fairly balanced between those with children (51%) and those without (49%) (see Table 4.3). Of the former, the majority had no more than two children with younger students having younger children in comparison to the ages of children of older students. These features were represented also by low numbers on the number of children variable.

The demographic variables loading on Factor 1 appeared to indicate that younger students in the sample can be expected to be single or married, have no children, or young children with variable age ranges. Correlation coefficients between these variables were, as expected, highly significant at the .01 level (criterion r=0.160 , DF=276, α =.01): .645 between age of respondents and marital status; .503 between age of respondents and number of children; and .678 between age of respondents and age range of children.

Income levels were also expected to increase with age, with a highly significant correlation coefficient between the two variables of .457.

Younger students were associated with an English/Maths/Commerce background represented by high numbers in this question. Older students appeared to have concentrated mainly on English and the Social Sciences, with some science and commerce. This was to be expected given that the commercial subjects, particularly accounting, economics and business studies became incorporated in the high school syllabuses of Pacific Island schools only in more recent years.

With a much lower loading, the inclusion of post-secondary study in this Factor appeared to suggest that younger students were associated with lower levels of post-secondary study, represented in this question by high numbers. Older students, on the other hand, have had the time to pursue post-secondary education to higher levels, including university degrees for some of them. The correlation coefficient between age and post-secondary study, however, was not significant at -.126.

88

5.2.2 Factor 2 : Household

Factor 2 was associated with the household and accounted for 11 percent of the direct and joint proportionate variance. Variables loading highly on this Factor were family type (0.6), number of people constituting the household (0.734), the number of generations represented by members of the household (0.635), the number of people supported by the respondents (0.448), and other income earners in the household (0.6.3).

Nuclear families among the sample were associated with smaller households constituting fewer generations. These features were all represented by low numbers in the respective questionnaire responses. In extended families, on the other hand, a larger household could be expected, which would include a higher number of generations. Frequency distributions for family type and household numbers, and family type and number of generations are given in Tables 5.1 and 5.2 below.

Table 5.1: Family Type and Number in Household

	Nuclear	Extended	Totals
(one)	5	0	5
(2-5)	118	38	156
(6-10)	33	63	96
(11-15)	0	11	11
(15+)	0	4	4
Totals	156	116	272

Table 5.2: Family type and number of generations

	Nuclear	Extended	Totals
(one)	18	4	22
(2 + younger)	67	24	91
(2 + older)	63	23	86
(3 + younger)	0	1	1
(3 + Older)	0	4	4
(3, Mixed)	3	51	54
(Four)	0	1	1
Totals	151	108	259

Correlation coefficients among these variables were significant (criterion r=0.160, DF=276, α =.01): .184 between family type and number in the household, and .392 between family type and generations in the household.

The relationship between the number of people in the household and the number of people supported was also significant, with a high positive correlation between the two variables of .47. Equally, larger households could also be expected to have more than a single income earner. The two variables were significantly positively correlated at .428. The statistical analysis also suggested that the number of income earners were related to the structure of generations in the household. The correlation coefficient of .209 was significant and indicated that the fewer the number of generations in the household, the fewer the number of income earners. More generations in the household appeared to represent the possibility of more income earners.

5.2.3 Factor 3 : Study Environment

Factor 3 accounted for 10 percent of the direct and joint proportionate variance and referred to the study environment of the respondents. Variables loading highly on this Factor were home study facilities (0.651), community study facilities (0.729), work study facilities (0.626), and Centre facilities (0.445).

Facilities were rated high on low numbers and low on high numbers. Significant correlation coefficients (criterion r=0.160, DF=276.α=.01) between home and community facilities (.376) and between home and work facilities (.207) suggested that for many students much of their studying was accommodated by the home-community and home-work environments. There was also a significant relationship between community facilities and work facilities (.287) and community and Centre facilities (.256) These results highlighted the location dimension and suggested that those situated in a well-developed area such as an urban location, could expect good community, work and Centre facilities. Those that were not ideally located, such as those in rural or remote areas, did not have well-endowed community and work situations and might not even have a study Centre or sub-centre.

The correlation coefficients between home and Centre, and work and Centre were insignificant at .042 and .122 respectively. The suggestion of the independence of home and work study facilities from Centre facilities was acceptable and reflected the location dimension. In cases where students resided on outer or other islands, in remote rural areas, or on poorly-serviced bus routes, Centre facilities were inaccessible. This did not necessarily preclude good study facilities at home such as a private room for studying, a computer, audio-visual equipment and even subject area expertise among other family members. Students might also have access to workplaces with good study support facilities such as a high school with classrooms for use after hours, a fairly good library, science laboratories and school equipment such as computers and tape recorders that were available for staff use.

5.2.4 Factor 4 : Financial support and reasons for studies

Factor 4 accounted for nine percent of the direct and joint proportionate variance, and was associated with economic indicators. Variables loading high on this Factor were: ability of respondents to financially support their extension studies (0.733), continued reliance on external financial assistance (-0.76), and reasons for studying (-.316).

Students who were able to support their own studies did not need to rely on outside funding towards the financial support of their extension enrolment. On the other hand, those who were unable to support their studies, were enrolled because their external funding was assured. The correlation coefficient (criterion r=0.16(, DF=276,α=.01) of .491 between these two variables was highly significant.

There was also an association between the ability to pay for study-related expenses, and the reasons for doing the course. Low numbers on the latter variable represented studying for first qualifications or to upgrade or change current qualifications. These reasons were associated with students who were reliant on external funding. There are a number of economic implications suggested here. Students who could not afford their own studies might be presumed to be in lower-paying jobs which did not require high levels of educational qualifications, hence the need to upgrade or improve qualifications to enhance future job

prospects. On the other hand, being able to afford extension studies might reflect better-paying jobs stipulating higher qualifications. In this latter case, students were associated with less basic study outcomes, such as broadening the r education and the gaining of specialist qualifications which, presumably, would supplement other qualifications.

5.2.5 Factor 5: Educational Disposition

Factor 5 which accounted for 10 percent of the direct and joint proportionate variance, was concerned with how disposed the students were to studying at a distance. Variables with high loadings on this Factor consisted of the transition from high school to current extension programmes (0.765), the kind of assistance needed to facilitate this transition (0.689), confidence to study (0.595) and learning orientation (0.461).

Low to high numbers on the transition variable represented ratings ranging from no assistance needed, to a lot of support required. Low numbers on the assistance variable represented assistance with study and cognitive skills, and higher numbers represented assistance with motivation. Confidence ratings on the confidence variable ranged from high (low numbers) to low (high numbers). In the same manner, the learning orientation variable went from low numbers for independent learners to high for group-dependent learners.

Correlation coefficients (criterion r=0.160, DF=276, α=.01) between transition and the three variables of study assistance, confidence and learning orientation were significant (.43, .3 and .21 respectively). Those not needing (much) transitional assistance rated themselves high on confidence. These students also rated themselves more independent, requiring assistance mainly in the areas of study and cognitive skills. This was to be expected for mature students returning to formal study after a lapse of time. It was possibly also a reflection of the different kinds of study skills required by independent learning, as well as different cognitive demands by higher level education.

Those students who needed a lot more assistance with their study were also associated with low confidence and motivation. For these students, study persistence might rest on more fragile

circumstances and, aside from the need to cope with learning, there was also the need to maintain a level of confidence and motivation conducive to perseverance in the course of study. The significant and positive correlation coefficient of .232 between confidence levels and orientation to learning suggested that successful distance study might depend on maintaining the appropriate confidence level to persist with independent learning.

5.2.6 Factor 6 : Effect of economic status on study habits

Factor 6 accounted for eight percent of the direct and joint proportionate variance and concerned the study habits of the respondents in association with their economic situation as indicated by their economic reasons for studying. Variables loading high on Factor 6 are study hours daily (.769), frequency of use of Centre services and facilities (-0.423) and economic reasons for studying (0.426).

There appeared to be an association between people who spent less time on study, with infrequent or non-use of their Centre services and facilities. In addition, low study hours were associated with students studying for monetary improvements and for reasons leading to this end, such as job promotion and profitability of economic enterprise. Those who put in more study hours daily appeared to use their local Centre more frequently, and were aiming at opportunities to improve and widen their job prospects and personal marketability.

If the economic reasons cited by students could be taken to reflect their economic situations, then the associations cited above made for several implications. Students studying to improve monetary conditions had a lower economic status than those aspiring beyond within-the-job prospects to the broader job-market scene. In the case of the former group of students, Centre access might be a case of affordability; students of lower economic status might not have the means with which to visit their local Centres as often as they might wish to. Another group of students that might fall into this category were those located in remote and rural areas and involved in jobs of lower income. For these students, the Centre might not be physically accessible. That they put in fewer hours of study daily might reflect a need, on the part of

these students, to put more emphasis and time on money-making activities such as overtime at work.

On the other hand, students not pressured by the priority need to cope financially, could afford both time and money in support of their extension studies. Hence they could make more frequent visits to the Centre. For these students, the relatively higher educational aims of job-market competition might also be more demanding in terms of study hours required. Whereas the former group of students aspiring towards within-the-job benefits might be satisfied with a mere pass, improving and enhancing job prospects are dependent more on high quality achievements that require a higher level of study effort by the students concerned.

The correlation coefficient between study hours and Centre access is significant at .144, but insignificant (criterion r=0.160, DF=276, α=.01) between study hours and economic reasons.

5.2.7 Factor 7: Social Disposition

Variables in Factor 7 accounted for seven percent of the direct and joint proportionate variance and referred to the social disposition of the respondent. Variables and loadings were: learning from work experience (0.474), time spent on community commitments per week (0.429) and general language competence ((-0.664)

Students who learned least from work experience (low numbers) were associated with less time spent in community involvement (low numbers), as well as competence in fewer languages (high numbers). These results seemed to suggest that where the opportunities and ability to learn from work experience were limited, the time needed to make up for this was sometimes found by limiting community involvement. A complementary interpretation would be the situation where students who were able to learn through application strategies normally associated with the workplace, took advantage of these opportunities as an alternative available to them in view of their heavier community involvement. Being multi-lingual. as reflected in their competence in a variety of languages, these students were likely to be members of several social and cultural groups and therefore have a commitment to a broader community.

5.2.8 Factor 8: Socio-cultural situation

Factor 8, which accounted for 10 percent of the direct and joint proportionate variance, was associated with the socio-cultural environment. Variables loading on this Factor were as follows: first language (0.416), general English use (0.366), total amount of time spent on religious activities (0.481), ethnicity (-0.663) and total amount of time committed to cultural activities (0.536).

In this study, the first language of the student could be used as a general indicator of country of origin and the culture of the student. It was significantly correlated with ethnicity with a coefficient of -.199, where low numbers represented Melanesians, Polynesians and Micronesians, while high numbers included those of Asian/Fiji Indian origin, as well as Europeans.

The association of first language with the frequency of use of English provided a partial picture of the variations in language environments throughout the USP Region. The first few numbers on the first language variable represented respondents of different ethnicity from Fiji, who made up more than two-thirds of the study sample. These ethnic groups were associated with more frequent use of the English language, also represented by low numbers. Also included in the low numbers were the Cook Islands students, indicated here as being frequent users of English. High numbers, on the other hand, represented first language speakers of Pidgin, Ni Vanuatu languages and dialects, as well as Polynesian students from the small island countries of Tokelau and Tuvalu. These students were associated with infrequent use of English. These associations appeared to be strengthened by the significant negative correlation coefficient of -.229 between use of the English language and ethnicity.

Associations were also indicated between first language and ethnicity, and the total amount of time committed to religious and cultural responsibilities. It seemed to be suggested that Fiji-Indian students, who made up more than half of the study population, were either not involved in religious and cultural activities, or were only minimally involved. Melanesians, Polynesians and Micronesians, on the other hand, had more commitments in these areas. The significant

correlation coefficient (criterion r=0.1(0, DF=276, α =.01) of -.163 between ethnicity and religion, and of -.226 between ethnicity and cultural responsibilities, bore out these indications.

Factor 8 appeared, therefore, to suggest that the strong Fiji-Indian component of this study was a more frequent English-speaking group than students in other parts of the USP Region who did not speak English very often and who, presumably, used their mother tongue or pidgin in the case of the Melanesian countries, for communication within the various aspects of their lives. Furthermore, Fiji-Indians were not as involved in religious and cultural commitments as were their fellow students of other ethnicity in Fiji and the rest of the USP Region. This latter situation implied that because of their socio-cultural obligations, this latter group of students came under more pressure for time to study than did Fiji-Indian students.

5.2.9 Factor 9: Gender and related issues

Factor 9 accounted for nine percent of the direct and joint proportionate variance and involved variables of gender (-0.416), learning style (0.376) and total household time (0.575).

Men appeared to be associated with learning of a higher cognitive order such as application, and critical and analytical thinking. Women, on the other hand appeared to be more inclined towards memorisation, and understanding and assimilation. This can perhaps be partially explained in terms of the type of employment that the students were involved in. About 160 men and 80 women in the sample were employed. The largest group of men worked in accounting and financial management which involved the application of learned principles and knowledge. Nearly 50 percent of the women, on the other hand, were employed as teachers and might be studying to extend their knowledge of subject areas in which they taught. This educational aim would basically require memorising, understanding and assimilation of the knowledge sought. However, the correlation between these two variables was insignificant (criterion r=0.160, DF=276, α=.01) with a coefficient of -.074.

With regard to time spent on household responsibilities, again men were associated with a larger commitment than women. Given that household roles in this study included being an

income earner, and given that more men than women in the sample were employed, this association was most likely a reflection of the income-earning responsibilities of the men towards their household commitments. The correlation between these two variables was significant at -.194.

5.2.10 Factor 10: Educational background

Factor 10 concerned the educational background of the respondents and accounted for eight percent of the direct and joint proportionate variance. The variables involved were last school form attended (0.652), examination performance in that year (0.615), and learning direction (0.482).

The higher school years, represented by higher numbers in the last school form variable, were associated with poorer examination results as represented by higher numbers on the performance variable. The significant correlation coefficient of .16 between these two variables appeared to suggest that the higher the students went in high school, the poorer their learning. This situation might be a reflection of a number of issues: the change from local to international syllabuses at upper secondary, the complexity of the subjects at higher levels, poor teaching/learning, poor educational environments and/or poor subject area backgrounds on the part of the students.

The association between last school form and learning direction, might bear out a little more, the teaching/learning situation in high school. Lower forms were associated with more teacher-direction and higher forms with more independent learning. Given the examination performances indicated above, this association might suggest that the expectation of more independence on the part of the students in higher forms was not realised. It might also mean the lack of proper teacher training in counselling and guidance roles as the requirements of teachers in a more student-centred situation. The correlation coefficient between the last form variable and learning direction is not significant, however, at -.089.

5.3 Cluster Analysis

The respondents' factor scores were usec as clustering variables in the K-means form of cluster analysis, as implemented in the SYSTAT software package. As with the principal components analysis various trials were run seeking an interpretable solution that also offered statistical validity. Following advice from Hair et al. (1995), a graph of mean, within cluster sums of squares was used to detect an 'elbow' ii the shape of the curve. Figure 5.2 below shows that the mean, within cluster sums of squares continued to decrease substantially, as the number of clusters increased from four to ten.

Figure 5.2: Graph of Mean, Within Cluster sums of Squares
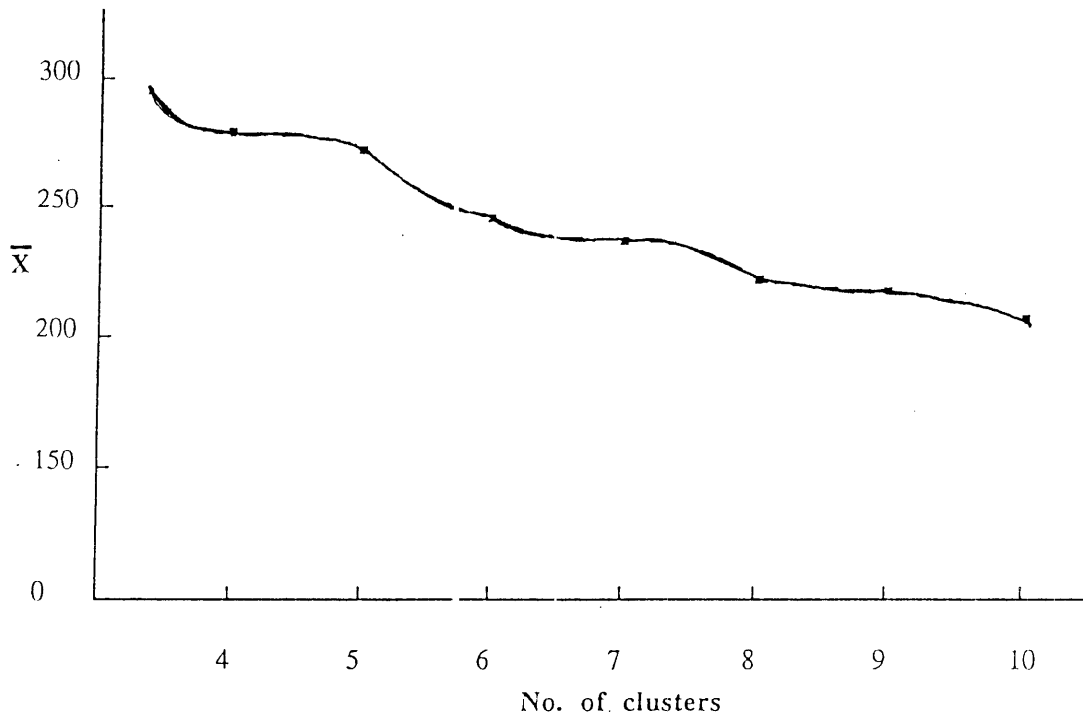
$\bar{X}$ denotes mean within cluster sun of squares.

The 10 cluster solution contained four large clusters. The membership of these clusters remained stable in models having six, seven, eight and nine clusters. For that reason the 10

cluster solution was used for interpretive purposes. Table 5.3 contains the summary statistics for the 10 cluster solution. It will be noticed from Table 5.3 that the F ratios associated with each clustering variable are high, and that the corresponding p values are highly significant (α <.001), indicating that each variable represented a significant 'effect' in an analysis of variance sense. This should not be emphasized, however, because the objective of the K-means clustering algorithm is to find clusters that maximise such effects.

Table 5.3: Statistical summary of 10 cluster solution

Variable		Between SS	DF	Within SS	DF	F-Ratio	Prob.
Demography	(F1)	52.676	9	231.743	268	6.769	0.000
Household	(F2)	143.984	9	162.655	268	26.360	0.000
St. Environ.	(F3)	58.175	9	225.540	268	7.681	0.000
Economics	(F4)	124.041	9	180.854	268	20.423	0.000
Disposition	(F5)	98.825	9	199.460	268	14.754	0.000
St. Habits	(F6)	102.494	9	196.306	268	15.547	0.000
Soc. Disp.	(F7)	84.631	9	211.556	268	11.912	0.000
Socio-cult.	(F8)	69.538	9	229.241	268	9.033	0.000
Gender	(F9)	58.306	9	232.093	268	7.481	0.000
Edn. B/grd.	(F10)	93.872	9	202.283	268	13.819	0.000

The four large clusters are 1, 6, 8 and 10, having 85, 69, 58 and 59 members respectively. The other 6 clusters had only one to two members Only the four clusters are discussed in detail in the following paragraphs as they accounted for 97 percent of the sample.

5.3.1 Cluster 1

1.   Demographic and personal features

Cluster 1 contained 89 members and consisted of largely Fiji Indian males as well as a fairly large group of ethnic Fijian students, speaking Hindi and Fijian respectively, as first languages. With about half of these students in the 21-30 year old age bracket this Cluster could be described as a group of mainly young adults. Although slightly more than 50 percent were married, most did not have any children, and the majority of those who did had a maximum of two children only, mostly in the pre-school and school age categories. They lived in nuclear family units of between two and five people representing two generations, that of the respondents', and one other generation either

older or younger than the respondents. The financial support of the household was assisted by up to two other members of the family. Of those who were employed and who indicated their salaries, just under a half earned between $F5,000 and $F9,999 per annum, and another equal number received over $10,000, some earning as much as $F20,000 plus per annum. This group appeared, therefore, to be a fairly well-to-do group of students, well able to afford the expenses related to their studies.

Students in this Cluster were either bilingual or multilingual, being fluent and literate in two to three languages, including English which they used for about 50 percent of the time. It could be assumed, therefore, that they did not have any significant problems with English as their medium of instruction.

2. Socio-cultural features

As major, and even sole income earners for the family, employment and other household responsibilities took up the bulk of the week's time for nearly all of the respondents in Cluster 1. Consequently, this left time for little else. In the area of culturally-related matters, most students opted not to be involved. Similarly, many students stayed away from community work, and those who were involved committed no more than five hours a week. With regard to religion, again up to five hours a week were committed by the majority of students.

3. Educational experience and environment

Students in Cluster 1 came from a background of upper high school, mainly sixth form, with a large group completing seventh form. About one third of this group studied the subject combination of English/Mathematics/Science, while another 25 percent undertook some commercial subjects as well. The majority of those who sat for public examinations in their last school year passed all of their subjects which was some indication that they should have been well-prepared for entry into university studies. In addition, many went on to undertake post-secondary college certificates and diplomas, and at the time of survey, a fair number were well into their university extension programme.

The two strongest reasons for current study for this group were interest in the area of study, and the need to upgrade their qualifications. In terms of the relation between seeking these qualifications and economic motivation, students in this group represented a variety of economic reasons such as the desire to earn more increments at work, promotion, improving the profitability of an economic activity, and improved personal marketability for future employment opportunities. These variations represented both immediate and long-term economic objectives and might well be a reflection of the ages of the respondents: younger students might be expected to be further sighted than more mature students relatively more settled in their careers.

Most students indicated being able to put in between just one and two hours of study daily. This was understandable n the context of a nuclear family with young children and where household responsibilities were shared among working adults. With regard to study facilities available to them, home facilities were rated the highest by most students as very good to satisfactory. Community and work facilities, on the other hand, were either just satisfactory or inadequate, while facilities at the local study Centre were either inadequate or unavailable to most students in the group. It was not surprising, therefore, that the Centre was rarely or never used by the majority of students.

4.   **Learning preparedness and disposition**

Most of the students indicated that they needed at least some additional assistance with their transition to tertiary study at a distance while a fair number felt that they needed much more help. In particular, assistance was sought in the areas of study and cognitive skills. With regard to confidence members of this group ranged mostly from those who felt a bit unsure about their ability to perform successfully, to those with average confidence levels. With such a disposition, the majority of the students felt that they needed to have tutor guidance at least some of the time, although many had a preference for a tutor throughout most of their course.

There was a majority preference in this group for learning through understanding and assimilation of knowledge. To this end. about 40 percent of the students felt that they needed group learning some of he time, and another one third preferred learning with

a group on a frequent and regular basis. Learning through practice at work was indicated by about 40 percent of the students as contributing between 25 percent and 50 percent of their learning although just under one third of the students gained under 25 percent of their learning in this way.

5. Summary description

Cluster 1 can, in summary, be described as young adult Fiji Indian and ethnic Fijian males mainly in the 21-30 year old age bracket. They were married with no children or up to two children only of pre-school and school ages, and lived in small nuclear family units. They were the main income earners of the family and, with fairly substantive salaries, were financially comfortable. In addition, it was likely that their spouses were one of the two additional income earners in the family. Their educational background and post-secondary levels of education suggested a good foundation for university study which they approached with some confidence. The disposition towards tutor guidance and learning in a group was most likely inherited from these past educational experiences. Reasons for study suggested that students in this group were at points in their careers where upgrading in qualifications was needed in order for progress to be made at work as well as in their economic situations. The preference for courses promoting understanding and assimilation might also be an indication of the need to broaden their knowledge base in terms of their objectives for promotion at work or improvements in the economic activities they were undertaking. Outside work and family there was little other time commitment besides study. However, the majority were able to commit only up to two hours of study daily, most likely because of heavy household commitments including the care of young children, given that wives were also employed. This might also reflect heavy work commitments characteristic of this age group when most students were in the demanding process of establishing and building careers. The stated need for assistance with cognitive, and study skills in particular most likely reflected the special requirements of studying at a distance. Although this group rated themselves as bilingual or multilingual, they did not appear to have a problem with the English language as the medium of instruction, and

indicated that they used it for about 50 percent of the time. Most students in this Cluster studied at home by necessity as facilities elsewhere were not suitable or unavailable.

5.3.2 Cluster 6

1.   Demographic and personal features

Cluster 6 consisted of 69 members who were spread across the broad 21-40 year old age bracket and were married. Unlike students in Cluster 1, the majority of students in this group had between one and five children of varying age ranges. The dominant ethnic group was Fiji Indian with Hindi indicated as the most prominent first language. This group differed from Cluster 1 in that most students lived in extended family structures with larger households of between two and ten people representing three generations who were older and younger than the respondents. In most cases, only one other person assisted the respondent with household expenses, although an almost equal number of students had the support of up to four other people in the family. Consequently, the number of people the respondents had to support ranged from one to 10, depending on assistance available from other earners in the household.

Just over a third of the students earned between $F5,000 and $F9,999 a year, although almost as many earned less than $F5,000. However, the majority of students in the group indicated that they were able to support their enrolment and study-related costs.

This group was also bi- and multi-lingual, speaking up to three languages including English, their use of which ranged from 25 percent to more than 50 percent of the time.

2.   Socio-cultural features

Cluster 6 students spent most of their week in full-time employment to support their families. Consequently, the majority of students in this group did not get involved in culturally-related or community activities, and either abstained from religious activities or allowed themselves a maximum of five hours of involvement a week.

3. Educational experience and environment

Most students went up to form six at high school and studied the subject combination of English/Mathematics/Commerce. However, with regard to public examination performance, a third of those who sat passed all their subjects, another 20 percent failed one, and a further 20 percent failed two subjects. Furthermore, almost 40 percent did no post-secondary study, with only 30 percent of the students undertaking some college certificates and diplomas and a smaller number having done some extension courses previously. In terms of previous educational experience, therefore, students in Cluster 6 appeared not to have been wel -prepared for university in level of study and academic performance, although their subjects would have provided appropriate background for their current USP programmes of study.

As expected, therefore, the most popular reasons for returning to study were interest, and the upgrading of qualifications. These reasons were related to two specific economic objectives, namely improving the output, profit and productivity of the economic activities they were involved in, and improving their personal marketability for future job prospects.

Most students in Cluster 6 were able to allocate three hours of study a day, and an almost equal number studied for more than three hours daily. With households consisting of older generations as well as younger, it might well be the case that respondents did not need to be as committed to household responsibilities as students in nuclear family situations, and were therefore able to allocate more time to study. Much of this study was done at home where facilities were rated by more than 40 percent as very good, a further 14 percent had excellent home facilities, and another 14 percent with satisfactory study conditions at home. However, community, work and local Centre facilities ranged in ratings from mostly inadequate to satisfactory, and in a fair number of cases, unavailable. Use of Centre facilities therefore varied, with more students visiting the Centre sometimes.

4. Learning preparedness and disposition

Most of the students indicated requiring some additional assistance in the transition to tertiary and distance study, particularly in the area of cognitive skills, and another fairly large number requiring study skills. In view of their educational backgrounds, it appeared anomalous that nearly all of the students were confident in their return to study, more than 50 percent indicating the need for a tutor for some of the time or only on their request. Moreover, the majority of the students indicated they were either independent learners or needed to learn with a group sometimes only. These qualities reflect learning characteristics more typical of adults which extend also to the preference of most students in this group for learning through application. In this respect, learning from practice at work ranged from 25-50 percent for about one third of the students, to more than 50 percent for another two-fifths of the students.

5. Summary description

In Cluster 6 the majority of students were married Fiji Indian males spread throughout the 21-40 year old age bracket. This wide age range was most likely the main cause of the variations in other characteristics of this group. For instance, they lived in larger, extended, three-generation families of up to 10 people including their own children which could number up to five. The bulk of the students earned up to $10,000 a year and assistance with household expenses varied to the extent that the respondents were supporting between one and ten people. Variations in high school achievement, and the lack of, or limited post-secondary study of this group, suggested a lower level of preparedness for university study than among students in Cluster 1. Although confidence levels were rated at average for nearly all students, the need for tutorial assistance varied from some, to most of the time, and assistance with cognitive skills was needed by the majority. Although fluent and literate in 2-3 languages including English, English-speaking opportunities ranged from 25 percent of the time only, to more than 50 percent. In terms of study objectives, reasons for the need to improve qualifications ranged from the need to improve the output, productivity or profit of economic activities for those involved in them, to more long-term objectives such as the eligibility of respondents for better jobs in the future. The former objective might be associated with older students while the latter seemed to be more suited to younger

adults still building careers. Although apparently constrained by economic and family circumstances, students in Cluster 6 were able to spend at least three hours of study daily, most likely because of the reduction of, or abstinence from activities outside work and family responsibilities. It was also possible that this opportunity might be related to the fact that the household also consisted of older relatives who might be able to assume family responsibilities which would otherwise have fallen to the respondents. Most students tended towards application-type learning and gained much from practice at work. They rated themselves independent learners, with a need for group learning sometimes only. Assessment of study facilities indicated that these students spent most of their study time at home, rarely visiting their local USP Centre whose facilities were generally rated as unsuitable and, in some cases, unavailable. This latter case might also be accountable for the students becoming independent learners by necessity than by choice.

5.3.3 Cluster 8

1. **Demographic and personal features**

   Cluster 8 contained 58 members. About two thirds of the students in this group were females consisting of 45 percent Polynesian, 25 percent Melanesian and another 20 percent of Fiji Indian ethnicity. Dominant first languages indicated were Cook Island Maori, Hindi and English. The students were mainly single (60%), although a fairly large number were also married with children ranging in number from one to 5. The majority of students fell in the 21-30 year old age bracket, although another 30 percent were older students.

   The dominant family structure was nuclear, consisting of between two and five people of mainly two generations, one generation being either older or younger than the respondents.

   More than 50 percent of the group earned between $F5,000 to $F9,999, and another 25 percent fell into higher income brackets. With this income, respondents supported

between three and five people, assisted by up to two people in the household. However, 70 percent of the respondents indicated they were not able to afford their own studies, depending instead on reliable and regular external funding. This appeared to suggest that other financial commitments for this group were heavy.

This group was also a bi- and multi-lingual group of students being fluent and literate in 2-3 languages including English which was the first language for some of them. Students rated their use of the English language as for 25 percent to more than 50 percent of the time.

2. Socio-cultural features

Almost all of the students were in full time employment as the major income earner for the household. This, plus other family responsibilities took up the bulk of their week, so that their involvement beyond household commitments was minimal, and in the case of culturally-related and community activities, non-existent. The only other involvement indicated was religion in which case about one third of the students spent up to five hours a week on religious obligations.

3. Educational experience and environment

The majority of students went as far as Form 6 in high school and came from a background of mixed subject areas. Of the 70 percent who sat public examinations, more than 40 percent passed all their subjects, although the rest of the students failed up to three subjects.

In addition to high school, more than 40 percent of the students undertook college certificates and diploma and another 40 percent were well into their distance education programmes towards the fulfilment of university qualifications.

The overriding reasons for studying for more than 50 percent of the students were interest and improving qualifications. In terms of economic objectives, these qualifications were intended to lead to the earning of more increments at work for the

majority of students. Promotions, and improvement in the output, productivity and profitability of economic activites were also fairly popular reasons.

Unlike the previous two groups, the majority of students in Cluster 8 rated their Centre facilities very highly, from very good to excellent. Home, community and work facilities were rated satisfactory to excellent for about 50 percent of the students, although the other half rated them inadequate for study purposes and unavailable for a small number of students. It was clear that for this group, there was a wider range of options for study facilities. Students were able to put in 2-3 hours of study daily, and most visited their Centres sometimes.

4. Learning preparedness and disposition

Most students indicated needing at least some assistance with the transition and return to formal study, although another 20 percent felt they required a lot of help. This disposition was reflected in their confidence levels which ranged from confident to a bit unsure. Assistance was needed particularly with cognitive skills and a fairly large number wanted help with study skills. The majority also indicated a need for tutorial support for most of the time although another 25 percent were satisfied with a tutor for some of the time only.

About 60 percent of the students indicated that they learned best through understanding and assimilation strategies. Another 25 percent preferred courses which were application oriented. Work experience was a major learning strategy for these students with two thirds doing more than 50 percent of their learning from practice at work and another 30 percent up to a half of their learning. There was also a very strong preference by nearly all students for group work with half opting for it sometimes while another half wanting group work as frequently as possible.

5. Summary description

Cluster 8 consisted mainly of females in the 21-30 year old age bracket, and of mixed ethnicity dominated by Polynesians. The majority of these students were single, living in small nuclear family units of up to five people representing two generations.

Although most students earned between $F5,000 and $F9,999 and were financially assisted with household expenses by up to two people in the household, they indicated a dependence on external funding for their distance courses, suggesting heavy financial responsibilities, a significant one being the support of at least three members of the family. Understandably, most were studying to improve qualifications that would primarily earn them increments at work. High school achievement did not rate very highly, but further study, and previous extension courses were good preparation for entry into, and on-going university study. Confidence levels ranged from a bit unsure to just confident, so that there was a greater need for tutorial assistance, and also assistance with cognitive and study skills. Understanding and assimilation of course content were major learning styles and group dynamics and practice at work major learning strategies. In addition, English was the first language for some of this group who were competent in up to three languages and who used English from 25 percent to more than 50 percent of the time. Study was the only other major time commitment for these students outside of work and home responsibilities which meant they were able to spend two to three hours daily on their course work. Students in this group also had access to good study facilities at home, work, in the community and in particular at their local USP centre which was used frequently by most students.

5.3.4 Cluster 10

1. Demographic and personal features

There were 59 members in Cluster 10. As for Cluster 6, this group was dominated by Fiji Indian males in the broad age category of 21-40 years. However, they constituted a balance of both single and married students, the latter having mostly one to two children of mixed age ranges. Most students lived in a nuclear family unit of up to five people comprising two generations, that of the respondents, and a younger generation. The first language indicated for this group was Hindi.

Employed students who declared their salaries were concentrated mainly in the $F5,000 to $F9,999 income bracket, and an equal number was scattered over higher income

brackets, making salaries for almost all of the students in this group $F5,000 and above. Most students were assisted by at least one other earner in the household, most likely wives, and financially supported between three and five people. They were also able to support their own studies.

2.   Socio-cultural features

Again, as with previous groups, most students in Cluster 10 were in full-time employment in support of families, which took up the bulk of their week. In addition, about two-thirds of the group spent up to 10 hours a week on religious activities and another one third were involved in up to five hours of community work weekly. Much of this was probably related to Parent and Teacher Associations of schools attended by children of the respondents. Otherwise, there was no involvement in activities of a cultural nature for the majority of students, and about 40 percent did not take part in community affairs.

As with other clusters, this group of students was largely fluent and literate in two to three languages including English, although about one third of the total indicated fluency and literacy in English only with a limited capability in up to two other languages. Use of the English language was from about 25 percent of the time with more people speaking it for 50 percent of the time and more.

3.   Educational experience and environment

The last school form attended by about 60 percent of this group was Form 6, during which year about 80 percent of them sat for a public examination, with the majority passing all of their subjects and about one third failing up to two subjects. The subject area background was mainly mixed including combinations of English, Mathematics, Science, Social Science and Commerce. In addition, most students did some post-secondary study at the college certificate or diploma level, short local training courses or some USP distance education courses towards a university qualification.

Dominant reasons for the return to study were interest, and the upgrading of qualifications for the main purpose of improving their eligibility for future employment

opportunities, again typical for young adults with a longer career future ahead. Two other fairly popular objectives were promotion at work, and also the improvement of the output, productivity and profitability of the economic activity for those concerned, objectives normally associated with older members of the group.

Students in Cluster 10 committed two hours and more of study per day. Ratings on home study facilities ranged from excellent to inadequate and also not available for some students. Similarly, the quality and availability of centre facilities also varied, so that for a fairly large number of students the centre was available and suitable for study purposes. Facilities in the community and at work, however, were not as satisfactory, with only a few students rating them as good or satisfactory, while for the majority these facilities were either inadequate or not available. It would appear from their responses that about 80 percent of the students used the facilities at their centre although with varying frequency from many going sometimes, to another 25 percent very frequently.

4. Learning preparedness and disposition

About two-thirds of the students in Cluster 10 declared that they were well prepared for their return to formal study and therefore did not need any assistance. They also rated themselves confident in their ability to pursue their studies, but, in contrast, indicated that they needed to have a tutor for all, or most of the time. This might well be a carryover from previous teacher-dominated educational experiences in which situation they were able to learn well.

Most students had a preference for courses which focussed on the application of knowledge and skills, and 70 percent of them did up to 50 percent of their learning at work. In addition, most students indicated the need for group-learning opportunities, sometimes.

5. Summary description

Cluster 10 was dominated by Fiji Indian males in the broad age category of 21-40 years, and constituted a balance of single and married students. They lived in nuclear

family units of up to five people, representing two generations and including up to two children of varying age ranges for those who had them. Salaries for this group was $F5,000 plus. With assistance from at least one other person in the family towards household maintenance, this group of students was comfortable in economic terms. Most achieved secondary studies up to sixth form with the majority passing all subjects in their public examination, as well as some post-secondary study including previous extension courses, provided good preparation for beginning, and on-going university programmes. English language competence was also rated satisfactorily with many students using the language for about 50 percent of the time and more. Although this group felt that they were well-prepared for university study and were highly confident in their ability to undertake it successfully, they were still far from being independent learners in that they needed the support of a tutor for most of their course. This suggested that students in this group placed the onus for learning on the teacher rather than on their own abilities. It would appear that this group was largely practice-oriented, doing a lot of their learning by application at work, sometimes with the help of their peer group. The most popular reason for the upgrading of qualifications was the improvement of future job prospects. Most students were able to commit at least two hours of study a day, the majority going beyond this amount of time. This might be a reflection of the generation structure of the family, where households with older members were able to relieve students of time-consuming responsibilities, while households with children were more demanding on respondents. Most students used facilities at home and/or at the Centre which were rated suitable for study purposes.

5.4 Conclusion

Figure 5.3 provides a summary of the features of the four major population clusters of this study. It is clear from this summary that the four clusters shared similar features as well as having differences among them. In particular, Cluster 1 students had features in common with Cluster 10 students in the areas of demography, family and educational background. Similarly, Cluster 8, although dominated by female students of a different ethnicity, had a lot of demographic and familial similarities with Cluster 1, as well as common features in the areas

of learning preparedness, orientation and style. Among Clusters 6, 8 and 10, students in Cluster 6 had more in common with Cluster 1) than with Cluster 8, particularly with regard to age, confidence level and preferred learning strategy. Between Clusters 8 and 10, there were hardly any similarities.

Each cluster also had features unique to itself which separated it from the rest. Students in Cluster 1, for instance, supported from one to five people in the household. Most students in this group committed up to five hours a week to religious responsibilities. They were science oriented in educational background and did 25-50 percent of their learning from work experience. They spoke English as often as they used their other language(s). For this group, only their home facilities served their study purposes adequately so they rarely or never used their Centre or other facilities.

Cluster 6 differed from all of the other clusters particularly in its household features. Students here had the most children, from one to five. They lived in extended family households of three generations and supported the most people with their salaries. Most students in this group had a commercial education background, and a large number of them had no post-secondary background. They were the only group to rate themselves largely independent learners and their learning from work experience ranged from 25-75 percent. Their study hours exceeded those of students in the other clusters, and while, like Cluster 1, they had good home study facilities, they varied among themselves in their use of the USP Centre.

Cluster 8 was the only female-dominated group as well as representing a different ethnic group. It was also dominated by single students. These students were the only ones who were not able to afford their extension studies, depending instead on reliable external funding. Many students in this group indicated being well into their extension programmes and tended more strongly than students in the other clusters towards group learning. They were also the only students to rate their USP Centre highly, and consequently, used it more often. This Cluster contained the only group of students who spoke English as their first language.

With regard to Cluster 10, both married and single students were equally represented, and most students had up to two children. In the two-generation structure of the household, the respondents were the older generation. With one to ten hours a week on religious involvement, this group spent more time outside home and work commitments than students in the other clusters. They were the only group of students for whom English was a dominant language, although not their mother tongue. In returning to formal, university study, Cluster 10 students indicated they were more prepared than the other students and did not need any assistance. However, once in their programmes, they had a much heavier dependence on tutorial support. For this group, the home and USP Centre accommodated study needs between them.

5.5 Concluding Summary

This chapter constituted a discussion of the 10 study factors and variables associated with each of them. The associations between and among variables were also discussed. This was followed by an examination of the four population clusters derived from factor scores associated with each respondent which centred around shared features among the clusters and those that set them apart from one another. Some suggestions for these differences were also made.

Figure 5.3: Population Clusters and their Features*

	Cluster 1 (85 cases)	Cluster 6 (69 cases)	Cluster 8 (58 cases)	Cluster 10 (59 cases)
Age	-21-30 yrs**	21-.0 yrs	21-30 yrs+	21-40 yrs
Gender	male	mal:	female	male
Ethnicity	Fiji Indian	Fiji Indian	Polynesian	Fiji Indian
Marital stat.	married	mar·ied	single	mixed
No. of chn.	none	0-5	none	0-2
Age range	N/A	mix:d	N/A	mixed
Family type	nuclear	extended	nuclear	nuclear
Family size	2-5	2-10	2-5	2-5
Generations	2 (mixed)	3 (mixed)	2 (mixed)	2 (younger)
Salary	$F5,000-9,999+	-$F ;.000-9,999	$F5,000-9,999+	$F5,000-9,999+
No. Supported	1-5 people	up to 10 people	3-5 people	3-5 people
Other earners	1-2	1	1-2	1
Support study	yes	yes	no	yes
External supp.	N/A	N/A	yes	N/A
Cultural time	N/A	N/A	N/A	N/A
H/hold time	>15 hours	>15 hours	>15 hours	>15 hours
Religion time	1-5 hours	1-5 hrs; N/A	1-5 hrs; N/A	1-10 hours
Community time	1-5 hrs;	N/A	1-5 hrs; N/A	
Gen. lang.	fluent and literate in 2-3 languages including English			
English use	50%	25% - >50%	25% - >50%	>50%
Last sch. form	six	six	six	six
Subjects	Science	Commerce	mixed	mixed
Exam. perform.	passed all	p. a l/f. up to 2	passed all	passed all
P-sec. study	Coll. cert/dip	Col . cert/dip; no p-sec study	Coll. cert/dip; extension	Coll. cert/diploma
Economic reasons	mixed	ec. prod/profit/ output; emp. opp.	increments	employment opportunities
Other reasons	interest and the upgrade of qualifications			
Transition	needed some additional assistance		well prepared	
Study assist.	cognitive and study skills	cognitive skills	cognitive skills	not needed
Confidence	a bit unsure to confident	confident	a bit unsure to confident	confident
Direction	tutor most of the time	tutor mostly, to some of the time	tutor mostly	tutor all or most of the time
L/orientation	group sometimes	independent to group sometimes	group sometimes to frequently	group sometimes
Learning Style	understanding & assimilation	application	understanding & assimilatn.	application
Work experience	25% to 50%	25% to >75%	mixed	<25% - 50%
Study hours	1-2 hours	3 hours-	2-3 hours	2+ hours
Home facilities	v.good - satisf.	very good	inadequate	mixed
Community "	satisfactory to inadequate	inadequate	inadeq.-unavailab.	indeq.-unavailab.
Work "	satisfactory	inadequate	inadequate	inadequate
Centre "	inadequate	inadequate	excel.-v.good	mixed
Access Centre	rarely to never	mixed	most to s/times	most times
First lang.	Hindi	Hindi	Maori,Hindi,Eng.	Hindi

* These are represented by most frequent response(s)
** + and - signs indicate tendencies upward or downward from given feature.

CHAPTER 6 : INFERENTIAL ANALYSIS

6.1 Chapter Outline

Aggregate academic performance scores were computed for each member of the four large clusters identified in Chapter 5, and an analysis of variance carried out to determine whether the clusters differed in this respect. In addition multiple regression analysis using the 10 Factor scores as predictor variables and academic performance as dependent variables provided the basis for a discussion of the predictive and non-predictive nature of the study variables.

6.2 ANOVA

The academic performance of each member of each of the four large clusters was computed according to the following algorithm:

Let a1, a2 represent unit 1 and unit 2. and
b = weight applied to each result leve ; where

b = 4 for a "A" result
b = 3 for a "B" result
b = 2 for a "C" result
b = 1 for a "D" result
b = 0 for a "EX: result

Then academic performance C is computed from:

$$C = b_{a1} + b_{a2}$$

For example, if student m received an "A" for Course 1 and a "C" for Course 2, then her overall score, C, is given by:

$$C = 4 + 2 = 6$$

The academic performance score so der ved was regarded as the dependent variable with group as the independent variable in a single factor analysis of variance. Table 6.1 below shows the means and standard deviations for each group The analysis revealed a significant difference between groups ($F_{(3,264)}=4.684$, $p=.0033$), and posthoc comparisons using Fisher's protected

least significant difference procedure indicated that Cluster 6 had a significantly (α=.05) higher mean academic performance than Cluster 1 and Cluster 8, and that the differences in mean academic performance levels between Clusters 1, 8 and 10 were not significant (α=.05).

Table 6.1: Mean and Standard Deviation for Each Cluster
One Factor ANOVA X $_1$: CLUSTERS Y $_1$: aggregate

Cluster:	Count:	Mean:	Std. Dev.:	Std. Error:
Cluster 1	84	1.345	1.418	.155
Cluster 6	68	2.25	1.757	.213
Cluster 8	57	1.526	1.501	.199
Cluster 10	59	1.831	1.522	.198

It will be recalled that Cluster 6 was composed of married Fiji Indian males spread throughout the broad age category of 21-40 years. Features of this group set it apart from the other clusters in various ways. With regard to family and household characteristics, students in Cluster 6 had the most children, from one to five. They lived in extended family households of three generations and supported the most people with their salaries. Life for these students was centred around family and work responsibilities with an abstinence from or limited involvement in community, religious and cultural activities. Like other groups, they were multilingual, although there was a wide variation in the use of the English language from 25 percent to more than 50 percent of the time.

Most students in this group came from a commercial education background, and although like students in other clusters they had gone as far as 6th form in high school, Cluster 6 students also included a large number of people with no post-secondary background. Together with variant high school examination performance, these features suggested a lower level of academic preparedness for university study than tha of some of the other groups in the sample. The stated need by Cluster 6 students for assistance with cognitive skills in their return to formal education might very well be a reflection of this unpreparedness.

However, they were the only group to rae themselves largely independent learners which was most likely a feature of the maturity level of the group. This was borne out by their assessed

117

need for group assistance only some of the time. Many might also have been admitted to their programmes of study on the mature entry basis rather than on the strength of their formal qualifications. On the other hand, while they indicated good home study facilities, the fact that many rarely visited their local USP Centre which was described as unsuitable and in some cases unavailable, might be responsible for students becoming independent learners by necessity rather than by choice. In addition, although confident in their return to formal study, students also indicated a need for tutorial assistance with their learning.

Much more of their learning was attributed by this group to work experience (25%-over 75%) which seemed to suggest the relevance of their areas of study to their occupations. An examination of their study objectives highlighted the plausibility of this suggestion in that many students were studying to improve the circumstances of the economic activities they were involved in, most likely to be a business of some sort. An equally important objective was the improvement of qualifications for better future employment prospects, which might be associated with the younger adults in the group who were at the early stages of their careers.

The allocation by students in Cluster 6 of at least three hours of study daily exceeded those of students in the other clusters. That this was possible was most probably due partly to having older members in the household who were able to undertake family responsibilities that would otherwise have fallen on the respondents. Limited or non-involvement in other activities might also be part of a deliberate plan to make time for study.

6.3 Multiple regression analysis

A multiple regression model was also built using the 10 factor scores as predictor variables and academic performance as the dependent variable for all respondents. The factor scores were entered into the model in the order of their contribution to overall variance, as determined by the principal components analysis. The summary statistics from the analysis are given in Table 6.2 below.

Table 6.2: Summary Statistics for Multiple Regression Analysis
Multiple Regression \ 1:aggregate   10 X variables

Count:	R:	R squared:	Adj. R-squared:	RMS residual:
277	.405	.164	.133 ·	1.467

Analysis of Variance Table

Source	DF:	Sum Squares:	Mean Square:	F-test:
REGRESSION	10	1 2.348	11.235	5.217
RESIDUAL	266	5 2.8	2.153	p = .0001
TOTAL	276	6 5.148		

It will be noted from Table 6.2 that the set of factor scores accounts for a statistically significant portion of the variance ($F(10)=5.217$, $p=.0001$). The associated Beta coefficient table is given in Table 6.3 below:

Table 6.3: Beta Coefficient Table for Multiple Regression (Y) and Aggregate 10x Variables (X)

Variable	Coefficient	Std. Err.	Std. Coeff.	t-Value	Probability
INTERCEPT	1.722				
Demography	.197	.088	.126	2.223	.027*
Household	-.111	.088	-.074	1.254	.211
Study Env.	.01	.088	.007	.119	.9057
Economics	-.017	.09	-.011	.188	.8509
Disposition	.157	.088	.103	1.773	.0774
St. Habits	-.275	.088	-.181	3.106	.0021**
Soc. Dispn.	.232	.088	.152	2.623	.0092**
Socio-cult.	.211	.089	.133	2.369	.0092**
Gender	-.114	.09	-.073	1.267	.2063
Edn. B/grd.	.353	.088	.232	4.003	.0001***

* Significant at $\alpha=.05$
** Significant at $\alpha=.001$
*** Significant at $\alpha=.0001$

An inspection of Table 6.3 reveals that five of the factor scores were significant predictors.

Results of the analysis indicated that variables constituting the 10 factors of the study accounted for 16.4 percent of the variance in examination performance scores. While this figure was not high, it represented a significant result particularly in view of the fact that the variables

constituting the study accounted for on y one aspect of the USP distance education entity, that of learning and the learner.

6.3.1 Significant predictors within t ie learner's environment

Among the 10 study factors derived fro n variables within the learning dimension of the USP's distance education programme, five were identified through multiple regression analysis as significant performance predictors. A description of these five factors including a discussion of the relationship between component variables and performance, follows in order of most significant to least significant predictor.

Factor 10: Educational Background

Factor 10 consisted of variables related to the educational background of the students: last school form attended by the respondents, the r overall performance in public examinations taken in their final high school year, and their learning dependence/independence. With a coefficient of .353, Factor 10 is a highly significant predictor of performance. Last school form attended appears to be highly influential. Although students in higher forms did not perform as well in public examinations as students who finished at lower forms, they were associated with a greater ability to learn independently. Although this ability did not assist students to pass at high school, the fact that they were exposed to it, and had some experience in it, meant that they were more adequately equipped for studying successfully at a distance. That the correlation coefficient of -.089 between examination performance and field dependence/independence is not significant, bears this out.

Factor 6 : Effect of economic status on study habits

The next most significant predictor is Factor 6 with a coefficient of .275. Variables loading highly on this Factor are average number of daily study hours, frequency of use of Centre services and facilities, and economic reasons for studying. Students spending more time studying daily are motivated by long-term economic objectives such as improving eligibility

for better job prospects. This objective is usually associated with older students who have overcome the demands of basic career building and are looking for improvements. They are also earning higher salaries and therefore are not pressured by the priority need to cope financially, which means they have the time and means to enable a more frequent use of the local study Centres. On the other hand, students spending fewer hours studying are those seeking mainly monetary gains from improved qualifications normally associated with those at lower socio-economic levels. For these students, the comparatively infrequent or non-use of their Centre may be a matter of affordability as it can be expected that they will be in lower-paying jobs. They may also be located in rural or remote areas such as the outer islands in the case of the USP Region where paid employment is limited and usually lower-paid. The Centre then becomes, for these students, inaccessible on two counts: cost of transport or physical inaccessibility. That they spend fewer hours studying might be a reflection of more time spent elsewhere as a priority such as in overtime work in order to earn more money.

In terms of the reflection on performance, for students aspiring towards the wider employment market, this objective is more qualitatively biased in that eligibility depends on the strength of the qualifications gained and requires more study effort. In the case of monetary rewards, increments and promotions are usually awarded on the basis of a pass, the quality of which is not normally scrutinised very closely.

Factor 7: Social disposition

Factor 7 has a coefficient of .232 and is associated with the social disposition of the respondent. Variables are learning from work experience, time spent on community commitments per week, and general language competence. The general language competence of the students is a rough indication of the range of social groups that the respondents are associated with. From these factor loadings it does appear that students who are multilingual are associated with more community involvement, suggesting a link with a variety of language/social groups. This situation might also contain an explanation for the orientation of this group towards learning from work experience as the best alternative study strategy, in view of their heavier time involvement in community activities, so that successful performance for them is associated with using work time and work experience for learning. On the other hand,

students unable to learn from work experience for want of either opportunity or ability, need more time, derived from decreasing or eliminating community commitments, to use other learning strategies. The fact that they have limited language ability suggests also that their community responsibilities are limited to fewer socio-cultural groups.

Factor 8: Socio-cultural situation

Variables in Factor 8 which has a coefficient of .211, refer to the socio-cultural circumstances of the students. They are the first language of the respondents, their general use of the English language, average amount of time spent on religion each week, ethnicity, and average amount of time spent on culturally-related activities each week.

Both the first language variable and ethnicity are good indicators of country of origin of the students and their culture which, in association with the level of use of the English language and the amount of time spent on religious and cultural activities, are significant predictors of performance. In this study, Fiji Indians are more frequent users of the English language than any other ethnic group across the USP Region. Given that English is the language of instruction at the USP with special emphasis on written English in the distance mode, this feature must also indicate higher competence levels in English borne out of frequent practice. Limited involvement in religious and cultural activities, also a feature of this group, particularly predisposes them towards successful independent distance study than groups of other ethnicity in the sample whose greater socio-cultural obligations bring pressure to bear on time for study.

Factor 1 : Demography

The seven variables comprising Factor 1 and relating mainly to demographic data have a coefficient of .197. Variables include the age of respondents, their marital status, number of children, age range of children, subjects studied by the respondents at school, annual income and post-secondary study undertaken.

Age appears to be significant with strong influential associations with other variables in Factor 1. Students in older age brackets for instance, appear to be in a better position to succeed than

younger students for several reasons: they are older and therefore have relatively older and less demanding children; they have had more time for post-secondary education, and more life and work experiences; their salaries are expected to be higher which enables them to afford facilities and amenities conducive to study, eg. own home, transport, study etc.; although their high school subject background is indicated as not as suitable as the background of younger students, this is compensated by post-secondary study and other experiences accumulated over the years.

Younger students on the other hand are less likely to perform as well. There is the likelihood of single students still living with their parents being constrained by the relative lack of independence; young, married students are likely to have young children requiring more supervision and attention; younger students are also associated with lower income and are therefore not as able to afford much study support; although their subject area backgrounds appear to be relevant and appropriate, they have not had much time and possibly opportunity for post-secondary education and training.

6.3.2 Non-predictive factors

Variables constituting the other five study factors were not significant predictors of performance. Factor 2 variables associated with the household vis a vis family type, number of people in the household, number of generations in the household, number of people supported by the respondents and other income earners in the family are good indicators of study environment, time availability, and the economic situation of the students. However, they are not good predictors of performance because of the opportunities available to the students to manipulate other variables to their advantage to compensate for unfavourable household and economic conditions. For instance, where large families and ensuing crowded conditions are not conducive to study, alternative study places can be found at work, in the community or at the local USP Centre. Time for study can be made available by cutting out activities other than those related to the family, and external funding can be found to enable enrolment.

Similarly, study environment variables - home, community, work and Centre facilities - loading on Factor 3, although good indicators of conditions conducive or otherwise to study, are overridden by other variables in terms of performance prediction. The multiple regression results suggest that variables such as educational background, social disposition, English language competence and study habits are more significant indicators of performance for the USP students than access to appropriate study facilities.

Variables indicating financial support for studies loading on Factor 4 are unexpectedly not performance predictors. Most students in the study indicated being comfortably able to afford their studies or have access to a reliable source of external funding. The issue of study affordability might therefore be irrelevant in that students are involved because they are able to pay for the opportunity which thus has no bearing on whether or not students complete their courses. It is also possible that students under unstable financial circumstances perform as well as those who are more secure, because they have a lot more invested in achieving their qualifications. The course reasons also load highly on Factor 4 and are perhaps overridden by the students' economic reasons for studying which are a significant performance predictor loading on Factor 6 above.

Perhaps the most unexpected results of the multiple regression exercise is the indication of educational disposition not being a significant predictor of performance. Variables loading on this Factor are transition to formal study, the kind of study assistance needed for this transition, confidence to study, and orientation to learning. It would appear therefore that the personal and environmental variables that influence and shape this disposition and preparedness are significant in their _direct_ relationship to student persistence and performance and therefore override disposition and preparedness as performance predictors. Therefore it would seem likely, for instance, that without the ability to set aside an appropriate number of study hours daily, a positive disposition and a high degree of learning preparedness will yield variable performance. It is also possible that because assistance with improving learning disposition is minimal for the USP students, other compensatory situations such as becoming more adept at independent learning, making more time available for studies and utilising alternative learning strategies such as work experience are highlighted which then become better performance predictors.

With regard to gender and related issues (Factor 9), there are insufficient differences between the men and women in the study in terms of personal and study features - both males and females work and take part in other activities in similar ways. In terms of household responsibilities, a variable loading on this Factor, these include being a full-time income earner for the family, which involves both men and women alike. Learning styles, another Factor variable, are probably a sub-set of educational background and therefore in themselves are not as predictive as background.

6.4 Concluding Comments

Two other very important constituents of the USP distance education programme which were either only minimally considered, or not considered at all in the study were its teaching and institutional components. Variables within these two components must account for much of the balance of the variance not accounted for by the study variables, in that they interact between themselves and with the learning component to contribute to the final outcome of the teaching/learning process.

Within the teaching dimension, the distance education course packages, for instance, must bring their own measure of accountability for the learning which takes place. In teaching courses at a distance, one significant variable which bears on learning is the course loading - too much, just right or too little for the learning time allocated. Lockwood et al. (1988) suggest from the investigation of student workload for one USP Foundation course, that course loads for some USP distance courses might be excessive. Other course-related concerns bearing on student learning are the appropriateness of its levels of content, study and learning demands for its target population and their learning situations; appropriateness of assessment and assessment techniques; degree of accuracy of assumptions about learning support systems and resources available to the students.

Among institutional variables which might influence student learning and performance are those which relate to the teaching delivery system in place. In the case of the USP this would include the structure of the course development team with course writers based in the teaching

125

departments and instructional designers and editors working at University Extension. Naidu (1984) indicates in his survey of Faculty involvement in the preparation of extension courses at USP that a problem existed with the allocation of too little time to teaching staff to put together their course packages, some writing up their courses in as little time as approximately five working days. Similar and other questions could be asked about the development and design team at University Extension - are workloads realistically calculated to ensure course teams are able to conduct research and engage in activities that would lead them to effective decisions about teaching at a distance, etc.? Other significant variables would be the effectiveness of the delivery and despatch infrastructure in getting and returning learning materials and assignments with feedback to the students on time; is the local USP study Centre adequately equipped with staff and resources to cope with teaching and learning support required by course packages? Not least would be the institution's information network - did it generate important and relevant information and ensure that it was made available to all students so as to positively influence student persistence and performance?

6.5 Chapter Summary

Chapter 6 was a discussion of the outcomes of ANOVA and multiple regression analysis. Variations in academic performances among study population clusters were compared with features which set them apart one from the other. Multiple regression analysis revealed that five study factors were performance predictors and the other five did not appear to be significantly associated with performance. These issues were also discussed in some detail. The chapter concluded with the suggestion that two other dimensions of the USP distance education programme viz the teaching and institutional components, although not part of the study, must be significant contributors to the balance of the variance in the examination performance of the students.