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THE STUDY AND LEARNING STRATEGIES OF STUDENTS
IN A NEW ZEALAND TERTIARY INSTITUTION

A thesis
submitted for the degree
of
Doctor of Philosophy in Education
at the
University of Waikato
by
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University of Waikato

1989

(VOLUME TWO)

TABLE OF CONTENTS

	Page
TABLE OF CONTENTS	ii
LIST OF APPENDICES	iii
LIST OF TABLES	iv
APPENDICES	1
APPENDIX A	1
APPENDIX B	27
APPENDIX C	103
REFERENCES	150

LIST OF APPENDICES

	Page
APPENDIX A: THE TEST INSTRUMENTS.	1
A.1 The Approaches to Studying Inventory	2
A.2 The Expressed Vocational Commitment Scale	15
A.3 Self-Evaluation Questionnaire (State-Trait Anxiety Inventory)	22
A.4 Staff Perceptions of Student Development Questionnaire	23
APPENDIX B: INTERVIEW PROTOCOLS AND SUMMARIES	27
B.1 Interview protocols Phase 1.	28
B.2 Summary: Interview One	41
B.3 Summary: Interview 5	68
B.4 Staff interview protocol	91
B.5 Summary: Staff interview	92
APPENDIX C. MISCELLANEOUS	103
C.1 The Factor sub-scales of the ASI.	104
C.2 The items constructed to represent each Factor sub-scale.	116
C.3 Staff - student perceptions of student development.	118
C.4 Coefficients of internal consistency for the Entwistle and Factor sub-scales of the ASI for the Phase 1 and Phase 2 research populations.	129
C.5 ASI profiles for each of the case-studies	131

LIST OF TABLES

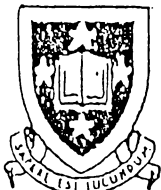
		Page
TABLE B.1	The first thing mentioned when students were asked to describe how they went about writing an essay (figures in percentages to nearest whole number). Interview 1	43
TABLE B.2	Percentage of students (to the nearest whole number) from the Surcon and Random groups who adopted one of the four essay-writing strategies. (Interview 1)	44
TABLE B.3	Percentage of students (to the nearest whole number) in the Surface-confused and Random groups in each category of reported change in approaches to learning and studying. (Interview 1)	48
TABLE B.4.	Percentage of students (to the nearest whole number) in the Surface-confused and Random groups whose responses were categorized as indicating high, moderate or low levels of state and trait anxiety respectively. (Interview 1)	52
TABLE B.5	Number of times that specific areas of concern were mentioned by the Surface-confused group, the Random group and the Total sample respectively. (Interview 1)	53
TABLE B.6	Percentage of students (to the nearest whole number) in the Surface-confused and Random groups in each of the response categories to question 7. (Interview 1)	55
TABLE B.7	Percentage of students (to nearest whole number) in the Surface-confused and Random groups for whom obtaining a fourth year studentship was an academic goal. (Interview 1)	56
TABLE B.8	Percentage of students from the Surface-confused and Random groups in the very high, high, and moderate categories of expressed vocational commitment. Expressions of commitment were made in April and in November. (Interview 1)	58

TABLE B.9	Percentage of students in the Surface-confused and Random groups who attributed effort to either interest (or enjoyment) of the subject, or to difficulty with the subject (or workload) at school and at college. (Interview 1)	60
TABLE B.10	Ways in which students in the Surface-confused and Random groups perceived change in their approaches to studying and learning over three years at College. (Interview 5)	70
TABLE B.11	Frequencies of responses in the Operation Learning and Meaningful Learning categories made by the Surface-confused and Random groups respectively. (Interview 5)	71
TABLE B.12	Number of students in the Surface-confused and Random groups who answered in the affirmative and in the negative to the question 'Has participating in this research affected the way you study? (Interview 5)	74
TABLE B.13	The number of students in the Surface-confused and Random groups who answered in the affirmative and in the negative to the question - "Has your attitude towards study been affected by your participation in this research?" (Interview 5)	75
TABLE B.14	Summary of responses made by students who were asked to rate on a 1 - 5 scale, their probable level of anxiety with respect to any future study they might undertake. (Interview 5)	77
TABLE B.15	Number of students in the Surface-confused and Random groups wishing to complete their degree by either full-time study (S4 year), or by part-time study. (Interview 5)	79
TABLE B.16	Expressed level of commitment to teaching of students in the Surface-confused and Random groups. (Interview 5)	79
TABLE B.17	Number of students in the Surface-confused and Random groups whose commitment to teaching was enhanced, lowered, or unaffected by recent teaching practice experiences. (Interview 5)	80

TABLE B.18	The number of positive and negative statements generated by the Surface-confused and Random groups to describe each of their three years at college. (Interview 5)	88
TABLE C.1	Means of Staff responses (n=13) to each item of the Staff Perceptions of Student Development Questionnaire (figures in percentages).	118
TABLE C.2	Frequencies of student responses to the items of the Staff Perceptions of Student Development Questionnaire which were embedded in the ASI (figures in percentages) for each year of study.	119
TABLE C.3	Frequencies (in percentages) of students in each category of the five-point scale for items of the SPSDQ as perceived by staff and students.	120
TABLE C.4	Percentage (to nearest whole number) of students categorized on a bi-polar scale by students and staff for each item of the SPSDQ, for each year of study.	124
TABLE C.5	Reliability coefficients of internal consistency for (A) the Entwistle sub-scales and (B) the Factor sub-scales of the ASI for the Phase One (longitudinal) population.	129
TABLE C.6	Reliability coefficients of internal consistency for (A) the Entwistle sub-scales and (B) the Factor sub-scales of the ASI for the Phase Two (Cross-sectional) population.	130

APPENDIX ATHE TEST INSTRUMENTS.

	Page
A.1. The Approaches to Studying Inventory	
A.1.1. The format used in Phase 1.	2
A.1.2. Orientations and item correlations. (from Entwistle and Ramsden, 1983)	10
A.1.3. Instructions for administration of the A.S.I. Cross-sectional phase	14
A.2 Expressed Vocational Commitment Scale (Ramsay, 1978).	15
A.3 Self-Evaluation Questionnaire (Spielberger et al. 1968). STAI Form X-1.	22
A.4 Staff Perceptions of Student Development Questionnaire	23



University of Waikato

WAIKATO COLLEGE
OF TEACHER EDUCATION

Hamilton Teachers College.

Approaches to Studying and Learning

Please work through the questionnaire carefully, but quickly, giving your immediate reaction to each item.



I. A. CALDER
Hamilton Teachers College

BACKGROUND DETAILS

1. SURNAME.....
- FIRST NAME(S).....
2. AGE (Please circle appropriate code number)
- | | |
|------------|----|
| 18 or less | 1. |
| 19-21 | 2. |
| 22-24 | 3. |
| 25-34 | 4. |
| 35 or more | 5. |
3. SEX (Please circle appropriate code number)
- | | |
|--------|----|
| Male | 1. |
| Female | 2. |
4. COLLEGE PROGRAMME (Please circle code number)
- | | |
|---------|----|
| Div. A. | 1. |
| Div. B. | 2. |
| Div E. | 3. |
5. SECONDARY SCHOOL OR COLLEGE LAST ATTENDED
-
6. (a) SCHOOL LEAVING QUALIFICATION.
(Please circle the number of the highest qualification you gained at school).
- | | |
|----------------------|----|
| N.Z. School Cert. | 1. |
| N.Z. 6th Form Cert. | 2. |
| N.Z. Univ.Entrance. | 3. |
| 7th Form Cert. | 4. |
| 'B' Bursary | 5. |
| 'A' Bursary | 6. |
| Non-N.Z.School Qual. | |
| (please state) | 7. |

APPROACHES TO STUDYING

We would like you to show whether you agree or disagree with each of the statements listed below. We are concerned here with your approaches to studying in general. If your answer would be different for different subjects, however, you should reply in relation to your main course or subject.

Please circle the number beside each statement which best conforms with your view.

- 4 (✓✓) means Definitely agree
 3 (✓) means Agree with reservations
 1 (x) means Disagree with reservations
 0 (xx) means Definitely disagree
 2 (?) is only to be used if the item doesn't apply to you or if you find it impossible to give a definite answer.

	✓✓	✓	x	xx	?
1. I find it difficult to organise my study time effectively.	4	3	1	0	2
2. I try to relate ideas in one subject to those in others, whenever possible.	4	3	1	0	2
3. Although I have a fairly good general idea of many things, my knowledge of the details is rather weak.	4	3	1	0	2
4. I enjoy competition: I find it stimulating.	4	3	1	0	2
5. I usually set out to understand thoroughly the meaning of what I am asked to read.	4	3	1	0	2
6. Ideas in books often set me off on long chains of thought of my own, only tenuously related to what I was reading.	4	3	1	0	2
7. I chose my present courses mainly to give me a chance of a really good job afterwards.	4	3	1	0	2
8. Continuing my education was something which happened to me, rather than something I really wanted for myself.	4	3	1	0	2

	✓	✓	x	xx	?
9. I like to be told precisely what to do in essays or other assignments.	4	3	1	0	2
10. I often find myself questioning things that I hear in lectures or read in books.	4	3	1	0	2
11. I generally prefer to tackle each part of a topic or problem in order, working out one at a time.	4	3	1	0	2
12. The continual pressure of work - assignments, deadlines and competition - often makes me tense and depressed.	4	3	1	0	2
13. I find it difficult to "switch tracks" when working on a problem: I prefer to follow each line of thought as far as it will go.	4	3	1	0	2
14. My habit of putting off work leaves me with far too much to do at the end of term.	4	3	1	0	2
15. It's important to me to do really well in the courses here.	4	3	1	0	2
16. Lecturers seem to delight in making simple truth unnecessarily complicated.	4	3	1	0	2
17. Distractions make it difficult for me to do much effective work in the evenings.	4	3	1	0	2
18. When I'm doing a piece of work, I try to bear in mind exactly what that particular lecturer seems to want.	4	3	1	0	2
19. I usually don't have time to think about the implications of what I have read.	4	3	1	0	2
20. Lecturers sometimes give indications of what is likely to come up in exams, so I look out for what may be hints.	4	3	1	0	2
21. In trying to understand a puzzling idea, I let my imagination wander freely to begin with, even if I don't seem to be much nearer a solution.	4	3	1	0	2
22. My main reason for being here is that it will help me to get a better job.	4	3	1	0	2
23. Often I find myself wondering whether the work I am doing here is really worthwhile.	4	3	1	0	2
24. I generally put a lot of effort into trying to understand things which initially seem difficult.	4	3	1	0	2

	✓✓	✓	x	xx	?
25. I prefer courses to be clearly structured and highly organised.	4	3	1	0	2
26. A poor first answer in an exam makes me panic.	4	3	1	0	2
27. I prefer to follow well tried approaches to problems rather than anything too adventurous.	4	3	1	0	2
28. I'm rather slow at starting work in the evenings.	4	3	1	0	2
29. In trying to understand new ideas, I often try to relate them to real life situations to which they might apply.	4	3	1	0	2
30. When I'm reading I try to memorise important facts which may come in useful later.	4	3	1	0	2
31. I like to play around with ideas of my own even if they don't get me very far.	4	3	1	0	2
32. I generally choose courses more from the way they fit in with career plans than from my own interests.	4	3	1	0	2
33. I am usually cautious in drawing conclusions unless they are well supported by evidence.	4	3	1	0	2
34. When I'm tackling a new topic, I often ask myself questions about it which the new information should answer.	4	3	1	0	2
35. I suppose I am more interested in the qualifications I'll get than in the courses I'm taking.	4	3	1	0	2
36. Often I find I have to read things without having a chance to really understand them.	4	3	1	0	2
37. If conditions aren't right for me to study, I generally manage to do something to change them.	4	3	1	0	2
38. In reporting practical work, I like to try to work out several alternative ways of interpreting the findings.	4	3	1	0	2
39. My main reason for being here is so that I can learn more about the subjects which really interest me.	4	3	1	0	2

	✓✓	✓	x	xx	?
40. In trying to understand new topics, I often explain them to myself in ways that other people don't seem to follow.	4	3	1	0	2
41. I find I have to concentrate on memorising a good deal of what we have to learn.	4	3	1	0	2
42. It is important to me to do things better than my friends if I possibly can.	4	3	1	0	2
43. I find it better to start straight away with the details of a new topic and build up an overall picture in that way.	4	3	1	0	2
44. Often when I'm reading books, the ideas produce vivid images which sometimes take on a life of their own.	4	3	1	0	2
45. One way or another I manage to get hold of the books I need for studying.	4	3	1	0	2
46. I often get criticised for introducing irrelevant material into my essays or tutorials.	4	3	1	0	2
47. I find that studying academic topics can often be really exciting and gripping.	4	3	1	0	2
48. The best way for me to understand what technical terms mean is to remember the text-book definitions.	4	3	1	0	2
49. I certainly want to pass the next set of exams, but it doesn't really matter if I only just scrape through.	4	3	1	0	2
50. I need to read around a subject pretty widely before I'm ready to put my ideas down on paper.	4	3	1	0	2
51. Although I generally remember facts and details, I find it difficult to fit them together into an overall picture.	4	3	1	0	2
52. I tend to read very little beyond what's required for completing assignments.	4	3	1	0	2
53. Having to speak in tutorials is quite an ordeal for me.	4	3	1	0	2
54. Puzzles or problems fascinate me, particularly where you have to work through the material to reach a logical conclusion.	4	3	1	0	2
55. I spend a good deal of my spare time in finding out more about interesting topics which have been discussed in classes.	4	3	1	0	2

	✓	✓	x	xx	?
56. I find it helpful to 'map out' a new topic for myself by seeing how the ideas fit together.	4	3	1	0	2
57. I seem to be a bit too ready to jump to conclusions without waiting for all the evidence.	4	3	1	0	2
58. I hate admitting defeat, even in trivial matters.	4	3	1	0	2
59. I think it is important to look rationally and logically without making intuitive jumps.	4	3	1	0	2
60. I find I tend to remember things best if I concentrate on the order in which the lecturer presented them.	4	3	1	0	2
61. When I'm reading an article or research report, I generally examine the evidence carefully to decide whether the conclusion is justified.	4	3	1	0	2
62. Tutors seem to want me to be more adventurous in making use of my own ideas.	4	3	1	0	2
63. When I look back, I sometimes wonder why I ever decided to come here.	4	3	1	0	2
64. I find academic topics so interesting, I should like to continue with them after I finish this course.	4	3	1	0	2

We should like to thank you for sparing the time to fill in this rather long questionnaire. We recognise that it will have taken up a considerable amount of your time, but your responses will be valuable to us. If there are any aspects of studying we have not covered in the questionnaire, or any items you would like to comment on, please use the space below.

MEANING ORIENTATION $\alpha = .79$

Item No.		Corrected* item-scale total correction					
	<u>Deep approach</u> (Cronbach Alpha = 0.56)				<u>Use of Evidence</u> (0.38)		
24	DA1	I generally put a lot of effort into trying to understand things which initially seem difficult.	0.38	38	UE1	in reporting practical work, I like to try to work out several alternative ways of interpreting the findings	0.23
10	DA2	I often find myself questioning things that I hear in lectures or read in books.	0.30	33	UE2	I am usually cautious in drawing conclusions unless they are well supported by evidence	0.13
5	DA3	I usually set out to understand thoroughly the meaning of what I am asked to read.	0.37	54	UE3	Puzzles or problems fascinate me, particularly where you have to work through the material to reach a logical conclusion	0.19
34	DA4	When I'm tackling a new topic, I often ask myself questions about it which the new information should answer.	0.33	61	UE4	When I'm reading an article or research report I generally examine the evidence carefully to decide whether the conclusion is justified	0.27
	<u>Relating Ideas</u> (0.47)					<u>Intrinsic motivation</u> (0.72)	
2	RI1	I try to relate ideas in one subject to those in others, whenever possible.	0.31				
29	RI2	In trying to understand new ideas, I often try to relate them to real life situations to which they might apply.	0.24	39	IM1	My main reason for being here is so that I can learn more about the subjects which really interest me	0.49
50	RI3	I need to read around a subject pretty widely before I'm ready to put my ideas down on paper.	0.20	47	IM2	I find that studying academic topics can often be really exciting and gripping	0.55
56	RI4	I find it helpful to 'map out' a new topic for myself by seeing how the ideas fit together.	0.30	55	IM3	I spend a good deal of my spare time in finding out more about interesting topics which have been discussed in classes	0.44
				64	IM4	I find academic topics so interesting, I should like to continue with them after I finish this course	0.56

* Corrected to remove contribution of that item to scale total.

REPRODUCING ORIENTATION $\alpha = .73$

<i>Surface Approach (0.49)</i>				<i>Fear of Failure (0.45)</i>			
16	SA1	Lecturers seem to delight in making the simple truth unnecessarily complicated	0.21	12	FF1	The continual pressure of work-assignments deadlines and competition often makes me tense and depressed	0.30
41	SA2	I find I have to concentrate on memorising a good deal of what we have to learn	0.32	26	FF2	A poor first answer in an exam makes me panic	0.30
30	SA3	When I'm reading I try to memorise important facts which may come in useful later	0.13	53	FF3	Having to speak in tutorials is quite an ordeal for me	0.22
48	SA4	The best way for me to understand what technical terms mean is to remember the text-book definitions	0.24			<i>Extrinsic Motivation (0.78)</i>	
19	SA5	I usually don't have time to think about the implications of what I have read	0.28	7	EM1	I chose my present courses mainly to give me a chance of a really good job afterwards	0.63
36	SA6	Often I find I have read things without having a chance to really understand them	0.32	22	EM2	My main reason for being here is that it will help me to get a better job	0.67
		<i>Syllabus boundness (0.51)</i>		32	EM3	I generally choose courses more from the way they fit in with career plans than from my own interests	0.58
9	SB1	I like to be told precisely what to do in essays or other assignments	0.38	35	EM4	I suppose I am more interested in the qualifications I'll get than in the courses I'm taking	0.46
25	SB2	I prefer courses to be clearly structured and highly organised	0.33				
52	SB3	I tend to read very little beyond what's required for completing assignments	0.27				

ACHIEVEMENT ORIENTATION $\alpha = .70$

Strategic Approach (0.32)				Negative Attitudes to Studying (0.60) (Reversed Scoring)			
20	ST1	Lecturers sometimes give indications of what is likely to come up in exams. so I look out for what may be hints	0.16	23	NA1	Often I find myself wondering whether the work I am doing here is really worthwhile	0.44
18	ST2	When I'm doing a piece of work, I try to bear in mind exactly what that particular lecturer seems to want	0.16	8	NA2	Continuing my education was something which happened to me, rather than something I really wanted for myself	0.37
37	ST3	If conditions aren't right for me to study, I generally manage to do something to change them	0.18	63	NA3	When I look back, I sometimes wonder why I ever decided to come here	0.48
45	ST4	One way or another I manage to get hold of the books I need for studying	0.16	49	NA4	I certainly want to pass the next set of exams, but it doesn't really matter if I only just scrape through	0.25
Disorganized Study Methods (0.71) (Reversed Scoring)				Achievement motivation (0.58)			
1	DS1	I find it difficult to organise my study time effectively	0.52	4	AM1	I enjoy competition: I find it stimulating	0.43
14	DS2	My habit of putting off work leaves me with far too much to do at the end of term	0.50	15	AM2	It's important to me to do really well in the courses here	0.32
17	DS3	Distractions make it difficult for me to do much effective work in the evenings	0.46	42	AM3	It is important to me to do things better than my friends	0.48
28	DS4	I'm rather slow at starting work in the evenings	0.52	58	AM4	I hate admitting defeat, even in trivial matters	0.25

STYLES AND PATHOLOGIES OF LEARNING $\alpha = .59$

Comprehension Learning (0.65)				Operation Learning (0.49)			
6	CL1	Ideas in books often set me off on long chains of thought of my own, only tenuously related to what I was reading	0.45	11	OL1	I generally prefer to tackle each part of a topic or problem in order, working one at a time	0.32
21	CL2	In trying to understand a puzzling idea, I let my imagination wander freely to begin with, even if I don't seem to be much nearer a solution	0.39	27	OL2	I prefer to follow well tried out approaches to problems rather than anything too adventurous	0.29
31	CL3	I like to play around with ideas of my own even if they don't get me very far	0.47	43	OL3	I find it better to start straight away with the details of a new topic and build up an overall picture in that way	0.18
44	CL4	Often when I'm reading books, the ideas produce vivid images which sometimes take on a life of their own	0.41	59	OL4	I think it is important to look at problems rationally and logically without making intuitive jumps	0.34
Globetrotting (0.36)				Improvidence (0.42)			
3	GT1	Although I have a fairly good general idea of many things, my knowledge of the details is rather weak	0.13	51	IP1	Although I generally remember facts and details, I find it difficult to fit them together into an overall picture	0.25
40	GT2	In trying to understand new topics, I often explain them to myself in ways that other people don't seem to follow	0.16	13	IP2	I find it difficult to "switch tracks" when working on a problem: I prefer to follow each line of thought as far as it will go	0.19
46	GT3	I often get criticised for introducing irrelevant material into my essays or tutorials	0.25	62	IP3	Tutors seem to want me to be more adventurous in making use of my own ideas	0.22
57	GT4	I seem to be a bit too ready to jump to conclusions without waiting for all the evidence	0.24	60	IP4	I find I tend to remember things best if I concentrate on the order in which the lecturer presented them	0.26

APPROACHES TO STUDYING AND LEARNING QUESTIONNAIRE

Instructions for Administration. (Cross Sectional Phase)

Introduction:

This questionnaire is being used in a research project which is looking at how tertiary students go about learning and studying, and particularly at the changes or developments that take place as a result of experiences young people have over three years in an institution like this.

One student intake was studied for a full three years (1983-85), but the number who finally graduated was on the small side. To increase the sample size, a cross-sectional study is now being undertaken - that is, all the year one, year two, and year three students are completing this questionnaire at about the same time. This should tell us whether the changes discovered earlier are real and have generality.

The findings thus far suggest important implications for teaching in the college. Your cooperation in completing this questionnaire will be really appreciated.

CONFIDENTIALITY IS ASSURED! All the personal data inside the front cover including your name will be coded, and the front cover will then be removed and destroyed. All that the data processors will receive will be the remaining pages which are just a string of numbers. I am the only person who will have the key to the codes.

Please read the instructions carefully.

Thank you.

Ian Calder

EXPRESSED VOCATIONAL COMMITMENT SCALE
PRE-TEST STUDENT TEACHERS

FORM D

This scale is designed to ascertain the reasons which decided entrants to teachers college to select teaching as a career, and the career plans they hold at present.

Respondents are asked to answer the questions honestly. The data gathered will be strictly confidential, and will be used for the research purposes only. Results will be used in a generalized form: identification of individual responses in any research reports will be impossible.

If you have any questions regarding items on the scale, please feel free to ask the supervisor.

Please begin by filling in your name in the space provided.

NAME:.....

In the questions which follow tick the appropriate response in the following manner.

Tick only one square for each question.

YES	1
NO	2

(TURN PAGE WHEN READY)

1. Have you come to teachers college directly from secondary school? (Exclude vacation employment.)
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
- If yes go to question 13.
If no go to question 2.
2. Have you come to teachers college after a period of homemaking?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
- If yes go to question 3.
If no go to question 7.
3. Did you have a job other than teaching before homemaking?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
- If yes go to question 4.
If no go to question 13.
Specify job _____
4. How long did you spend working before homemaking?
- | | |
|-----------|---|
| 1-2 years | 1 |
| 3-4 years | 2 |
| 5+ years | 3 |
5. When you selected your previous job, did you consider teaching as a career?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
- If yes go to question 6.
If no go to question 13.
6. What, then, prevented you from selecting teaching as a career at that stage? Select ONE
- | | |
|---|---|
| Lack of academic qualifications | 1 |
| Preferred another job | 2 |
| Not old enough | 3 |
| Felt lacked maturity to handle children | 4 |
| Teaching offered a low salary | 5 |
| Other (specify) | 6 |
- NOW GO TO QUESTION 13
7. Did you attend university before coming to teachers college?
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |
- If yes go to question 8.
If no go to question 10.

8. Why did you leave university?
- Graduated and doing one year training course 1
 - Failed all or most courses and decided to go to T.C. 2
 - Passed all or most courses but decided to transfer so as to pursue vocation. 3
 - Other (specify) 4
 -
 -

9. Did you have a job for 6 months or more before or after attending university? Yes 1
No 2
- If yes go to question 10.
If no go to question 13.

10. Did you have a job before coming teaching? Yes 1
No 2
- If yes go to question 11.
If no go to question 13.
Specify job _____

11. Before you selected your previous job did you seriously consider the possibility of teaching as a career? Yes 1
No 2
- If yes go to question 12.
If no go to question 13.

12. What, then, prevented you from selecting teaching as a career at that stage?
- Lack of academic qualifications 1
 - Preferred another job 2
 - Not old enough 3
 - Felt lacked maturity to handle children 4
 - Teaching offered a low salary 5
 - Other (specify) 6

NOW GO TO QUESTION 13

13. Think back to when you definitely decided that you would try for a place at teachers college. At that point, if you had the requisite qualifications, ability and encouragement would you have selected a career other than teaching? Yes 1
No 2
- If yes go to question 14.
If no go to question 16.

14. Which of these careers would you prefer before teaching? Please tick each sub-item.

(i) Medical (Doctor, Nurse, etc.)	Yes	1
	No	2
(ii) Law	Yes	1
	No	2
(iii) Church	Yes	1
	No	2
(iv) Sales, insurance, etc.	Yes	1
	No	2
(v) Accountancy	Yes	1
	No	2
(vi) Architecture	Yes	1
	No	2
(vii) Fine Arts (sculpture, drawing, music, etc.)	Yes	1
	No	2
(viii) Clerical work	Yes	1
	No	2
(ix) Trade (carpentry, etc.)	Yes	1
	No	2
(x) Armed Forces	Yes	1
	No	2
(xi) Farming	Yes	1
	No	2
(xii) Others (specify)	Yes	1
	No	2

15.(i) Which of these factors stopped you from following your first career choice? Tick each sub-item.

(1) Lack of academic qualifications.	Yes	1
	No	2
(2) None of my friends was going into that particular career.	Yes	1
	No	2
(3) My parents were against going into that particular job.	Yes	1
	No	3
(4) My teachers or vocational guidance counsellor advised against it.	Yes	1
	No	2

(5) Insufficient finance available to pay for university or training work.	Yes	1
	No	2
(6) The training was too long and arduous.	Yes	1
	No	2
(7) The career would not have been suited to my academic achievement.	Yes	1
	No	2
(8) The career was not paid highly enough.	Yes	1
	No	2
(9) Other (specify).	Yes	1
	No	2

- (ii) Which of the above was your main reason.
Place the number of the reason in this space.

16. How long have you had a determined and definite desire to teach? (Read all the possibilities and select one).

As long as I can remember.	1
From primary school days.	2
From a time when I was at secondary school, but not in the last year.	3
Relatively recently (within the last 12 months).	4
I haven't really formed a determined desire as yet to teach.	5
Some other time (specify)	6

- 17 Now that you have selected teaching as a career, which of the following factors do you think influenced you in your decision?

Please rate the factors carefully, according to the degree of influence on the five point scale provided.

- (i) Teaching will present me with an opportunity to go into another more desirable job.
- | | | |
|----------|-----------------------|---|
| | Very strong influence | 1 |
| | Strong influence | 2 |
| | Moderate influence | 3 |
| TICK ONE | Weak influence | 4 |
| | No influence | 5 |

- (ii) Teaching will give me an opportunity to travel overseas.

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

(iii) No other suitable job opportunity was available at the time.

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

(iv) I couldn't think of anything better to do.

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

(v) Teaching will allow me to give service to other people.

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

(vi) Teaching is a job which is likely to satisfy me.

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

(vii) Teaching will offer me the opportunity to develop a particular aptitude (e.g. in mathematics, art and craft, etc.).

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

(viii) The social life at teachers college attracted me.

	Very strong influence	1
	Strong influence	2
	Moderate influence	3
TICK ONE	Weak influence	4
	No influence	5

18. Which of the following items most closely approximate your career plans. Read all the items carefully and select ONE only. If you select item 20, please give full details of your plans.

	Until retirement continuously	1
	Until retirement with a break for overseas travel	2
	Until retirement, with a break for child rearing	3
	Until retirement, with a break for child rearing and overseas travel	4
	For 10-20 years continuously	5
	For 10-20 years with a break for overseas travel	6
	For 10-20 years with a break for child rearing	7
I plan to teach	For 10-20 years with a break for child rearing and overseas travel	8
	For 4-9 years continuously	9
	For 4-9 years with a break for overseas travel	10
	For 4-9 years with a break for child rearing	11
	For 4-9 years with a break for child rearing and overseas travel	12
	For 1-3 years continuously	13
	For 1-3 years with a break for overseas travel	14
	For 1-3 years with a break for child rearing	15
	For 1-3 years with a break for child rearing and overseas travel	16
	Only until another job opportunity arises	17
	Until a chance of moving into a job related to teaching arises (e.g. mission work)	18
	I am using teaching as a deliberate preparation for another job.	19
	Specify job. _____	
	Some other plan (specify) _____	20

At this stage of my career I believe that my degree of dedication or commitment to teaching is:

- Very high 1
- High 2
- Moderate 3
- Low 4
- Non-existent 5

Have you any additional comments Yes 1
No 2

SELF-EVALUATION QUESTIONNAIRE

Developed by C. D. Spielberger, R. L. Gorsuch and R. Lushene

STAI FORM X-1

NAME _____ DATE _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you *feel* right now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	①	②	③	④
2. I feel secure	①	②	③	④
3. I am tense	①	②	③	④
4. I am regretful	①	②	③	④
5. I feel at ease	①	②	③	④
6. I feel upset	①	②	③	④
7. I am presently worrying over possible misfortunes	①	②	③	④
8. I feel rested	①	②	③	④
9. I feel anxious	①	②	③	④
10. I feel comfortable	①	②	③	④
11. I feel self-confident	①	②	③	④
12. I feel nervous	①	②	③	④
13. I am jittery	①	②	③	④
14. I feel "high strung"	①	②	③	④
15. I am relaxed	①	②	③	④
16. I feel content	①	②	③	④
17. I am worried	①	②	③	④
18. I feel over-excited and "rattled"	①	②	③	④
19. I feel joyful	①	②	③	④
20. I feel pleasant	①	②	③	④



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Staff Perceptions of Student Development Questionnaire.

INSTRUCTIONS

An analysis of student responses to an 'Approaches to Studying Questionnaire' has revealed twelve distinct factors illustrating the various ways in which students of this college approach learning tasks. The students responded to each item of the questionnaire on a five point scale, ranging from 'strongly agree' to 'strongly disagree'. Examples of items which are descriptive of each factor are presented with the accompanying task. This task which you are asked to attempt should assist in establishing whether staff perceptions of how students are distributed on these factors are congruent with the students' own perceptions.

The task: Imagine a group of twenty typical year one students, who are representative of a wide cross-section of personality, interests, and abilities - how do you think they would be distributed on the five point scale for each factor?

Example:

FACTOR: Student attendance at lectures or tutorials.

Item: Unless I have something seriously wrong with me I would never miss a class.

V.high		V.low		
2	10	5	3	0

Rationale: Student attendance in my classes is generally very good. Of my twenty typical students, I can think of a couple who would strongly agree with the item, about half of the group rarely miss class but are not so conscientious as the first two. Nobody in the group has a really terrible attendance record, but three are a bit slack. By a process of subtraction that leaves five for the middle group.

(The above factor is not a real one but was simply invented for explanatory purposes. Please attempt a similar exercise with each of the real factors in the pages which follow.)

FACTOR 1. Ineffective organization and use of study time

ITEM: I have difficulty in
getting myself organized
to get down to work.

V.high V.low

--	--	--	--	--

FACTOR 2. An open-ended questioning learning style.

ITEM: I like to play around
with ideas presented in
lectures or books, even
though my ideas sometimes
seem to be quite different
from other peoples'.

V.high V.low

--	--	--	--	--

FACTOR 3. A careful and logical approach to study.

ITEM: I usually attempt to
solve a problem carefully
and logically rather
than intuitively and
impulsively.

V.high V.low

--	--	--	--	--

FACTOR 4. Disgruntled (mainly because of vocational doubts).

ITEM: Some of the subjects I
have to study make me
wonder if I really should
be in teacher training.

V.high V.low

--	--	--	--	--

FACTOR 5. Enthusiasm for study.

ITEM: I am hooked on academic
learning.

V.high V.low

--	--	--	--	--

FACTOR 6. A very cautious learning style.

ITEM: I tend to be cautious, rather than adventuresome when doing assignments or participating in class.

V.high V.low

--	--	--	--	--

FACTOR 7. A need for success.

ITEM: Because I'm very competitive I aim to do better academically than most of my classmates.

V.high V.low

--	--	--	--	--

FACTOR 8. A superficial approach to study.

ITEM: I have trouble seeing and explaining the significance of ideas I encounter in my academic work.

V.high V.low

--	--	--	--	--

FACTOR 9. Lack of confidence.

ITEM: I rely fairly heavily on memorizing material I have to learn, because I don't use other study methods confidently.

V.high V.low

--	--	--	--	--

FACTOR 10. Thoroughness in study.

ITEM: When working on assignments, I am usually very thorough about checking that my own and others' conclusions are justified by the evidence.

V.high V.low

--	--	--	--	--

FACTOR 11. Initial study strategy - exploratory.

ITEM: In the initial stages of studying a topic, I raise questions which may prompt further reading, before I start to focus on specific details.

V.high V.low

--	--	--	--	--

FACTOR 12. Vocational impetus.

ITEM: My studies in college are motivated mainly by my desire to have a career in teaching.

V.high V.low

--	--	--	--	--

APPENDIX B

INTERVIEW PROTOCOLS AND SUMMARIES

B.1	Interview Protocols: Phase 1	Page
	B.1.1 Interview One	28
	B.1.2 Interview Two	30
	B.1.3 Interview Three	32
	B.1.4 Interview Four	34
	B.1.5 Interview Five	36
B.2	Summary: Interview One	41
B.3	Summary: Interview Five	68
B.4	Staff Interview Protocol	91
B.5	Summary: Staff Interview	92

PROTOCOL: INTERVIEW ONE

November, 1983.

- 1.(a) When you were in the senior forms at school, how did you go about studying for an exam?
 - (b) Was this technique the same for all subjects?
 - (c) Did you receive any advice about how to study when you were at school? What advice did you get?
 - (d) What subject did you put most effort into at school? Why?
2. Did you tend to worry a lot before exams? (*prompt: anxiety, loss of sleep etc.*)
 3. Have you changed in the way in which you go about preparing assignments, or studying? (*If 'yes' probe for details*)
 4. It is not unusual for a person to put more time and effort into one subject than to others - What subject do you put most effort into at college?
 5. Thinking for a moment about your present study technique:
 - (a) is it the same for all subjects?
 - (b) are you satisfied with it?

- (c) say you have just been given an essay topic - tell me how you would go about it - from the beginning.
6. (a) At this stage, are you aiming to do an S4 year?
(at the end of the three-year diploma course, students may apply for a fourth year in which to complete the B.Ed. degree)
- (b) Do you have an ambition to graduate with distinction?
(it may be necessary to explain the graduation categories).
7. While at college, is it more important for you to get good grades, or to develop further in personal ways?
8. In your opinion is it a good thing to give primary school children homework?
9. Have you been through any sort of crisis this year? Would you like to talk about it? Has it affected your work in any way?
10. In a questionnaire you completed earlier this year, you were asked to rate your commitment to teaching. At that time you said that you were:
- Very highly committed
 Highly committed *(State whatever applies)*
 Moderately committed
 Not very committed
 Definatly not committed
- Do you still feel the same way? *(Probe for reasons if commitment level has changed)*
11. Do you worry much about the future? *(If 'yes', probe for details).*

PROTOCOL: INTERVIEW TWO

April, 1984.

1. (a) Is there anything in your situation that has changed since the last time we talked? - that was back in November. *(prompt: accommodation, personal relationships, health, part-time work, finance.)*
 - (b) *(If the answer to 1(a) is 'yes',)-in what way do you think that has affected your work at college?*

2. On the personal side - do you think you have changed in any way since your last interview? *(Prompt: general personality; attitudes.)*

3. Concerning the assignment in education that you are working on at the moment - the essay on the topic of accountability in teaching - I am interested in talking to you about how things are going.
 - (a) Check: - when (and if) started
- outline of the procedure
- has an overall plan been mapped out?
- references and resources.
 - (b) What do you think are the main issues in this topic?

4. What grade did you get for your previous essay in education?
 - did this grade affect your attitude or your motivation towards this essay?

- Your grade won't change as a result of your answer to this question! Do you think that the marker was too generous?
5. *Check any particular crisis or concern raised in the previous interview, and/or* - Have you been through any sort of crisis since your last interview?
6. (a) When I last talked to you, you said that you (were/were not) aiming to do an S4 year - is that still your plan?
- (b) You also said that you were (keen to / didn't care about) graduating with distinction - is that still your aim?
7. At the last interview, you rated your commitment to teaching as (____). What do think it would be today?
(A card with the 5-point commitment scale is shown to the interviewee.)
8. Are your selected studies the same this year as they were last year? *(Probe for reasons if they are not the same.)*

PROTOCOL: INTERVIEW THREE

October, 1984.

1. Has anything in your situation changed since the last interview? That was back in April. (*Prompt: accommodation, health, personal relationships, part-time work, finance.*)

2. Now that it is getting close to the end of your second year in college -
 - (a) what would you say was your major concern or worry at this stage?

 - (b) How would you sum up your year?

3. I would like to ask you some questions about the teaching practice section that you have just completed.
 - (a) Perhaps you could start by saying what school you went to, and what class level you had.

 - (b) If you were to rate your section on a 1-5 scale, with (1) being 'terrific', and (5) being 'terrible', what would your rating be?

 - (c) would you like to comment on the length of your section?

 - (d) Were you able to make any links between the theory you studied at college and the practical aspects of teaching as you experienced them at school? (*probe for examples.*)

4. (a) What assignments have you got on your programme at the moment?

(b) With respect to the Learning and Teaching test coming up:

What topic have you chosen?

Why did you choose that topic?

How are you going to prepare for the test?

(c) What grade did you get for the last essay you did - the one on teacher accountability?

Has that grade affected your motivation for the test?

5. What are your plans now with respect to applying for a fourth year to complete your B.Ed.? (*Probe for reasons if there is a change of plan*)

6. At the last interview, you rated your commitment to teaching as (___). How would you rate it today? (*Subjects are shown the same card with the 5-point scale as in previous interviews.*)

PROTOCOL: INTERVIEW FOUR

April, 1985.

1. Has anything changed in your situation since we talked at your last interview in November last year? (*Usual prompts.*)

2. (a) What course or courses are you enjoying most this year?
Why?

- (b) Is there any course or courses that you particularly dislike this year?
Why?

3. It isn't unusual for a person to put more effort into one particular course - if that is the case for you, what course are you putting most effort into?
Why?

4. (a) You have probably learnt some things that are completely new to you this year - what is something new that you have learnt? (*probe for elaboration.*)

- (b) *If standard deviation was not mentioned in (a) above -* One thing that was probably new for you this year would be the idea of 'standard deviation' that you would have studied in your Measurement and Evaluation course. You will no doubt be revising it for the test next week ... could you tell me in your own words what standard deviation means?

5. What is your work load like this term?

6. (a) Have you got an organized study routine to help you cope with this load? Do you think you could describe it to me?

(b) Can you recall the work that you did earlier this year in the Learning and Teaching course about learning styles and strategies? Has that information influenced your approach in any way? (*Probe for details.*)

7. Have you got any particular concern or worry at the present time?

8. At this stage, how do you feel about applying for a fourth year at university to complete your degree?

9. How would you rate your commitment to teaching right now? (*Show card and probe for reasons if there is a change from last time.*)

7. To what extent are you likely to continue with formal study after leaving College?
- (a) I would like to continue for a 4th year in order to complete my B.Ed. degree. YES NO
- (b) I will probably complete my B.Ed. by part-time study. YES NO
- (c) I am not really interested in further university study. TRUE FALSE
8. After gaining a B.Ed. I would like to study for a Masters degree. YES NO
9. Has participating in this research project affected:
1. The way you study?
(*Comment*) YES NO
2. Your attitude to study?
(*Comment*) YES NO

10. Use as many adjectives as you like, either positive or negative, to describe your feelings about your College experience over each of the three years.

YEAR 1	YEAR 2	YEAR 3

11. With respect to any future study you might do, how would you rate your likely approach?

- A. Highly anxious
- B. Generally anxious
- C. Anxious to begin with *(Tick one)*
- D. Quietly confident
- E. Very confident.

12. (a) List the most significant things that have raised your motivation and lowered your motivation in the past 3 years.

Raised my motivation	Lowered my motivation
1. 2. 3.	1. 2. 3.

- (b) Examine the lists above and select the three in order of importance in each list.

13. At this moment, your commitment to being a teacher is -
1. Very high
 2. High
 3. Moderate (Tick one)
 4. Low
 5. Very low
14. In what way (if any) has your recent section experience affected your commitment to being a teacher?
15. In case I want to follow up any of your responses in the interests of clarification, could you leave a telephone number where I could contact you?

Hamilton Ph: _____

Home Ph: _____

I am most grateful to you for your continued support and assistance with this research project. The picture gained of study patterns and the factors influencing their development over three years of your College life will be of considerable value to those who plan and evaluate courses, and who guide and help students in training.

Many thanks,

Ian Calder.

INTERVIEW 1: SUMMARY

The questions in the first interview were concerned principally with student study strategies and approaches to learning, and with student motivation.

(A). STUDENT APPROACHES TO STUDYING AND LEARNING.

The first section, dealing with student approaches to studying and learning, consisted of questions focussing on three aspects. The past, the present, and whether the student was conscious of any change in the approach she/he adopted.

1. The Past.

The question dealing with this aspect asked students how they used to go about studying when they were in the fifth and sixth forms at school. The majority - 95% of the Random group, and 75% of the Surcon group (90% of the total group), described how at high school, they adopted a surface approach to learning, their main intention being to memorize. It was somewhat surprising that the three students who did mention attempts to understand and gain meaning from what they were learning, were all in the Surface-confused (Surcon) group.

The heavy emphasis on surface learning is not surprising when one considers the kind of advice students received from their teachers about how to study and prepare for examinations. Most of that advice was concerned with either organization and setting up a study routine, or with memorizing strategies.

"We were told to set aside a certain time every night for study and to stick to it. It had to be in a quiet place without interruption - no background music!...and we should take a break every half hour or so." 02. F. (S). (Code No. 02, female, Surface-confused group)

"You should make up a roster - trying to give equal time to all subjects...)"
91. F. (R).

"Yes we had a lecture... about how to read a page, cover it, then see how much we could remember." 54. F. (R).

"Yes about headings, key words, main points... summarize your notes. Remember the key words." 71. F. (S).

"They told you to write down the basic facts and remember them. But they never told you how to find the facts first!" 15. M. (S).

"We should tape our notes, and keep playing the tape to ourselves." 70. F. (S).

Three students, all from the Surface-confused group, said that they deliberately rejected the advice that they had received at school, mainly because it was too time consuming or didn't suit their style.

None of the students mentioned receiving advice which would be consistent with a deep learning strategy. One perceptive student, however, noted...

"Teachers tell you all sorts of things - usually it's how they went about studying themselves! I got best advice from my friends." 08. M. (R).

About 30% of the interview group reported that they had not received any advice about studying whilst at school.

The emphasis on surface-learning strategies most probably reflects the effects of external examinations at that time. The changes that have occurred in recent years with respect to internal assessment, and the abolishing of U.E. as a national examination will hopefully have reduced such pressures.

2. The Present.

To gain an impression of the strategies students used at the present time, students were asked to describe how they went about writing an essay. Analysis of the responses revealed four areas of interest.

- (1) The first thing mentioned.
- (2) The general strategy adopted.
- (3) References to structuring, planning and organizing.
- (4) Motivational problems.

(1) First things mentioned. The first things mentioned were either the obtaining of resources (reference material, texts, notes), or thinking about the topic, and planning. TABLE B.1 shows that there was little difference between the groups with respect to this factor.

TABLE B.1 The first thing mentioned when students were asked to describe how they went about writing an essay (figures in percentages to nearest whole number). Interview 1

	Getting resources	Thinking and planning	Other
Surface-confused (n = 12)	66	34	–
Random (n = 20)	55	30	15

Typical of the 'getting resources' response was:

"once I'd been to the library and got all the books that I want, then I'll go through my notes and the books looking for relevant sections - I'd take notes of the sections ..." 22. F. (S)

Of the 'Thinking and Planning' responses:

"I have to think about how I'll handle the questions. Sometimes I don't know anything about it, so I read until I do..."

21. F. (R).

The 'other' category mainly contained descriptions of a strategy described by Entwistle and Ramsden (1983) as a 'strategic approach'. This strategy is described in the section below.

(2) The general strategy adopted. The general strategy adopted was inferred from descriptions of how students went about writing an essay from the moment they were given the topic. Student descriptions tended to fall into one of four categories. They would describe a meaningful or reproducing approach, or a combination of these, or a strategic approach. These approaches are described below, and TABLE B.2 indicates the percentage of students from each group who adopted each strategy.

TABLE B.2 Percentage of students (to the nearest whole number) from the Surcon and Random groups who adopted one of the four essay-writing strategies. (Interview 1)

	REPRODUCING	MEANINGFUL	BOTH	STRATEGIC
SURCON (12)	33	42	25	-
RANDOM (20)	42	26	16	16
TOTAL (32)	38	32	19	11

A 'Reproducing approach' was inferred when the student's main intention was to reproduce his or her notes or texts in some form. Although some students attempted to put the ideas in their own words, the ideas in fact were lifted from their text or notes without any attempt at integrating them within a coherent structure. e.g.

"... I'd underline the bits I might want to use. Break the question into parts and see what bits fit into each part. I give each part a heading. I usually try and use my own words, but a lot of the time it's just reworded." 06. F. (R)

A 'Meaningful approach' was adopted when the student tried to come to grips with the issue, and/or attempted to evaluate and reach his/her own conclusion. e.g.

"When we get the topic, I'll think about it for a week or two, then you sit down and really think it out. I'll talk about it with the lecturer. Then I go through books and lecture notes seeing what is relevant to the topic. I usually have subject headings - like with the 'Issues' topic we had to cover three parts - so I sort my material into each part, try to write it so that it flows and each part makes sense. When I use back-up material I take care to acknowledge the source."
35. F. (R).

The 'Both' category consisted of descriptions which contained elements of both reproducing and meaningful approaches. For example, a student might plan and think carefully in the initial stages, but the planning and thinking would be concerned mainly with the selection of appropriate material, which was then copied almost verbatim into the essay.

The 'Strategic' category described the 'cue-seeking' approach (Miller and Parlett, 1974), or more generally, attempts by students to 'use the system' (Entwistle and Ramsden, 1983).

The following are examples of the strategic approach.

"...you've got to get used to the lecturers and their ways ... find out what they think, what their bias is. I read through the text and notes..."
Interruption from a rather incredulous interviewer - "Do you mean to say that you adapt your essay to what you think the lecturer thinks?"
"Oh yes - you've got to in a place like

college. Its a matter of survival! Like you get someone's essay from last year on the same topic, look at the comments the lecturer made - boy that's a big help! It didn't work last time though. A different lecturer marked mine!" 39. F. (R).

...and the interviewer's incredulity was stretched even further by this admission:

"I make a rough plan, and then I try it out on a lecturer. I say that I have real trouble with planning essays, what does he think of this? It pays to act dumb! In about ten minutes you have a nice plan drafted out. It pays to get a second opinion though. Sometimes I go to another lecturer and say, 'What do you think of this plan?' He'd say, 'Oh not bad.' or something, and might suggest some changes. Sometimes if you say, 'Would you mind reading through my first draft?' you might get more help." 43. M. (S).

(3) Reference to planning and structuring. Reference to planning and structuring was mentioned by 50 percent of the subjects in both groups. One student, however, emphasised that he liked the plan to 'emerge'.

- (I) "Have you a plan?"
- (S) "No, not really, it sort of emerges"
- (I) "What kind of feedback do you get on your essays?"
- (S) "Oh, about bits not being relevant or logical....I guess thats where I need a plan!" 23. F. (S).

(4) Motivational problems. A major difference between the two groups was with respect to motivation. Sixty percent of the Surface-confused group said that they had difficulty in just getting started; leaving things to the last moment, and generally having a negative attitude to essay writing.

"...my main problem is in getting started ...I seem to lack will-power. It might have something to do with bio-rhythms." 15. M. (S)

Two students admitted to being deeply impressed by one lecturer's admonitions with respect to plagiarism, and mentioned how they now took great care to acknowledge quotations.

3. Student changes with respect to study strategies.

The final question in the group relating to study strategies and approaches to learning asked the students whether they felt they had changed in the way in which they went about studying since they had left school. Responses to this question fell into three broad categories.

In the first category, students felt that they had changed and that the change was for the better. This meant that they did one or more of the following:

- Placed less emphasis on reproducing strategies
- Were better organized.
- Were working harder.

In the second category, students felt that the change in their approach to studying was for the worse. Usually this was because they were unsettled or unmotivated.

In the final category, students felt that they had not changed in their approach to studying. Usually this indicated that they were quite satisfied with the strategy they used. An interesting difference between the two groups emerged with respect to this point. When asked whether they thought they had a good study technique, 70 percent of the Random group said they thought that they had - usually adding - 'it works for me.' On the other hand, only 33 percent of the Surcon group thought that they had a good study technique. This finding, when considered with data from TABLE 2 and with the responses to the question on change outlined below, would suggest that in fact several

students in the Surcon group were attempting to adopt a more meaningful approach, but were finding it difficult and confusing.

The proportion of students from each group in each of these categories is presented in TABLE B.3. It can be seen from TABLE B.3 that there is not a great deal of difference between the two groups with respect to perceived change in study strategies. Students in the Surface-confused group who reported positive change, tended to do so with respect to putting less emphasis on a reproducing strategy, and putting in more effort. A slightly smaller proportion of the Random group claimed that they put less emphasis on a reproducing strategy, and several thought that they were now better organized.

TABLE B.3 Percentage of students (to the nearest whole number) in the Surface-confused and Random groups in each category of reported change in approaches to learning and studying. (Interview 1)

Category of Change	SURCON	RANDOM	TOTAL
1. Changed in a positive way			
(a) Less emphasis on reproducing	33	30	31
(b) Better organized	-	12	7
(c) More effort	8	-	3
2. Changed in a negative way	17	17	17
3. No change	42	41	41

More than half of all the subjects interviewed (58.6 percent), reported that they had changed in some way with respect to their study strategies, most of the change being in a positive direction. The adoption of a more meaningful approach with a corresponding lesser emphasis on reproducing, was the change most often described. For example:

- (S) *"I think so ... not in the time I put in, but the way I approach it is different.*
- (I) Do you still take notes and summarize a lot?

(S) *"Yeah - but I use a lot more texts to sort of back up what I'm saying. We're told to look critically at things rather than just repeat your notes. I never used to do that ... "* 02. F. (S).

"I suppose I've refined it a bit ... instead of going out and summarizing everything, I've taken time to read a bit more. I try to generalize instead of copying everything." 23. M. (S).

"...well it's a lot different to school. There's certain rules - like well - I'm good at English, so I can write essays no sweat - but that doesn't mean a thing! You have to write in certain ways to suit each subject. You have to support your arguments - not just spout your own opinion off the top of your head. You have to use references, and be able to say whether other people's ideas are valid." 45. F. (R)

Five students felt that their way of studying had changed for the worse. This was due mainly to difficulty in settling down to life in a hostel, particularly having to cope with distractions and noise. Something akin to culture shock was a contributing factor in two cases. For example, a Samoan student:

"I have - but I don't think it's for the better. I can't seem to settle down to studying like I used to. There's a lot of distractions in the Halls, and there's loneliness. You wouldn't think that you could be lonely in the Halls, but you can. I'm used to having my family around. It's so different, and I'm so unsettled."

88. F. (R).

But even living at home couldn't protect one student from experiencing a personal change that she couldn't understand.

"Yes I've changed. I've gone to the pack this year. I was really organized last year, but not now. Twelve-o'clock the night before something is due in I'm still working at it. Even Mum says that I've changed - my room is always a mess - I can't ... it's terrible really."

46. F. (R)

(B). STUDENT MOTIVATION.

Specific motivational variables which could be inferred from student responses to questions in Interview One were:

1. Anxiety
2. Need achievement (N.ach)
3. Academic Goal
4. Commitment to teaching
5. Interest
6. Stress

Each of these variables is discussed below:

1. Anxiety.

For some time, psychologists have distinguished between state-anxiety, and trait-anxiety. State anxiety is defined as anxiety experienced in a specific situation, and trait-anxiety as a generalized personality dimension (Spielberger et al. 1968). In interview One, an estimation of the level of state-anxiety was inferred from student responses to question 2, which asked students whether they worried about examinations or tests. This was in the context of studying for their fifth and sixth form examinations at school. Trait-anxiety was inferred from answers to question 11, which asked students whether they worried about the future.

State-anxiety: student responses were categorized into three groups which represented High, Moderate, and Low anxiety levels respectively. These are described as follows:

High anxiety level (State). In this category, students admitted to being highly anxious about examinations, and this assertion was usually supported by statements referring to loss of sleep, or illness. e.g.

- (S). *"Yes, very much so."*
 (I). *"Did it cause you to lose sleep or anything?"*
 (S). *"Yes, I did at that stage, especially over accrediting. I ended up with a kind of sickness. I was really quite ill."*
 15. M. (S).

Moderate anxiety level (State). At this level, students admitted to experiencing some anxiety over examinations, but claimed that it did not affect their performance adversely. e.g.

- (S). *"Yeah, not so much nervous - I suppose it was nerves - everybody all talking about it and that, and getting excited."*
 (I). *"Did you lose sleep over it?"*
 (S). *"Oh no, nothing like that."*
 08. M. (R)

Low anxiety level (State). At this level, students claimed that they were not unduly worried about exams. Usually this was related to feelings of confidence.

- "No, not much. If you put the work in, you can't do any more than that."* 21. F.
 (R).

Trait-anxiety: The same categories were evident in student responses to question 11.

High anxiety level (Trait). This category contained student responses expressing considerable anxiety about the future. In every case the anxiety was over future employment. e.g.

- "Yes, about getting a job. You see when I left school, I was unemployed for about five months. and I got so depressed, feeling that all my study would be a waste of time - and I'm really scared that could happen again."* 39. F. (R).

Moderate anxiety level (Trait). The students said that they were anxious at times, usually about job prospects or vocational aptitude. e.g.

"I worry about ... like what I want to do. Whether I'll do a fourth year, whether I want to go teaching, how long I'll stay at it. But there's no point in worrying about it I suppose. You don't know what's going to happen, do you." 27. F. (R)

Low anxiety level (Trait). In this category students expressed a 'live for the moment' sentiment. e.g.

"No, not really. I mean sometimes, but I really figure that today is more important. I'll worry about the future when I get to it." 54. F. (R).

TABLE B.4. indicates the percentage of students in the Surface-confused and Random groups whose responses were categorized as indicating high, moderate, or low state and trait anxiety levels.

TABLE B.4. Percentage of students (to the nearest whole number) in the Surface-confused and Random groups whose responses were categorized as indicating high, moderate or low levels of state and trait anxiety respectively. (Interview 1)

	ANXIETY LEVEL					
	HIGH		MODERATE		LOW	
GROUP (n)	State	Trait	State	Trait	State	Trait
SURCON (12)	42	8	50	17	8	75
RANDOM (20)	35	15	50	45	15	40
TOTAL (32)	38	13	50	34	12	53

The most striking feature from TABLE B.4. is that the level of anxiety differs markedly depending on whether state or trait anxiety is being considered. 86 percent of all students in the sample were categorized as having high to moderate anxiety level when state anxiety was considered, compared with 45 percent when trait anxiety was the variable. The difference was even more striking for the surface-confused group alone. 92 percent of this group were in the moderate to high categories for state anxiety, but only 25 percent for these categories with respect to trait anxiety.

Area of greatest concern: examinations (State anxiety), or the future (Trait anxiety).

Further analysis of questions 2 and 11 revealed that State anxiety was generally of greater strength than Trait anxiety. 65 percent of the interview sample seemed to worry more about examinations than they did about the future. Seven percent were more anxious about the future than they were about examinations, and 28 percent were rated the same for both state and trait anxiety.

Aspects of the future that concerned students the most: 14 students (44 percent of the total group) were either moderately or highly anxious about the future. When they were asked what it was about the future that concerned them most, job prospects and success at college were the concerns most frequently mentioned. (In the years immediately preceding the interview, there was an over supply of teachers, and many young teachers were without a permanent position). The concerns mentioned by students are listed in TABLE B.5, and from this table it can be seen that students in the Surface-confused group were mostly concerned about succeeding at college. This is in line with the relatively high level of state anxiety expressed by this group and, given that by definition these were 'at risk' students, it suggests that many of them were aware of their condition. Students in the Random group on the other hand were more concerned about job prospects, the thought of failing at college being fairly remote for most of them.

TABLE B.5 Number of times that specific areas of concern were mentioned by the Surface-confused group, the Random group and the Total sample respectively. (Interview 1)

Area of Concern	Sur-con	Random	Total
Job prospects	2	8	10
Success at College	6	2	8
Personal goals	3	1	4
Choice of career	1	2	3
Finance	0	2	2
Accommodation	1	0	1

2. Need Achievement.

Three questions in interview One were intended to elicit students' levels of need achievement.

Question 6b asked students whether they had an ambition to graduate With Distinction. Most of the respondents seemed to be unaware of the graduation categories and so the system was explained to them.

Question 7 asked the students to say what they felt was most important for them personally, - good academic grades, or personal development (personal development was explained as developing interests broader than straight academic pursuits, such as social activities, clubs and sporting and cultural involvement).

Question 8 probed student attitudes towards giving primary school children homework. It was reasoned that someone who put a lot of emphasis on homework for young children may be reflecting a concern about success and achievement they felt themselves.

Graduation With Distinction: Nobody in the Surface-confused group admitted that graduation With Distinction was a goal they were aiming for. One student said that it would be 'nice', but it wasn't an over-riding ambition. Most said that they would be thankful enough just to graduate. One student in the Random group said that she would like to be in the top ten in her year, and that she worked hard with this in mind. Three or four students expressed mild interest, but that they would wait and see how the first year examinations went.

Good grades or all-round development. Nine students in the Surface-confused group thought that all-round development was more important for them than obtaining good grades, while three said that they thought both were equally important. In the Random group, five students said that getting good grades was more important. They usually qualified this by saying that they were already well-rounded with respect to personal development.

Six thought that all-round development was more important, and nine thought that they were of equal importance. Responses to this question are summarized in TABLE B.6. It can be seen that there is a significant difference in attitude between the two groups with respect to this question. Two students, both in the Surface-confused group, admitted that their actions did not quite match their words, and that in fact they put a lot of effort into academic work, and were not involved in social, cultural or sporting activities.

TABLE B.6 Percentage of students (to the nearest whole number) in the Surface-confused and Random groups in each of the response categories to question 7. (Interview 1)

	Grades more important	All-round development more important	Both equally important
Sur-con (12)	0.0	75.0	25.0
Random (20)	25.0	30.0	45.0
Total (32)	14.0	48.0	38.0

$$\chi^2 = 7.23; p < .05$$

Giving primary school children homework: Question 8 did not seem to work well with respect to inferring need achievement. All the students were in favour of giving even quite young children homework. Reasons for giving homework were:

- Habit formation (preparation for high school).
- Maintenance and practice.
- Parent-child involvement.
- Providing parents with information.
- Fostering independent learning.

The type of homework was also often specified:

- Small amounts of reading, tables and spelling.
- Acquiring research skills.
- Completing unfinished work.
- Independent study.

In summary, it was difficult to get much idea of need achievement from these questions. The impression was clearly gained that 'it was not the thing' to be seen to be competitive and eager to get good grades. This was especially true of the Surface-confused group. The Random group were more realistic with respect to the question about obtaining good grades. They saw this as aiding employment opportunities, or increasing their chances of being awarded a fourth year studentship to complete their degree. (See next section)

3. Academic Goal.

Question 6a asked students whether they were aiming to get a fourth year studentship in order to complete their B.Ed. degree. In order to qualify for this award, students must have a good academic record, and above average teaching practice reports. There are advantages in entering the teaching profession with a full degree such as a substantial salary increment, and career advantages. The percentage of students in each group who had this extra year (known as an S4 year) as a goal is illustrated in TABLE B.7.

TABLE B.7 Percentage of students (to nearest whole number) in the Surface-confused and Random groups for whom obtaining a fourth year studentship was an academic goal. (Interview 1)

	S4 YEAR AS AN ACADEMIC GOAL		
	YES	NO	UNSURE
SUR-CON (12)	8	84	8
RANDOM (20)	40	55	5
TOTAL (32)	28	65	7

From TABLE B.7 it can be seen that while the Random group were fairly evenly divided with respect to this question, the Surface-confused group were decidedly against the prospect of a fourth year. It was interesting to match this initial expression with the actual outcome just over two years later. Although approximately 84 percent of the Surface-confused group said that they definitely did not have a fourth year as a goal, in the event, 42 percent of this group did complete a fourth year, compared with approximately 53 percent from the Random group.

Change of mind about doing a fourth year occurred in both directions. Altogether 50 percent of the Surface-confused group changed their minds, and all except one of these was in the direction of initially saying they did not consider a fourth year an option, but in the end actually taking up that option. Approximately 30 percent of the Random group changed their minds, but this was fairly evenly split in both directions. It would appear that once some students in the Surface-confused group had experienced some academic success, they realized that the goal of a fourth year studentship was a realistic one for them after all.

4. Commitment to Teaching.

As described in the Methods Chapter, Commitment to teaching was estimated in the interview situation by utilizing the S-scale of the Expressed Vocational Commitment Scale (Ramsay 1978). This was a five point scale, and felt commitment could range from being very high to very low. The commitment expressed during interview One could be compared with the commitment expressed on the same sub-scale eight months earlier. TABLE B.8 gives the percentages to the nearest whole number of students in each response category for both groups in April, and during the first interview seven months later. None of the students interviewed expressed their commitment as being low or very low, and these two categories are omitted from the table.

TABLE B.8 Percentage of students from the Surface-confused and Random groups in the very high, high, and moderate categories of expressed vocational commitment. Expressions of commitment were made in April and in November. (Interview 1)

	LEVEL OF COMMITMENT					
	Very High		High		Moderate	
	Apr	Nov	Apr	Nov	Apr	Nov
Sur-con (12)	17	50	66	33	17	17
Random (20)	16	22	63	50	21	28

It can be seen that in April there was little difference between the groups, but in November the Surface-confused group expressed a shift in commitment to a considerably greater extent than did the Random group. The shift in both cases being towards a greater level of commitment. Reasons given for change in commitment were as follows (the number of mentions for each reason are in parenthesis):

- Enjoying working with children and teachers. (4)
- Good school experiences. (2)
- Didn't know why. (2)
- Now coping academically. (1)

Five students expressed a lower rating in November than they did at the beginning of the year. Reasons given were:

- Disillusionment with college. (1)
- School experience boring. (1)
- Depressed about exams. (1)
- Found children difficult to cope with. (1)

In the interval between April and November school experiences were concerned with curriculum studies, and took place in Normal Schools. Usually these experiences were of two

to three hours duration about twice a week, but it is apparent that even this was enough to raise the commitment level of some students.

5. Interest in the Subject.

The extent to which a student was motivated by interest in the subject was estimated by responses to two questions:

Question 1d. asked students which subject they put most effort into (and why) in their final year at school.

Question 4. asked the same question but with respect to college.

Responses to these questions fell into two categories. They either put most effort into a subject because they were intrinsically motivated (interested in it, liked and enjoyed it), or they put most effort into a subject because they were having difficulty with that subject, or the subject had a high work load. A clear difference emerged between the groups with respect to this factor, especially with respect to question 4., as can be seen in TABLE B.9. A very high proportion of the Surface-confused group put most effort into subject that they enjoyed or were interested in. In other words these students appeared to be intrinsically motivated with respect to a particular subject, but not to others. The Random group, who represented the general student body, appeared to change in effort attribution once they became established at college, the majority putting most effort into subjects where it was needed. i.e. they had difficulty with the subject, and/or the subject had a high work load. As one student put it:

'The subjects I enjoy I can do anyway. I think I put most effort into courses I have trouble with - like Computing at the moment.' 21. F. (R).

6. Stress.

Question 9 asked students whether they had been through any kind of crisis during the year. If they felt that they had, they were asked if they would like to talk about it, and they were also asked whether it had affected their work in any way.

It became obvious during the interviews that what constituted a crisis varied widely from person to person. Some students reported fairly minor irritations, while others revealed stress situations of quite major dimensions.

The Surface-confused group appeared to have more than their share of problems. 66.6 percent of this group said that they had experienced a crisis during the year which had affected their work adversely, compared with 50 percent of the Random group.

The main difference between the groups was with respect to stress arising from environmental change, sickness or accident. Three people in the Surface-confused group said that they were adversely affected by the former, and three people from the same group by the latter stress situation. Nobody in the Random group mentioned these as giving rise to any form of crisis. In order of frequency, the categories of 'crisis situations' were as follows:

- Death of close friend or family.	6
- Environmental change.	3
- Accident or sickness.	3
- Broken relationship.	2
- Vocational doubts	2
- Family problems	2
- Difficulty with college work	1
- Over-commitment	1

Four students mentioned having financial problems, but saw this as a fairly minor problem which did not affect their work adversely at this stage.

The death of a close friend or family member can have a devastating affect on a young person. It was something of a surprise that about 20 percent of all the interviewees had this experience during their first year at college. The death of a parent can give rise to other difficulties such as added responsibilities that might fall on the shoulders of the children. A young Maori student described this situation thus:

"Just when I started college my father died. I didn't know anybody at college. People were very nice and kind, but I didn't know anybody I could really talk to. Another girl in my T-group - who you're going to interview - (laughs) ... she's been really good to me. She understands, being of my culture - well she's Samoan actually, but she relates well, and realizes what I've gone through.

My mum depends on me now. Her pension isn't very high. I've got two part-time jobs. I do a milk run and a paper run. Its quite tough really though. I don't know what I'd do without that special person, that close friendship ... that you can go to with a problem." 90 M (S).

Another student felt oppressed with guilt feelings:

"My best friend shot and killed himself. Just before the May holidays. That was quite a set back - but he's happy now, I suppose. So ... he was at my place a week before it happened and he seemed so normal and happy. It was terrible though because we jokingly talked about suicide and how we'd do it. I said I'd take pills, and he said, "No, somebody might find you. The best way would be to shoot yourself." And he did - he shot himself. I feel so awful. I didn't know he was serious." 39. F. (R).

Environmental change can be quite debilitating for some students, linked as it usually is with home-sickness. Several students reported feeling quite disoriented, especially early in the year.

"In the first term, home-sickness. I really had it bad. I was quite disoriented you know - at home we have a coastline, you know where you are, but here ... I just couldn't get my bearings for a long time. Then there's getting used to the Halls - no parents. You come home and there's nobody to say, 'How did things go today?'" That was awful. I was really worried about my work too, 'cos I couldn't settle. Now I feel - well I'll do my best, and if that isn't good enough, too bad!" 38. F. (S).

and a young Samoan woman:

"...the change of atmosphere, trying to cope with the people around. It's so different from home. I do have lots of friends, but they're sort of ...'aloof'. (laughs) Wow, that's some word! There's only a few that I think are really genuine friends." 88. F. (S).

It seems likely that early in the first year many students experience stress resulting from changed circumstances, and that the stress adversely affects approaches to studying and learning.

CONCLUDING STATEMENT

1. Student approaches to studying and learning:

A substantial majority of students came to college with a surface approach to learning fairly well established. This was probably due to the kind of advice students received from teachers which was principally about how to organize study time and learning material, and the implementation of recall strategies. None of the students interviewed mentioned advice which would help them to relate, integrate, use analogies, or generally make the learning material meaningful.

At the end of the first year in college a considerable proportion of students had shifted towards a more meaningful approach. With respect to essay writing, only 37.5 percent of

the interview sample described strategies which were unthinking or were simply attempts to reproduce learning material verbatim. This shift in strategy was also recognized by the students themselves. When asked how they had changed with respect to studying, approximately 30 percent of them claimed that they now placed less emphasis on reproducing material from their texts or lecture notes.

Several between-group differences emerged, and in describing these it is necessary to keep in mind the characteristics the Surface-confused group of students were assumed to have. The subscales of the ASI which contribute to the Surface-confused Orientation are - Surface Approach, Fear of Failing, Negative Attitudes, Disorganized Study, and the two pathologies of Globetrotting and Improvidence. It became evident from the interview data that several students in this group were there principally because of the motivational aspects and the learning pathologies. They described how they were not satisfied with a reproducing strategy, yet were not able to obtain success with more meaningful approaches. This inability to adequately manage a meaningful approach is in essence the globetrotting pathology described by Pask. Examination of the ASI scores of these students did indeed reveal high globetrotting scores. 'Globetrotting' was a subscale which was rather difficult to operationalize and define, as can be seen in the description given in the section dealing with Pask's work in the review of the literature. The interview data therefore has served to give a clearer picture of this pathology in operation.

2. Student Motivation.

Given that one of the criteria for entry to a teachers college is a minimum standard of academic attainment, differences in student performance will in considerable part be due to student motivation. Thus the exploration of student motivation was one of the main objectives of the interviews. Six motivational factors were considered. Anxiety; Need achievement;

Academic Goals; Commitment to teaching; Interest (intrinsic motivation); and Stress.

The most striking feature of the analysis of the interview data with respect to motivation, was the between group differences. As mentioned previously, motivation was a principal determiner in the placing of a student in the Surface-confused group, thus, the between group differences described below were not entirely unexpected.

The Surface-confused group appeared to have higher levels of state anxiety and lower levels of trait anxiety than the randomly selected group. Estimations of trait anxiety, however, are particularly difficult to obtain. It could be argued for example, that asking students whether they worried about the future (which was used as measure of trait anxiety in the interview), is in itself a form of state anxiety since they are saying how much they worry about the future now. The very wide differences in responses to that question, and to the question about worrying about exams, however would suggest that indeed different kinds of anxiety are involved.

It was mentioned in Chapter Two that two views of Need achievement (N.ach.) are in current usage. It has a narrow definition, and a broad definition. For interview analysis, the narrow interpretation was adopted, which was that N.ach. involved a strong desire to succeed and obtain good grades, and a strong competitive element was also a factor. While one of the indicators of need achievement did not appear to work well in discriminating group differences, two of the measures, namely, wishing to graduate With Distinction, and feeling that good grades were at least as important as general all-round development, did indicate that the Surface-confused group had lower levels of N.ach.

As a measure of the strength of motivation stemming from having a clear academic goal, students were asked whether they were aiming for a fourth year studentship. Only one person in

the Surface-confused group admitted to having this as a goal, but several did change their minds once they had achieved some academic success later in their course. The fact that none of the students in the Surface-confused group aimed at graduating With Distinction supports the finding that students in this group, at the end of their first year were not motivated by having an academic goal.

With respect to Commitment to Teaching, the Surface-confused group expressed considerably higher commitment on average than did the Random group. This represented a considerable change in commitment level in the space of 7 months in Year 1.

Attribution of effort revealed further group differences. The Surface-confused group tended to put effort into courses that they liked or were interested in, but this was at the expense of other subjects. The Random group, while generally attributing effort to subjects that they enjoyed when they were at school, had changed as a result of their experiences at college. They had adapted to the requirements of courses, and saw the need to put effort into subjects that they were having difficulty with, often as a result, learning to like these subjects too.

With respect to stress as a factor affecting performance at college, a higher proportion of students in the Surface-confused group said that they had experienced or were experiencing stressful situations, than did students in the Random group. One third of the students in the Surface-confused group for example, had been affected by the death of a close friend or relative, while only a tenth of the Random group had had this experience. There is no doubt that this factor alone contributed significantly to student performance. General lassitude, and inability to concentrate were typical of the way in which students reacted to this kind of stress. Other stressful situations, while not common, were nevertheless debilitating for some students, and again the Surface-confused group featured more. Environmental change often accompanied with home-sickness; accident or illness; broken relationships; serious vocational

doubts; family problems (e.g. parents separating); were all examples of stressful situations experienced by some students.

The motivational factors underlying student performance at college in the first year (and incidentally the student responses to the research instruments), were varied and powerful, as can be seen from the above. Since many of these factors are situation specific, rather than characteristics or traits, it is to be expected that changes in personal situations throughout the remaining two years will have considerable effect on student performance.

INTERVIEW FIVE: SUMMARY

Because interviews were held in the final two weeks of the year, it was anticipated that there might be some difficulty in personally interviewing each subject. For this reason, the final interview was presented in the form of a questionnaire (See Interview Schedule 5 in APPENDIX B.1.5). For most of the subjects, the questions were presented orally, and the interviewer entered the responses on to the form immediately in some cases, and later in others by transcribing tapes of the interview. Six subjects who could not meet the interview appointment completed the questionnaire on their own. The only disadvantage was that follow up questions could not be put to these subjects. Most of them however, gave very full answers, and so the changed procedure was not serious.

To facilitate the reporting of results from this interview, questions were grouped into the broad categories outlined in the Interview Summary Plan (see p.94, Vol. 1.). Thus questions 2,3,4,6 and 9 were all related to Study Strategies and Approaches to Learning; questions 4,6,7,8,11,12, and 13 were related to Motivational Aspects; questions 1 and 5 to External Factors; question 14 to Teaching Practice and question 10 to General Evaluation. There was occasional overlap with respect to some of the groupings. For example, question 14 also referred to commitment to teaching, a motivational factor.

Study Strategies and Approaches to Learning

1. Stability of approach or strategy over different subject areas (Question 2). Approximately 61 percent of the interview sample said that they varied their approach to learning, depending on the subject they were studying. Mostly, however, the variation was with respect to the amount of time they allocated to the subject, but this was frequently linked to approach. For example, some subjects said they spent more time

studying subjects that had examinations, and would go on to describe an intense surface approach to learning.

Some students also varied their approach depending on the mental operations required (e.g. problem solving and deductive thinking for mathematics, compared to reflection and attempting to memorize facts for history).

Students who said that they adopted the same approach to different subjects, tended to say that they had an approach that worked and wanted to stick to it, or admitted that they weren't really interested in study, and resorted to last minute cramming for all subjects.

2. Stability of Approach over time (from entry to college, to leaving 3 years later).

23 of the 31 students who were interviewed (approximately 74 percent), reported that they had changed their approach in a positive direction, which is to say they thought that they had improved with respect to studying. Five students said that they had not changed their approach. They usually qualified this by saying that they had a fairly effective way of studying when they came to college and they saw no reason to change it. Three students said that they had changed for the worse. Of these, two said that they were generally slacker and felt less motivated, and the other described a change from a Deep Approach to a Surface Approach forced on him by circumstances (work load and pressure of time).

The various ways in which students changed, and the number of responses associated with each are listed in TABLE B.10. Some of the categories of response listed under 'Change for the Better' in TABLE B.10 could be grouped into broader 'orientations' which are fairly similar to two of the orientations towards studying described by Entwistle and Ramsden (1983), namely, the Meaning Orientation - which was derived from

TABLE B.10 Ways in which students in the Surface-confused and Random groups perceived change in their approaches to studying and learning over three years at College. (Interview 5)

<u>Change for the Better</u>	SUR-CON	RANDOM
* better organized	1	5
* more efficient	0	4
* more experienced	1	2
* working harder	0	1
* developing a deep- -approach	4	1
* better study habits	2	1
* more conscientious	1	0
<u>Change for the Worse</u>		
* loss of motivation	0	2
* developed a surface- -approach	1	0
<u>No Change</u>	2	3

factoring of the ASI subs-scales, and Operation Learning - a logical combination of sub-scales grouped to encapsulate Pask's operation learning style. Students in the latter group adopt a strategic, business-like approach, usually associated with a surface-level strategy, and syllabus-boundness. The first four categories in TABLE B.10 seem to be in accord with the operation-learning style, and two examples from the interview transcripts will serve as examples.

"I'm much more efficient, but basically it's the same. I still try to memorize a lot. I think I've kept on doing what I'm doing only I'm better at it." 35. F. (R).

"Yes, I'm more organized now. I follow the course outlines and study guides carefully to make absolutely sure I know what's expected of me. I haven't got so much time now, so I make the best of the time I've got." 68. F. (R).

The two categories 'developing a deep approach', and 'better study habits', appear to be descriptive of the Meaningful Orientation as the following excerpts illustrate.

"It probably has (changed), though it's hard to remember what I did in Year 1. I'm sure there's a lot less of trying to remember screeds of stuff and then regurgitating it. I put a lot more effort into understanding what I read and thinking about it." 02. F. (S).

"I cover more than is required to safeguard me when I come to exams. I read around the subject more and look at other alternatives."
90. M. (S).

When these broad orientations are tabulated (as in TABLE B.11) interesting between-group differences emerge. The operation learning orientation is very much a feature of the Random group, and paradoxically, the development of a more meaningful orientation is characteristic of the Surface-confused group. A Chi-square analysis suggests that the difference is unlikely to be due to chance ($\chi^2 = 8.15$, $p < .01$).

TABLE B.11 Frequencies of responses in the Operation Learning and Meaningful Learning categories made by the Surface-confused and Random groups respectively. (Interview 5)

	Surcon	Random	Total
Operation Learning	2	12	14
Meaningful Learning	6	2	8
Total	8	14	22

$$\chi^2 = 8.15 \quad p < .01$$

The student who reported that he had changed from a deep approach in year one to a surface approach in years two and three had this to say.

"In my first year, I tried to get a deeper understanding of course content - extra reading, resources and that. But during the last two years I found that because of time pressures I had to concentrate more on the basic course content. In years two and three I viewed study as a means to graduation, whereas in year one I viewed it more as a means to a better understanding of the world I was to enter - the school." 15 M (S)

3. Factors which influence students' present approaches to study (Question 4).

About 50 percent of the factors described were motivational in nature. In order of frequency of mention, the major factors were:

- Interest in the subject
- Need to achieve
- Fear of failing
- Feelings (being happy or depressed)

Approximately 40 percent of the responses to question 4 described factors which are external to the student. Again in order of frequency:

- Other commitments (mainly part-time work and sport)
- Not having enough time
- Heavy workload
- Flatmates and friends
- Examinations

Only 6 responses (approximately 11 percent) were factors relating to learning strategy:

- A need to understand
- Being organized and efficient
- Developing responsibility for own success

4. Liking for a subject because it suits the learner's preferred way of learning (Question 6).

Judging from the responses to this question, there can be no doubt that the great majority of students prefer to learn through

activity and participation. Subjects mentioned were almost exclusively curriculum subjects, Physical Education being the most frequently mentioned (9 mentions), for example:

"P.E. - the assignments are practical and I enjoy the activities. The explanations and the ideas can be put directly into practice." 70. F. (S).

Next in popularity, for the same reasons, were Art, Social Studies, and Psychology laboratories. Reading and Geography were also mentioned as involving activity and being relevant.

Three students liked the learning material to be well structured, and mentioned Mathematics and Science as examples.

Two students enjoyed subjects which allowed them some freedom of choice to engage in researching a topic in which they were interested. Art and Geography were the subjects mentioned.

One student liked Mathematics because it had right answers and involved problem solving.

Two students particularly liked Social Studies because they liked the style of a particular lecturer who, 'acted as a guide, not an instructor.'

Finally, three students said that there wasn't any subject they liked because it suited their preferred way of learning.

5. The effect of participating in this research on students approaches to studying and learning (Question 9).

It was felt that because of the number of interviews, all focussing on students' studying and learning strategies and on motivation, that students in the interview sample would be affected with respect to these factors. In fact, as can be seen in the analysis below, the effect was quite considerable.

Question 9 asked, "Has participating in this research project affected - (1) the way you study? and (2) your attitude to study? Taking each section separately:

(1) The way you Study. Approximately 61 percent of the students who took part in the interviews considered that their participation had affected the way in which they studied. TABLE B.12 shows the number of students from the Surface-confused and Random groups who replied 'Yes' and 'No' to question 9. There was no significant difference between the groups.

TABLE B.12 Number of students in the Surface-confused and Random groups who answered in the affirmative and in the negative to the question 'Has participating in this research affected the way you study?' (Interview 5)

GROUP	YES	NO	TOTAL
Surface-confused	8	4	12
Random	11	8	19
Total	19	12	31

When students described how their approach to studying had changed, it was generally to say that they had become more aware of the study process. A few students described a shift from a surface-approach towards a deeper approach. For example:

"Yes, I'm more aware of what I'm doing. I used to try and remember everything I read or had notes on. I try now to look for meaning in the material before me."

02. F. (S).

Others realized that they had the power to improve their study techniques, and a few found the review process that the interviews imposed on them helpful in itself. e.g.

"Yes, it has made me much more aware. I've thought about study and motivation - it made me periodically check my goals - that was good for me." 44. F. (S).

And one student who said that her approach had not changed as a result of participating in the study admitted that she found the regular interviews therapeutic!

"No - but I think it was marvellous being able to pour out my worries and concerns about College to a sympathetic listener - but I still studied the same way." 45. F. (R).

(2) Your attitude to study. With respect to the changing of attitudes, the situation was reversed. Approximately 61 percent of the interview sample said that their attitudes towards studying had not changed. As can be seen in TABLE B 13, the stability of attitudes was a feature of students in the Random group rather than those in the Surface-confused group, most of whom thought that their attitudes had changed. This between group difference, while considerable, just failed to reach significance at the .05 level ($\chi^2 = 3.16$, $p < .10$).

TABLE B.13 The number of students in the Surface-confused and Random groups who answered in the affirmative and in the negative to the question - "Has your attitude towards study been affected by your participation in this research?" (Interview 5)

GROUP	YES	NO	TOTAL
Surface-confused	7	5	12
Random	5	14	19
Total	12	19	31

$$\chi^2 = 3.16, p < .10$$

Students who said that their attitudes had not changed gave a variety of reasons. Four students said that their attitudes had always been good, and an equal number confessed to always having had poor attitudes towards study. Three students said that while their attitudes had changed, the change was due to factors other than participation in the research. Eight students said "No" and did not elaborate further.

Where attitudes had changed, the change was always in a positive direction. Four students for example reported having an awareness that their attitudes had a direct affect on their learning and hence on their attainment. For this reason, they had tried to develop more positive attitudes. e.g.

"When I've talked to you about how I feel about things, I've realized that my own feelings affect how I study, and the results I get, so I've tried to be more positive." 88. F. (S).

"Yes, I've been more aware of my own attitudes and how they affect learning. I actually enjoy studying now - for some subjects!" 08. M. (R).

A few students indicated that the act of fronting up to an interview from time to time made them take stock of themselves, and this included a check on attitudes.

"Yes, it has given me a big boost in that someone is taking time out to talk to me. It's been a kind of discipline tool too - one that I've appreciated very much."
90. M. (S).

The between group difference noted with respect to this question most probably reflects the criteria for selection to the Surface-confused group at the beginning of the study. Negative attitudes was one of the ASI subscales contributing to the orientation Surface-confused. There was, therefore, more room for attitude change in a positive direction for this group.

It is also possible that participating in the research could have helped prevent the development of negative attitudes. This can certainly be inferred from many of the transcripts. It means however, that the trend to either stable or improved attitudes towards study and learning in the interview sample, may not be typical of the total research population.

Motivational Aspects Explored in Interview 5

1. Anxiety

Question 11 asked students to rate on a one to five scale, their probable level of anxiety with respect to future study. Thus the question is likely to reveal trait-anxiety rather than state-anxiety. TABLE B.14 summarizes the responses for both the Random and Surface-confused groups. There was no significant difference between the groups.

TABLE B.14 Summary of responses made by students who were asked to rate on a 1 - 5 scale, their probable level of anxiety with respect to any future study they might undertake. (Interview 5)

	Surcon	Random	Total
Highly anxious	1	2	3
Generally anxious	2	4	6
Anxious to begin with	4	8	12
Quietly confident	5	5	10
Very confident	0	0	0

About one third of the sample predicted that they would approach any future study quietly confident, or only anxious to begin with. Three students thought that they would be highly anxious.

There was also a question relating to trait-anxiety in Interview One. At that time 75 percent of the Surface-confused group appeared to have low levels of trait anxiety, but three years later this has reduced to approximately 42 percent. In 1983 only one student in this group admitted to a high level of anxiety, but in 1985 three students did so. The Random group shows a similar trend towards slightly higher levels of trait-anxiety.

2. Academic Goals

It is interesting to note that only three students out of the total of 31 said that they were not interested in further study. Approximately 61 percent expressed a desire to undertake a further full-time year of study in order to complete a Bachelor of Education degree. Another 30 percent wished to complete the degree but through part-time study.

It is probably true to say that students are attracted by the career advantages of having a degree (financial inducement in Teacher pay scales, and perhaps promotional opportunities). Some also see a prestige factor in having a degree. It is not surprising, therefore, that for some students this question presented something of a dilemma. For example, one male student, who throughout the series of interviews adopted a strong anti-academic pose, surprised the researcher with his response to this question, thus:

"I dislike study, and will avoid it as much as possible, only doing as much as is required, and will not wish to study further. You may wonder - 'Why do an S4 year?' I don't really know - its a qualification, but I would rather be away from this place. My parents and family feel it is a good idea, and although I hate to say it - they are perhaps pushing me to do it more than I really want to. I know its a useful qualification though."

76. M. (R).

(In college jargon, an S4 year is an extension of studentship for a further year of full-time study)

Whatever the motivation, this young man did undertake a successful year of further study along with 15 others from the interview sample. TABLE B.15 summarizes the responses of students to the question of obtaining a degree as an academic goal.

It is interesting to note that exactly half of the Surface-confused group - the group initially deemed to be at risk -

TABLE B.15 Number of students in the Surface-confused and Random groups wishing to complete their degree by either full-time study (S4 year), or by part-time study. (Interview 5)

Means of study	Surcon	Random	Total
S4 year	6	13	19
Part-time	4	5	9
Total	10	18	28

desired to undertake a year of further study. In Year 1 only one student from this group expressed interest in spending a fourth year of full-time study in order to obtain a degree. In the event only 16 students from the interview sample actually did enrol for their fourth year of study. One student dropped out of college just prior to graduation, and two changed their minds between the time of the interview and the enrolment date.

3. Commitment to Teaching.

Following the procedure adopted in the previous interviews, subjects responded on a 5 - point scale, from being 'Very highly committed', to 'Not at all committed'. TABLE B.16 presents the data for both groups with respect to stated level of commitment.

TABLE B.16 Expressed level of commitment to teaching of students in the Surface-confused and Random groups. (Interview 5)

	Level of Commitment				
	V.High			V.low	
	1	2	3	4	5
Surface-confused	5	3	4	0	0
Random	9	6	3	1	0
Total	14	9	7	5	0

The student who had expressed a low level of commitment, was rather demoralized from the recent Teaching Practice experience. He felt that he really wasn't cut out for teaching, and thought that he didn't like children. In fact, poor teaching practice experiences were also invariably the reason given by students who expressed a moderate level of commitment. One exception being a student who wanted to travel for a few years after graduation.

Commitment to Teaching was also expressed through responses to question 14. This question asked students to what extent their recent teaching practice experience had increased or lowered their commitment, or whether it had not affected commitment at all. TABLE B.17 provides a summary of the responses to this question.

TABLE B.17 Number of students in the Surface-confused and Random groups whose commitment to teaching was enhanced, lowered, or unaffected by recent teaching practice experiences. (Interview 5)

	level of commitment		
	lowered	raised	unaffected
Surface-confused	1	6	5
Random	3	10	6
Total	4	16	11

The four students who said that their commitment had been lowered, had all experienced difficulties on teaching practice. These difficulties usually involved management problems, leading to loss of confidence and doubts about their suitability for teaching. As mentioned earlier, one student began to question whether he really did like children.

Students whose level of commitment had not changed, included people who were highly committed before going on teaching practice, and were still highly committed afterwards. Others had

some ambivalent feelings, such as liking the class but not the associate teacher, or who felt good about their performance themselves, but had received some negative comments from a visiting lecturer.

Those whose commitment had been raised mentioned such things as, *'I had a caring, helpful associate'*, and *'I learned heaps'*, or expressed growing confidence in terms such as *'I can really see me teaching next year now'*.

One student, while having 'an enjoyable' section, and feeling that she could teach, made the decision not to go teaching. The decision was actually made after the interview, but the thoughts were surfacing during it.

"The section was good, and I feel able to teach a class, but I need a break from study and responsibility. I need time out." 70. F. (R).

4. Interest in the subject.

The question which might have explored interest in the subject as a source of motivation was the question which asked students whether there was any subject they particularly liked because it suited their approach to learning. Replies to this question have already been discussed earlier (see p.71). Only two students actually stated interest in a subject as being a reason why it suited their learning style. Question 6, therefore failed to act as a catalyst for information relating to interest as a motivator.

5. Motivation in general.

Question 12 was an open question which asked students to list the most important factors which had raised and lowered their motivation during their time at college. In a second part to the question, they were asked to select from all the factors

they had listed, the three factors they regarded as being most important, and to list these in order of importance. Thus the responses to question 12 could be considered in two ways:

(a) The total number of times a particular factor was mentioned, and (b) A weighting given to factors depending on the ranking accorded them by the respondents.

Factors which raised student motivation.

(1) Teaching Practice. The period of time spent in schools was the single most important factor raising motivation whether the total number of mentions or the weighting method was used. (16 mentions)

(2) Success. Feedback from assignments either in the form of grades or comments, was the next most influential factor in raising motivation. Getting a good grade, or favourable comments from a lecturer inspired many students to work harder.

(3) Influence of friends or colleagues. If a student had friends or flatmates who had good study routines and who were well motivated, this had a positive effect on the student concerned. (As will be seen in the next section, the opposite situation could also apply). Teaching staff who could establish collegial relationships with students also had a strong motivational effect, as could staff members who were enthusiastic and dynamic in their teaching.

(Factors (2) and (3) above are ordered in terms of weighting. When total number of mentions is the criterion, the positions are reversed.)

Other factors which were mentioned by four or more students were:

- Examinations
- Having a goal (usually graduation)
- Being given a challenge

and two students, (bless them!) said they were motivated by the holidays.

Factors lowering motivation.

The order of the factors below remains the same whether the total number of mentions, or the system of applying weightings is used.

(1) Aspects of particular college courses. By far the most prominent factor lowering student motivation was dissatisfaction with aspects of particular courses. For example, courses which were perceived as being boring or non-relevant, or courses which had very heavy workloads, too many essays, or had examinations, were responsible for lowering student motivation. 46 percent of all the responses came under this category.

(2) Personal relationships. These included boyfriend / girlfriend distractions, the influence of flatmates or family, or falling out with a particular lecturer. Although this factor had only about half of the mentions as (1) above, it rated highly when weightings were applied i.e. for those who did mention it, it tended to be very important.

(3) Feedback from lecturers. This aspect covered such things as lack of feedback, poor quality feedback, unfair marking, strong criticism, and the demoralizing effect of poor grades. Most of the mentions in this category were ranked relatively low in importance, only one student ranking it (1).

(4) Teaching Practice Experience. This did not receive many mentions, but five students ranked it as (1), therefore giving it considerable weighting. This ranking came from students who felt that they had done badly in teaching practice. The importance placed on this by the students who mentioned it indicates that this kind of experience is very demoralizing, and it frequently resulted in the expression of vocational doubts.

(5) Outside Interests. This included part-time work, sporting commitments and social activities. These factors had a lowering effect on motivation when the time given to them adversely affected college work.

(6) Two students mentioned environmental factors - the season (winter), and the city (Hamilton).

Several factors appeared in both lists, i.e. they appeared to both raise and lower motivation. The influence of flatmates and lecturers, and the effect of teaching practice are examples.

Question 4 (What factors influence your present approach to study?) also produced responses related to motivation. Responses to this question have been summarized earlier (pp.70-71), but the main points relating specifically to motivation are reiterated briefly below.

(a) Internal factors: Interest in the subject
 Need to achieve
 Fear of failing
 General feelings of wellbeing

(b) External factors: Examinations
 Competing motives
 Lack of time
 Heavy workload
 Other people

External factors influencing student performance.

1. Changes to the general situation.

Question 1 asked students whether there had been any changes to their situation since the previous interview. If a student

responded in the affirmative, she or he was then asked to elaborate further, and to indicate whether college performance had been affected.

The changes in situation which students claimed had affected their college work, are presented below in order of frequency of mention.

(1) Accommodation change (11 students). The majority of these students (approximately 66 percent) claimed that their work had been adversely affected and described situations such as having flatmates who were non students, or who were poorly motivated students; living further from college and thus losing time in travelling; returning to their homes and incurring family stresses such as child-minding, and various chores. For some students, the change in accommodation allowed for improvement in their work. They may have moved in with students who were highly motivated and had good study routines; moved closer to college, or received support if they moved home.

(2) Broken relationships. While only four students were adversely affected by the breaking up of a strong, sometimes long-standing relationship, these students seemed to be the worst affected with respect to their college work. They described feelings of deep depression, loss of self-esteem, and inability to concentrate, as outcomes of the separation.

(3) Part-time work. While many students undertook some part-time work to supplement their studentships, only three admitted that their work was being affected adversely as a result. All of these students were working excessive hours (in one case, from 10pm to 6am, six nights a week). They were showing signs of stress and fatigue.

(4) Other factors which had a negative effect on performance were:

- Family stress (Parents separating) (2)
- Death in family (2)

Seven students said that nothing had changed in such a way as to affect their college performance.

2. The effect of particular Teaching Styles.

Question 5 asked students about a teaching style adopted by any lecturer, that they either liked or disliked: Over 70 percent of the responses to this question focussed on the issue of passive listening versus active participation. Students liked teaching styles that allowed them to participate in discussion, and engage in activities such as research. They also liked lecturers who could vary their approach to teaching. For example:

"I enjoy practical things, like working on my own projects outside college, such as interviewing children." 35. F. (R).

"I prefer informal lecturer styles where lecturers use a variety of approaches." 21. F. (R).

active participation involving you and the lecturer - helping you to understand and relate." 02. F. (S).

Conversely, students disliked being talked at or lectured to. For example:

"I intensely dislike being talked at or lectured to." 21. F. (R).

"I hate being bored by someone talking at me." 62. F. (R.)

"I dislike the lecture situation where you have to concentrate for long periods." 15. M. (S).

Several responses reflected on lecturer credibility.

"They want us to try out all kinds of things, methods and that, but they don't do it themselves. They are saying, 'Do as I say', not 'Do as I do.'" 88. F. (S).

Lecturers who provided a challenge were appreciated by some students, as were lecturers who provided lots of examples. Characteristics of lecturers which were disliked were:

- Having unclear objectives and guidelines
- Being disorganized
- Giving fast garbled presentations.

Although the question aimed at teaching style, many of the responses focussed on aspects of teacher personality.

Students liked lecturers who:

- Were approachable and friendly
- Treated you as a person
- Had a sense of humour
- Could communicate easily

Students disliked lecturers who were:

- Condescending
- Disinterested
- Remote

General Evaluation of Each Year at College.

One means of getting students to evaluate their time at college, was to have them generate adjectives to describe each year. The wording of question 10 was - "Use as many adjectives as you like, either positive or negative, to describe your feelings about your college experiences for each of the three years." While adjectives were asked for, students produced nouns and verbs as well, and sometimes phrases. The responses to this question are summarized below.

A very large number of adjectives were generated, but by grouping those that were roughly synonymous, 12 discrete categories could be formed. For example, adjectives such as '*happy, enjoyable, exciting, fun, excellent, great*' formed a group which might be labelled 'enjoyable'. And adjectives like '*anxious, scarey, unsure, frightening,*' formed a group which might be labelled 'anxious'.

It was then fairly easy to classify these categories as being positive or negative. For example, the category 'enjoyable', listed above has obvious positive connotations, and the category 'anxious' has negative connotations.

As can be seen from TABLE B.18, the Surface-confused group produced considerably more negative adjectives to describe their first year than did the Random group. A Chi-square analysis indicated that this difference was significant at the .05 level. ($\chi^2 = 4.6$). In Years Two and Three this difference disappeared. This is a particularly interesting result, because it is a validation of the Surface-confused scale of the ASI, used to select that particular group. Three years later, students could still look back and recall the negative feelings they had in year one, which were also expressed in their responses to the ASI at that time.

TABLE B.18 The number of positive and negative statements generated by the Surface-confused and Random groups to describe each of their three years at college. (Interview 5)

	Positive			Negative		
	Yr.1	Yr.2	Yr.3	Yr.1	Yr.2	Yr.3
Sur-con	7	14	21	19	12	17
Random	22	32	32	19	10	18
Total	29	46	53	38	22	35

Examples of positive and negative statements are listed below:

Positive: socially rewarding, friendships
enriching, rewarding, new experiences
successful, good results

Negative: confusing, unsettled, misunderstandings
homesick, lonely, depressed
frustrating, pointless

In Year 2, as mentioned above, the group differences disappeared. Both groups gave more positive statements than they did in Year 1, but with the total number of responses being about the same. Some statements that were specific to Year 2 are listed below:

Positive: Relaxing, less pressure
Better grades, better organized, increase in confidence
Relevant, more practicable, interesting

Negative: Having doubts, thought about quitting,
mediocre, slow, boring
Hard work, pressure

In Year 3, while the pattern is similar to Year 2 in that both groups increased the number of positive statements, the total number of statements generated was about 30 percent greater. This is probably due to the immediacy of the third year. The majority of the positive responses were in the 'enjoyable' category, indicating that students generally found their third year to be an enjoyable experience.

A few responses which were specific to the third year are listed below.

Positive: I can teach! growth as a teacher,
Achieved my goal
Relief, mixed feelings
Relevant and practicable

Negative: Worried, nervous, apprehensive
Depressed, lost, confused, sad
Slightly disillusioned, anti-climax
Angry, terrible

The latter groups reflect the feelings of some of the students, as they end one period of their lives, and face the challenge of responsible adulthood. Some are confident, and look forward to the year ahead with excitement. Others are nervous and apprehensive, still feeling a little inadequate. A few expressed mixed feelings, excited about the future, and sad about leaving people they have been close to for three years.

PROTOCOL FOR STAFF INTERVIEW ONE

INTRODUCTION: I am interested in your views as to how students develop or change as a result of their experiences in college. I know it may be difficult to generalize, but please try.

- Q.1 What qualities are typically present in a student who is successful in your courses?
- Q.2 What qualities are typically present in a student who is not successful in your courses?
- Q.3. Thinking now about students when they first come into college, how well equipped do you think they are to study effectively in your course(s)?
(Prompt: skills: essay writing, reading, approach, researching. Attitudes: industrious, independent, positive, etc.)
- Q4. Do you believe that students' approaches to studying changes significantly over three years at college?
(Follow ups: YES - In what ways? NO - Why not?)
- Q.5 Would you tell me what you have actually done, or what you would like to do to help students develop effective study skills over three years. (*Take one question at a time.*).
- Q.5. What is your idea of the ideal student?

SUMMARY: STAFF INTERVIEWS

QUESTION 1. What qualities are typically present in a student who is successful in your courses?

(A) Academic Qualities:

Twelve out of the thirteen respondents included academic qualities in their descriptions of successful students. In order of the number of mentions in each category, it seems that successful students:

- Can make links between theory and practice. (6)
- Have competencies - especially in language use, learning skills and in background knowledge. (5)
- Have a flexible, open approach to learning. (3)
- Have high level thinking skills of analysing, relating and evaluating. (3)
- Have a questioning, thinking approach to problems. (3)
- Are syllabus-free. (don't limit themselves to course materials) (1)
- Are objective. (1)

(B) Attitudinal Qualities:

Ten respondents mentioned attitudes. Successful students are seen to be:

- Flexible and open-minded. (3)
- Participators - willing to give things a go. (3)
- Positive. (3)
- Sensitive and have empathy with people. (2)
- Committed.

(C) Personality Characteristics.

Nine respondents mentioned personality traits in their description of successful students - but there was considerable variety. Successful students are:

- Confident. (3)
- Concerned about children. (2)
- Conscientious. (2)
- Responsible. (1)
- Competitive. (1)
- Cooperative. (1)
- Resourceful. (1)
- Creative. (1)
- Persevering. (1)
- Independent. (1)

(D) Motivational Characteristics.

Seven respondents mentioned motivational aspects, seeing successful students as being:

- Intrinsically motivated. (5)
- Success orientated. (4)
- High in need for achievement. (3)
- Extrinsically motivated. (1)

QUESTION 2. What qualities are typically present in a student who is not successful in your courses?

(A) Academic Qualities.

Ten of the thirteen respondents specifically mentioned academic qualities in their descriptions. Unsuccessful students:

- Have a closed passive approach to learning. (5)
- Lack basic skills in reading and writing. (5)
- Have poor study habits. (3)
- Are unable to relate theory and practice. (2)
- Have low general ability. (2)

(B) Motivational Aspects

Ten respondents mentioned aspects of motivation related to failure. Unsuccessful students:

- Have a lack of commitment. (9)
(This may be manifested in several ways, such as non-attendance, lack of effort, vocational doubts and general unwillingness to get involved.)
- Have external attributions of causality. (3)
- Are not interested. (1)

(C) Attitudinal Qualities

Five respondents suggested that attitudes have something to do with lack of success. Unsuccessful students:

- Have rigid inflexible attitudes. (3)
- Are apathetic. (1)
- Have a know-it-all attitude. (1)

(D) Personality Characteristics

Five respondents mentioned personality characteristics which they thought were associated with failure. Unsuccessful students:

- Have closed minds. (2)
- Lack confidence. (1)
- Are lazy. (1)
- Are disorganized.

N.B. *Three staff members accepted responsibility for student failure.*

QUESTION 3. 'When they first come into college, how well equipped do you think students are to study effectively in your courses?'

Almost all the respondents mentioned that there was considerable variation in students' readiness to begin study in their courses. This was attributed to several factors, such as, age (older students being better equipped to begin study); previous university experience; the influence of previous teachers; related courses undertaken by students at High School.

Most of the respondents in describing first year students, mentioned characteristics typical of Perry's first stage which he called 'the absolutist approach to knowledge' (Perry 1970), but few of the staff interviewed recognized it as a stage, attributing it instead, to a personal flaw in the student; the fault of the education system; or as the result of current social conditions. Three respondents did recognize that the absolutist

approach to knowledge common in beginning students, is a stage, and acknowledged that they had a role to play in assisting students to develop beyond that stage.

Nine respondents thought that students came into the college generally ill-equipped in terms of:

- Ability with written language. (4)
- Ability to organize. (1)
- Having poor study techniques. (4)

There appeared to be special problems relating to student readiness in two curriculum areas:

- (1) Physical education (where students generally have false expectations as to what the course is actually about).
- (2) Music (students with ability in music tended to opt for other courses, with the result that students who actually did enrol had insufficient background in knowledge or skills).

Four staff members thought that on the whole students were well equipped to begin study in their courses. They tended to take the view that you had to take students from where they were, not from where somebody thought they ought to be. One respondent thought that students at entry usually brought very good personal skills of being able to relate to people.

Four respondents specifically mentioned that students were highly motivated at entry, but many others mentioned this when considering the question of how students changed over three years.

QUESTION 4. Do you believe that students' approaches to studying changes significantly over three years at college?

Two respondents noted that students generally improved in such things as meeting course requirements and in their ability to write.

The change towards relativistic reasoning (Perry 1970), was described by four subjects. They saw students becoming less rigid in their thinking; realizing that things are not usually right/wrong or good/bad, and that there are other legitimate viewpoints.

Four of the staff interviewed noted change but expressed reservations as to the quality of the changes. Two thought that students learned to conform and to play the academic game. This could take the form of students anticipating what lecturers wanted and giving it to them. Another two thought that students became more cynical and pragmatic.

Four lecturers thought that there was really little change in students with respect to their study techniques or approaches to learning. Most students in their view were no better at putting ideas together and they were still not independent learners by the end of their third year. One respondent suggested that students actually develop skills in how to avoid study.

Ten respondents noted motivational changes in students over three years. About half of them described the change in motivation as a 'U' shaped function with a sharp drop off in motivation during the second year. These likened second year students to fourth formers at school. Three staff members said that motivation increased sharply towards the end of the final

year when students realized that very soon they would be facing their own class.

One noted a change in attitude, the idealism of Year One giving way to pragmatism in Year Three.

One staff member saw no change in motivation - the high level of motivation in Year One was maintained throughout the three years in this lecturer's course.

QUESTION 5. What have you actually done, or what would you like to do, to help students develop effective study skills over the three years?

The responses to the first part of the question, (*What the lecturers actually did to help students develop*) fell into two categories; direct instruction, and indirect instruction.

Direct instruction.

(1) Use of a study skills booklet. Within the first few weeks of starting at college, all students in 1987 were issued with a Study Skills booklet, and staff members who were T-Group advisors took their students through it section by section during the weekly advisory meetings.

(2) Course-related instruction. In two courses students were given written guidelines on essay writing. Staff teaching in these courses were expected to discuss these guidelines with

the students when the first essay topics were given. One lecturer teaching in a learning theory course, described how she attempted to get students in her tutorial groups to apply some of the content (e.g. how people learn; aspects of cognitive processes and motivation etc.) to their own learning. Other lecturers described how they would assist students adopt techniques of learning, and ways of thinking appropriate to a specific course, through their own teaching methods (e.g. History, Reading and Science lecturers).

(3) Individual instruction. Several lecturers said that they frequently requested students to come and see them if some aspect of the student's work was problematic. Two said that they were prepared to give students individual help, but they preferred the initial move to come from the student. One staff member actually assisted students with their assignments - something, he said, that the students found strange.

Indirect Instruction

The most common way in which staff assisted students to develop effective study strategies was through the general tenor of the class instruction. Two lecturers, for example, laid great stress on cooperative learning. Their classes usually took this form and assignments were set which required students to work cooperatively. One lecturer saw her teaching role as principally assisting students to relate course content to classroom teaching, and her teaching style was predominantly geared to this end. Three lecturers tried to give quality feedback on student assignments, and saw this as an effective way of assisting them develop study skills, particularly with respect to essay writing.

QUESTION 6. How would you describe the 'ideal student'?

When the staff who were interviewed were asked to describe the qualities which made for successful students, they placed emphasis on academic ability and on certain attitudes, with fewer number of responses focussing on motivational and personality characteristics. When they considered the qualities of the ideal student, however, these emphasies were reversed. Most of the responses were related to personality and motivational variables.

1. The Personality of the Ideal Student

Enthusiasm. Six of the respondents thought that enthusiasm was the principal quality of the ideal student. It was apparent that these staff members were really putting the student in the context of the school classroom.

Independent/nonconformist. Several respondents did not see conformity as a desirable characteristic. Five described how they appreciated the challenge presented by independent thinkers, who not only challenged ideas, but also college rules and mores.

Open-minded. Five staff members thought that being open to new ideas and willingness to accept changes were priority qualities of the ideal student.

Sensitive and caring. Again, some of the lecturers interviewed projected their ideal student into the classroom arena, and saw the qualities of being sensitive and caring as essential in someone training to be a teacher.

Other. The following characteristics were mentioned only once:

- Conscientiousness
- Honesty
- Industry
- Having a sense of humour

2. Motivational Aspects

Intrinsic motivation: There was considerable agreement that the ideal student was someone who was intrinsically motivated. (seven mentions).

Self-actualization: The striving towards self fulfilment by the ideal student was commented on by three respondents.

Internal attribution of causality: One respondent thought that one important quality of the ideal student was that s/he would take full responsibility for his or her own learning.

3. Attitudinal Qualities

According to staff the ideal student is:

- Prepared to give things a go. (3)
- Flexible and open-minded. (1)
- Generally positive in outlook. (3)
- Unafraid to ask for help. (1)

4. Approaches to Learning

The ideal student should have:

- A questioning approach. (5)
- Good study skills. (3)
- The ability to integrate different ideas. (1)
- The ability to make sound judgements. (1)

5. Personal Skills

The ideal student should have:

- The ability to relate well to other people. This quality was seen as being very important by three of the respondents. Again it was obvious that they were specifically thinking of the student as a potential classroom teacher.
- The ability to relate to staff. Two staff members emphasized that they were able to work with the ideal student on a collegial basis.
- Mastery of basic teaching skills (mentioned by six of the respondents)..

- Note:*
1. *In discussing the ideal student, it was obvious that many of the respondents were describing a student they actually knew, rather than attempting to describe some mythical being.*
 2. *Staff who worked principally in curriculum areas tended to see the ideal student in the context of class teaching.*

APPENDIX C

MISCELLANEOUS

	Page
Appendix C.1 The Factor sub-scales of the ASI.	104
Appendix C.2 The items constructed to represent each Factor sub-scale.	116
Appendix C.3 Staff - student perceptions of student development.	118
Appendix C.4 Coefficients of internal consistency for the Entwistle and Factor sub-scales of the ASI for the Phase 1 and Phase 2 research populations.	129
Appendix C.5 ASI profiles for each of the case-studies:	131

FACTOR SCALE ONE

TITLE: DISORGANIZED AND DILATORY (*Ineffective organization and use of study time*)

Items:

1. I find it difficult to organize my study time effectively. (.57)
14. My habit of putting off work leaves me with far too much to do at the end of term. (.68)
17. Distractions make it difficult for me to do much effective work in the evenings. (.65)
28. I'm rather slow at starting work in the evenings. (.32)

Scale Reliability: .67 .76 .70

REPRESENTATIVE ITEM:

I have difficulty in getting myself organized to get down to work.

FACTOR SCALE TWO

TITLE: OPEN-ENDED QUESTIONING APPROACH. (*An open-ended tentative approach, where the learner makes use of analogies.*)

Items:

10. I often find myself questioning things that I hear in lectures or read in books. (.40)
21. In trying to understand a puzzling idea, I let my imagination wander freely to begin with, even if I don't seem to be much nearer to a solution. (.34)
25. I prefer courses to be clearly structured and highly organized. (-.30)
29. In trying to understand new ideas, I often try to relate them to real life situations to which they might apply. (.32)
31. I like to play around with ideas of my own, even if they don't get me very far. (.37)
40. In trying to understand new topics. I often explain things to myself in ways that other people don't seem to follow. (.65)
44. Often when I'm reading books, the ideas produce vivid images which sometimes take on a life of their own. (.48)

Scale reliability .60 .61 .48

REPRESENTATIVE ITEM: I like to play around with ideas presented in lectures or books, even though my ideas sometimes seem to be quite different from other peoples'.

FACTOR SCALE THREE

TITLE: CAREFUL AND LOGICAL APPROACH. (*The learner approaches a learning task carefully and cautiously, with emphasis on structure and logical sequencing.*)

Items:

11. I generally prefer to tackle each part of a topic or problem in order, working out one at a time. (.35)
25. I prefer courses to be clearly structured and highly organized. (.43)
33. I am usually cautious in drawing conclusions unless they are well supported by the evidence. (.46)
50. I need to read around a subject pretty widely before I'm ready to put my ideas down on paper. (.39)
57. I seem to be a bit too ready to jump to conclusions without waiting for all the evidence. (-.30)
59. I think it is important to look at problems rationally and logically without making intuitive jumps. (.75)
60. I find I tend to remember things best if I concentrate on the order in which the lecturer presented them. (.32)

Scale reliability: .63 .53 .47

REPRESENTATIVE ITEM: I usually attempt to solve a problem carefully and logically rather than intuitively and impulsively.

FACTOR SCALE FOUR

TITLE: DISGRUNTLED. (*The student has doubts as to vocational choice and has a passive closed approach to learning.*)

Items:

16. Lecturers seem to delight in making the simple truth unnecessarily complicated. (.43)
23. Often I find myself wondering whether the work I am doing here is really worthwhile. (.75)
24. I generally put a lot of effort into trying to understand things which initially seem difficult. (-.33)
- 63 When I look back, I sometimes wonder why I ever decided to come here. (.72)

Scale reliability: .61 .49 .41

(.65 .60 .48 if item 24 is dropped)

REPRESENTATIVE ITEM: Some of the subjects I have to study make me wonder if I really should be in teacher training.

FACTOR SCALE FIVE

TITLE: ENTHUSIASM FOR STUDY. (*The student is interested in and enthusiastic about studying.*)

Items:

47. I find that studying academic topics can often be really exciting and gripping. (.82)
- 64 I find academic topics so interesting, I should like to continue with them after I finish this course. (.58)

Scale reliability: .65 .34 .72

REPRESENTATIVE ITEM: I am hooked on academic learning.
--

FACTOR SCALE SIX

TITLE: SAFETY FIRST APPROACH. (*The learner prefers to adopt a passive approach to learning and avoids taking risks.*)

Items:

9. I like to be told precisely what to do in essays or other assignments. (.32)
27. I prefer to follow well tried approaches to problems rather than anything too adventurous. (.67)
53. Having to speak in tutorials is quite an ordeal for me. (.67)
62. Tutors seem to want me to be more adventurous in making use of my own ideas. (.33)

Scale reliability .60 .49 .47

REPRESENTATIVE ITEM: I tend to be cautious, rather than adventuresome, when doing assignments or participating in class.

FACTOR SCALE SEVEN

TITLE: NEED FOR SUCCESS. (*The learner has a high need to succeed academically, and is highly competitive.*)

Items:

4. I enjoy competition, I find it stimulating. (.47)
15. It's important to me to do really well in the courses here.
 (.45)
31. I like to play around with ideas of my own even if they
 don't get me very far. (-.33)
42. It is important to me to do things better than my friends if
 I possibly can. (.73)

Scale reliability .55 .40 .55

(.53 .47 .65 if item 31 is deleted)

REPRESENTATIVE ITEM: Because I'm very competitive, I aim to do better academically than most of my classmates.
--

FACTOR SCALE EIGHT

TITLE: SUPERFICIAL APPROACH TO STUDY. (*The learner adopts a shallow impulsive approach to studying and learning.*)

Items:

5. I usually set out to understand thoroughly the meaning of what I'm asked to read. (-.44)
19. I usually don't have time to think about the implications of what I have read. (.45)
24. I generally put a lot of effort into trying to understand things which initially seem to be difficult. (-.31)
33. I am usually cautious in drawing conclusions unless they are well supported by the evidence. (-.39)
46. I often get criticized for introducing irrelevant material into my essays or tutorials. (.62)
57. I seem to be a bit too ready to jump to conclusions without waiting for all the evidence. (.36)

Scale reliability .59 .45 .33

REPRESENTATIVE ITEM: I have trouble seeing and explaining the significance of ideas I encounter in my academic work.

FACTOR SCALE NINE

TITLE: LACK OF CONFIDENCE. (*The learner lacks confidence in the study strategies s/he has adopted.*)

Items:

26. A poor first answer in an exam makes me panic. (.62)
41. I find I have to concentrate on memorizing a good deal of what we have to learn. (.60)

Scale reliability .48 .29 .21

REPRESENTATIVE ITEM: I rely fairly heavily on memorizing material I have to learn, because I don't use other study methods confidently.

FACTOR SCALE TEN

TITLE: THOROUGHNESS IN STUDY. (*The learner is very thorough and careful, and copes well with pressure of work.*)

Items:

12. The continual pressure of work-assignments, deadlines and competition often makes me tense and depressed. (.41)
19. I usually don't have time to think about the implications of what I have read. (-.35)
52. I tend to read very little beyond what's required for completing assignments. (-.37)
61. When I'm reading an article or research report, I generally examine the evidence carefully to decide whether the conclusion is justified. (.69)

Scale reliability .57 .44 .26

<p>REPRESENTATIVE ITEM: When working on assignments I am usually very thorough about checking that my own or others' conclusions are justified by the evidence.</p>

FACTOR SCALE ELEVEN

TITLE: INITIAL EXPLORATORY STUDY STRATEGY. (*In the initial stages of studying the student goes for breadth, exploring many areas.*)

Items:

34. When I'm tackling a new topic, I often ask myself questions about it which the new information should answer. (.78)
50. I need to read around a subject pretty widely before I'm ready to put my ideas down on paper. (.46)
52. I tend to read very little beyond what is required for completing assignments. (-.33)

Scale reliability .54 .50 .38

REPRESENTATIVE ITEM: In the initial stages of studying a new topic I raise questions which may prompt further reading before I start to focus on specific details.

FACTOR SCALE TWELVE

TITLE: VOCATIONAL IMPETUS. (*The student is motivated principally by the prospect of job opportunities.*)

Items:

7. I chose my present courses mainly to give me the chance of a really good job afterwards. (.57)
22. My main reason for being here is that it will help me to get a better job. (.73)

Scale reliability .50 .44 .38

REPRESENTATIVE ITEM: My studies at college are motivated mainly by my desire to have a career in teaching.

ITEMS TO BE INSERTED INTO THE A.S.I.

These items which were constructed to represent each of the Factor Scales of the Approaches to Studying Inventory were inserted into that inventory for administration to the Phase Two population.

Item Number	Factor	Item
5.	Disorganized and Dilatory	I have difficulty in getting myself organized to get down to work.
10.	Open Questioning	I like to play around with ideas presented in lectures or books, even though my ideas sometimes seem to be quite different from other peoples'.
15.	Careful-logical	I usually attempt to solve a problem carefully and logically, rather than intuitively and impulsively.
20.	Disgruntled	Some of the subjects I have to study make me wonder if I really should be in teacher training.
25.	Enthusiasm	I am hooked on academic learning.
30.	Safety-first	I tend to be cautious, rather than adventuresome, when doing assignments or participating in class.
35.	Need for success	Because I'm very competitive, I aim to do better academically than most of my classmates.
40.	Superficial	I have trouble seeing and explaining the significance of ideas I encounter in my academic work.
45.	Non-confident	I rely fairly heavily on memorizing material I have to learn, because I don't use other study methods confidently.
50.	Thoroughness	When working on assignments I am usually very thorough about checking that my own or other's conclusions are justified by the evidence.

55. Initial exploratory In the initial stages of studying a new topic I raise questions which may prompt further reading, before I start to focus on specific details.
60. Vocational impetus My studies at college are motivated mainly by my desire to have a career in teaching.

APPENDIX C.3

Student - staff perceptions of student development.

The items which comprised the Staff Perceptions of Student Development Questionnaire (SPSDQ) were also embedded in the Approaches to Studying Inventory (ASI) and thus staff and students responded to the same items allowing for comparisons of perceptions of student approaches to studying and learning. The results are detailed in the following tables.

(N.B. Students were instructed to avoid the middle category of the scale if possible. Staff did not receive such instructions when completing the SPSPDQ).

<u>TABLE</u>		Page.
TABLE C.1	Means of Staff responses (n=13) to each item of the Staff Perceptions of Student Development Questionnaire (figures in percentages).	118
TABLE C.2	Frequencies of student responses to the items of the Staff Perceptions of Student Development Questionnaire which were embedded in the ASI (figures in percentages) for each year of study.	119
TABLE C.3	Frequencies (in percentages) of students in each category of the five-point scale for items of the SPSPDQ as perceived by staff and students.	120
TABLE C.4	Percentage (to nearest whole number) of students categorized on a bi-polar scale by students and staff for each item of the SPSPDQ, for each year of study.	124

TABLE C.1 Means of Staff responses (n=13) to each item of the Staff Perceptions of Student Development Questionnaire (figures in percentages).

		(V.low)				(V.high)
ITEM 1.	Yr.1	10.0	23.8	29.6	22.3	13.8
	Yr.2	9.4	17.2	35.0	23.3	15.0
	Yr.3	12.3	25.9	30.9	18.6	12.3
ITEM 2.	Yr.1	13.8	27.3	38.1	13.1	7.7
	Yr.2	6.7	20.6	45.0	16.7	11.1
	Yr.3	8.6	17.7	43.6	16.8	13.2
ITEM 3	Yr.1	12.7	23.1	30.4	23.1	10.8
	Yr.2	7.8	18.9	35.0	22.8	15.6
	Yr.3	7.7	21.4	32.7	21.4	16.8
ITEM 4	Yr.1	16.5	25.8	26.2	19.6	11.9
	Yr.2	8.3	14.5	37.2	23.3	16.7
	Yr.3	13.6	25.0	30.5	16.4	14.5
ITEM 5.	Yr.1	20.0	29.6	30.0	13.5	6.9
	Yr.2	21.7	26.1	27.8	15.6	8.3
	Yr.3	22.3	28.6	23.2	14.1	12.3
ITEM 6	Yr.1	5.4	10.8	28.1	28.1	27.7
	Yr.2	7.2	16.7	39.4	20.0	16.7
	Yr.3	11.8	18.6	30.9	19.5	19.1
ITEM 7.	Yr.1	18.5	21.5	30.0	19.6	10.4
	Yr.2	16.1	15.6	35.0	20.0	13.3
	Yr.3	15.5	20.5	31.4	18.8	14.5
ITEM 8.	Yr.1	8.8	18.5	31.5	21.2	20.0
	Yr.2	10.6	17.8	35.6	18.9	17.2
	Yr.3	17.3	22.7	24.1	20.0	15.9
ITEM 9.	Yr.1	8.1	13.1	29.2	28.5	21.2
	Yr.2	9.4	15.6	31.1	22.8	21.1
	Yr.3	14.5	22.3	29.5	15.9	17.7
ITEM 10.	Yr.1	17.7	30.4	25.8	16.9	9.2
	Yr.2	12.8	22.2	37.7	16.1	11.1
	Yr.3	10.0	20.9	35.5	19.1	14.5
ITEM 11.	Yr.1	22.7	30.0	26.5	13.5	7.3
	Yr.2	16.1	26.1	30.6	17.8	9.4
	Yr.3	2.7	5.5	17.3	32.2	42.3
ITEM 12.	Yr.1	2.7	10.0	18.1	33.5	35.8
	Yr.2	2.8	7.2	22.3	40.0	27.0
	Yr.3	2.7	5.5	17.3	32.3	42.3

TABLE C.2 Frequencies (in percentages) of student responses to the the items of the Staff Perceptions of Student Development Questionnaire which were embedded in the ASI for each year of study.

		(V.low)				(V.high)
ITEM 1.	Yr.1	14.0	30.9	2.9	34.6	17.6
	Yr.2	10.0	36.9	0.0	33.8	19.2
	Yr.3	16.8	31.7	2.0	31.7	17.8
ITEM 2.	Yr.1	14.0	22.8	6.6	39.7	16.9
	Yr.2	6.9	23.1	7.7	47.7	14.6
	Yr.3	11.9	26.7	5.0	42.6	13.9
ITEM 3	Yr.1	3.7	15.4	5.1	55.9	19.9
	Yr.2	2.3	16.9	5.4	55.4	20.0
	Yr.3	2.0	14.9	4.0	55.4	23.8
ITEM 4	Yr.1	24.3	30.9	5.1	24.3	15.4
	Yr.2	12.3	30.8	2.3	37.7	16.9
	Yr.3	19.8	16.8	4.0	36.6	22.8
ITEM 5.	Yr.1	34.6	39.7	11.0	13.2	1.5
	Yr.2	23.8	46.2	10.8	16.9	2.3
	Yr.3	29.7	34.7	5.9	24.8	5.0
ITEM 6	Yr.1	11.0	25.0	2.2	45.6	16.2
	Yr.2	4.6	26.9	1.5	47.7	19.2
	Yr.3	11.9	19.8	3.0	39.6	25.7
ITEM 7.	Yr.1	27.9	43.4	5.9	18.4	4.4
	Yr.2	35.4	45.4	3.8	10.0	5.4
	Yr.3	36.6	41.6	5.0	14.9	2.0
ITEM 8.	Yr.1	10.3	42.6	8.1	34.6	4.4
	Yr.2	10.0	45.4	6.9	33.1	4.6
	Yr.3	15.8	39.6	2.0	33.7	8.9
ITEM 9.	Yr.1	20.6	30.9	0.7	32.4	15.4
	Yr.2	15.4	37.7	3.1	35.4	8.5
	Yr.3	27.7	26.7	5.0	33.7	16.9
ITEM 10.	Yr.1	0.7	31.6	4.4	43.4	19.9
	Yr.2	3.1	29.2	6.9	50.8	10.0
	Yr.3	2.0	23.8	5.9	51.5	16.8
ITEM 11.	Yr.1	11.8	45.6	8.8	29.4	4.4
	Yr.2	8.5	39.2	8.5	40.0	3.8
	Yr.3	7.9	38.6	6.9	33.7	12.9
ITEM 12.	Yr.1	2.9	11.8	2.2	31.6	51.5
	Yr.2	2.3	9.2	1.5	42.3	44.7
	Yr.3	4.0	11.9	2.0	38.6	43.5

TABLE C.3 Frequencies (in percentages) of students in each category of the five-point scale for items of the SPSDQ as perceived by staff and students.

Item 1. (Disorganized and Dilatory)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	14.0	30.9	2.9	34.6	17.6
	Staff	10.0	23.8	29.6	22.3	13.8
Year 2	Students	10.0	36.9	0.0	33.8	19.2
	Staff	9.4	17.2	35.0	23.3	15.0
Year 3	Students	16.8	31.7	2.0	31.7	17.8
	Staff	12.3	25.9	30.0	18.6	12.3

Item 2. (Open Approach)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	14.0	22.8	6.6	39.7	16.9
	Staff	13.8	27.3	38.1	13.1	7.7
Year 2	Students	6.9	23.1	7.7	47.7	14.6
	Staff	6.7	20.6	45.0	16.7	11.1
Year 3	Students	11.9	26.7	5.0	42.6	13.9
	Staff	8.6	17.7	43.6	16.8	13.2

Item 3. (Careful and Logical)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	3.7	15.4	5.1	55.9	19.9
	Staff	12.7	23.1	30.4	23.1	10.8
Year 2	Students	2.3	16.9	5.4	55.4	20.0
	Staff	7.8	18.9	35.0	22.8	15.6
Year 3	Students	2.0	14.9	4.0	55.4	23.8
	Staff	7.7	21.4	32.7	21.4	16.8

Item 4. (Disgruntled)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	24.3	30.9	5.1	24.3	15.4
	Staff	16.5	25.8	26.2	19.6	11.9
Year 2	Students	12.3	30.8	2.3	37.7	16.9
	Staff	8.3	14.5	37.2	23.3	16.7
Year 3	Students	19.8	16.8	4.0	36.6	22.8
	Staff	13.6	25.0	30.5	16.4	14.5

Item 5. (Enthusiasm for Study)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	34.6	39.7	11.1	13.2	1.5
	Staff	20.0	29.6	30.0	13.5	6.9
Year 2	Students	23.8	46.2	10.8	16.9	2.3
	Staff	21.7	26.1	27.8	15.6	8.3
Year 3	Students	29.7	34.7	5.9	24.8	5.0
	Staff	22.3	28.2	23.2	14.1	12.3

Item 6. (Safety-first Approach)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	11.0	25.0	2.2	45.6	16.2
	Staff	5.4	10.8	28.1	28.1	27.7
Year 2	Students	4.6	26.9	1.5	47.7	19.2
	Staff	7.2	16.7	39.4	20.0	16.7
Year 3	Students	11.9	19.8	3.0	39.6	25.7
	Staff	11.8	18.6	30.9	19.5	19.1

Item 7. (Need for Success)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	27.9	43.4	5.9	18.4	4.4
	Staff	18.5	21.5	30.0	19.6	10.4
Year 2	Students	35.4	45.4	3.8	10.0	5.4
	Staff	16.1	15.6	35.0	20.0	13.3
Year 3	Students	36.6	41.6	5.0	14.9	2.0
	Staff	15.5	20.5	31.4	18.2	14.5

Item 8. (Superficial Approach)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	10.3	42.6	8.1	34.6	4.4
	Staff	8.8	18.5	31.5	21.2	20.1
Year 2	Students	10.0	45.4	6.9	33.1	4.6
	Staff	10.6	17.8	35.6	18.9	17.2
Year 3	Students	15.8	39.6	2.0	33.7	8.9
	Staff	17.3	22.7	24.1	20.0	15.9

Item 9. (Lack of Confidence)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	20.6	30.9	0.7	32.4	15.4
	Staff	8.1	13.1	29.2	28.5	21.2
Year 2	Students	15.4	37.7	3.1	35.4	8.5
	Staff	9.4	15.6	31.1	22.8	21.1
Year 3	Students	27.7	26.7	5.0	33.7	6.9
	Staff	14.5	22.3	29.5	15.9	17.7

Item 10. (Thoroughness in Study)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	0.7	31.6	4.4	43.4	19.9
	Staff	17.7	30.4	25.8	16.9	9.2
Year 2	Students	3.1	29.2	6.9	50.8	10.0
	Staff	12.8	22.2	37.7	16.1	11.1
Year 3	Students	2.0	23.8	5.9	51.5	16.8
	Staff	10.0	20.9	35.5	19.1	14.5

Item 11. (Initial - exploratory)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	11.8	45.6	8.8	29.4	4.4
	Staff	22.7	30.0	26.5	13.5	7.3
Year 2	Students	8.5	39.2	8.5	40.0	3.8
	Staff	16.1	26.1	30.6	17.8	9.4
Year 3	Students	7.9	38.8	6.9	33.7	12.9
	Staff	2.7	5.5	17.3	32.2	42.3

Item 12. (Vocational Impetus)		CATEGORIES OF FIVE-POINT SCALE				
		(v.low)		(v.high)		
		0	1	2	3	4
Year 1	Students	2.9	11.8	2.2	31.6	51.5
		2.7	10.0	18.1	33.5	35.8
Year 2	Students	2.3	9.2	1.5	42.3	44.6
	Staff	2.8	7.2	22.3	40.0	27.0
Year 3	Students	4.0	11.9	2.0	38.6	43.6
	Staff	2.7	5.5	17.3	32.3	42.3

TABLE C.4 Percentage (to nearest whole number) of students categorized on a bi-polar scale by students and staff for each item of the SPSDQ, for each year of study.

ITEM 1. (Disorganized and Dilatory)

Year	STUDENTS		STAFF	
	Low	high	Low	High
1	55	40	72	28
2	43	55	66	34
3	36	59	66	34

ITEM 2. (Open Approach)

Year	STUDENTS		STAFF	
	Low	high	Low	High
1	37	57	65	35
2	30	62	50	50
3	39	57	46	54

ITEM 3. (Careful and Logical)

Year	STUDENTS		STAFF	
	Low	high	Low	High
1	19	76	51	49
2	19	75	42	53
3	17	79	44	56

ITEM 4. (Disgruntled)

	STUDENTS		STAFF	
Year	Low	high	Low	High
1	55	40	72	28
2	43	55	66	34
3	36	59	66	34

ITEM 5. (Enthusiasm for Study)

	STUDENTS		STAFF	
Year	Low	high	Low	High
1	74	15	71	29
2	70	19	66	34
3	64	33	65	35

ITEM 6. (Safety - first Approach)

	STUDENTS		STAFF	
Year	Low	high	Low	High
1	36	62	22	78
2	32	67	39	61
3	32	65	44	56

ITEM 7. (Need for Success)

	STUDENTS		STAFF	
Year	Low	high	Low	High
1	71	23	57	43
2	81	15	49	51
3	78	17	52	48

ITEM 8. (Superficial Approach)

	STUDENTS		STAFF	
Year	Low	high	Low	High
1	53	39	39	60
2	55	48	44	56
3	55	43	53	47

ITEM 9. (Lack of Confidence)

	STUDENTS		STAFF	
Year	Low	high	Low	High
1	51	48	29	71
2	53	44	36	64
3	54	41	53	47

ITEM 10. (Thoroughness in Study)

Year	STUDENTS		STAFF	
	Low	high	Low	High
1	32	63	65	35
2	32	61	56	44
3	26	68	48	52

ITEM 11. (Initial Exploratory Approach)

Year	STUDENTS		STAFF	
	Low	high	Low	High
1	57	34	65	35
2	48	44	56	44
3	46	46	10	90

ITEM 12. (Vocational Impetus)

Year	STUDENTS		STAFF	
	Low	high	Low	High
1	15	83	16	84
2	12	87	14	86
3	16	82	11	89

TABLE C.5 Reliability coefficients of internal consistency for (A) the Entwistle sub-scales and (B) the Factor sub-scales of the ASI for the Phase One (longitudinal) population.

(A) RELIABILITY COEFFICIENTS (Entwistle Sub-scales)				
Sub-scale	Year 1	Year 2	Year 3	(Mean)
Deep Approach	.31	.47	.38	(.39)
Relating Ideas	.25	.41	.27	(.31)
Use of Evidence	.21	.29	.06	(.19)
Intrinsic Mot.	.61	.48	.58	(.56)
Surface Appr.	.38	.35	.37	(.37)
Syllabus Bound	.40	.48	.45	(.44)
Fear of Failing	.42	.46	.48	(.45)
Extrinsic Mot.	.38	.61	.37	(.45)
Strategic Appr.	.26	.44	.45	(.38)
Disorganized Sty.	.65	.76	.70	(.70)
Negative Attitude	.43	.52	.45	(.47)
Achievement Mot.	.41	.42	.63	(.49)
Comp. Learning	.48	.64	.60	(.57)
Globetrotting	.56	.28	.26	(.37)
Operation Learn.	.38	.34	.30	(.34)
Improvvidence	.31	.39	.42	(.37)

(B) RELIABILITY COEFFICIENTS (Factor Sub-scales)				
	Year 1	Year 2	Year 3	(Mean)
Disorg.-Dil.	.67	.76	.70	(.71)
Open Approach	.60	.61	.48	(.56)
Careful Logical	.63	.53	.47	(.54)
Disgruntled	.61	.49	.41	(.54)
Enthus. for Study	.65	.34	.72	(.57)
Safety-first App.	.60	.49	.47	(.51)
Need for Success	.55	.40	.55	(.50)
Superficial App.	.59	.45	.33	(.46)
Lack of Confidence	.48	.29	.21	(.33)
Thoroughness	.57	.44	.26	(.42)
Initial Explore	.54	.50	.38	(.47)
Vocational Impetus	.50	.44	.38	(.44)

TABLE C.6 Reliability coefficients of internal consistency for (A) the Entwistle sub-scales and (B) the Factor sub-scales of the ASI for the Phase Two (Cross-sectional) population.

(A) RELIABILITY COEFFICIENTS (Entwistle Sub-scales)				
Sub-scale	Year 1	Year 2	Year 3	(Mean)
Deep Approach	.50	.40	.40	(.45)
Relating Ideas	.40	.48	.48	(.47)
Use of Evidence	.61	.48	.01	(.45)
Intrinsic Mot.	.64	.54	.62	(.60)
Surface Appr.	.32	.47	.60	(.47)
Syllabus Bound	.32	.36	.23	(.30)
Fear of Failing	.41	.41	.56	(.46)
Extrinsic Mot.	.47	.63	.56	(.56)
Strategic Appr.	.22	.23	.16	(.19)
Disorganized Sty.	.76	.74	.73	(.75)
Negative Attitude	.46	.43	.51	(.46)
Achievement Mot.	.45	.53	.36	(.46)
Comp. Learning	.59	.48	.54	(.55)
Globetrotting	.35	.28	.60	(.43)
Operation Learn.	.26	.32	.56	(.39)
Improvidence	.16	.39	.56	(.39)

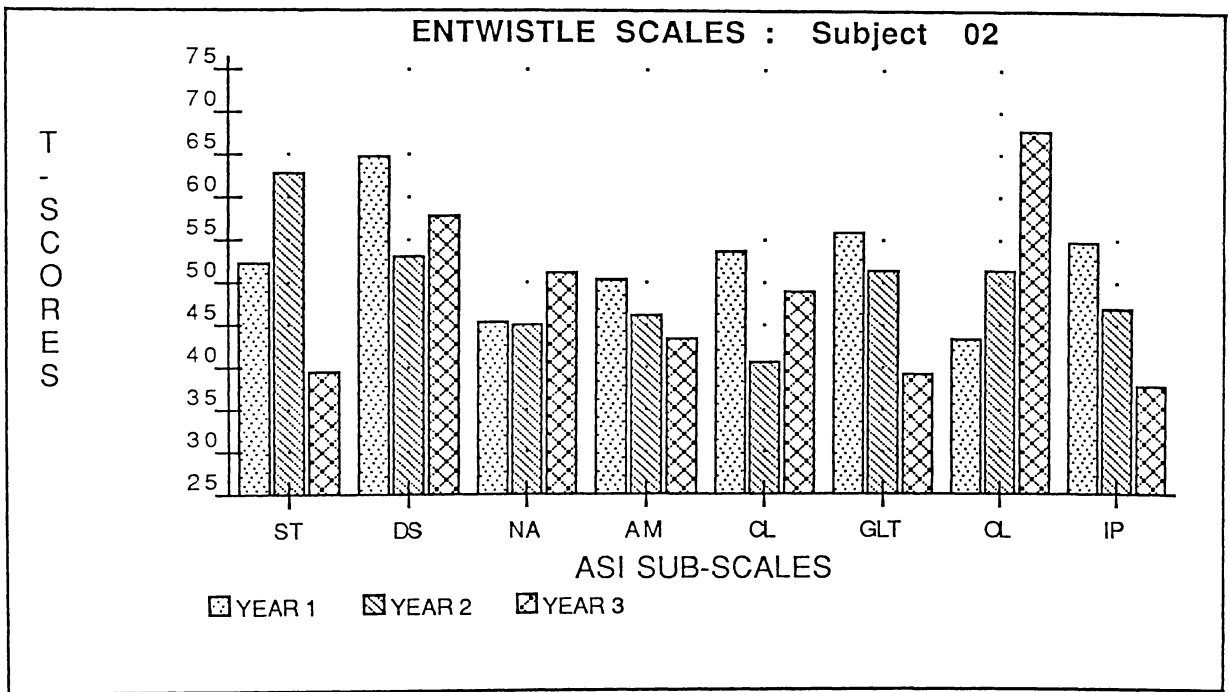
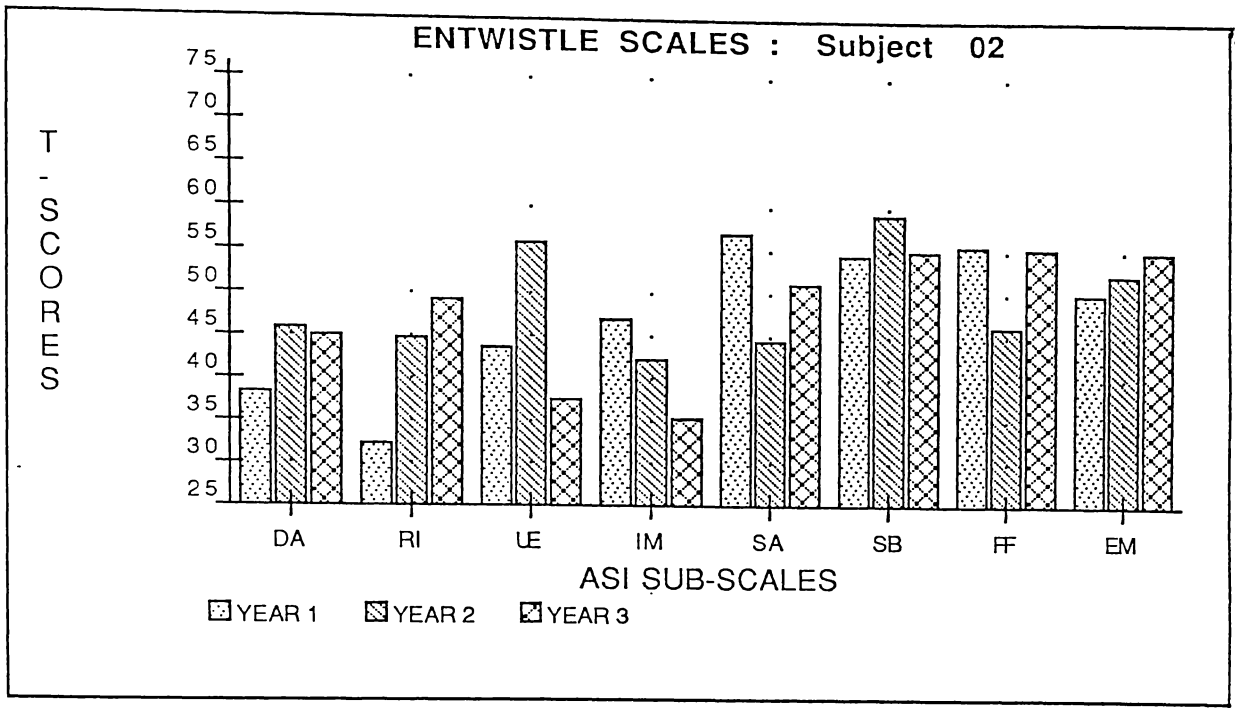
(B) RELIABILITY COEFFICIENTS (Factor Sub-scales)				
	Year 1	Year 2	Year 3	(Mean)
Disorg.-Dil.	.76	.74	.73	(.74)
Open Approach	.53	.49	.49	(.50)
Careful Logical	.48	.49	.49	(.50)
Disgruntled	.51	.39	.41	(.44)
Enthus. for Study	.49	.58	.47	(.51)
Safety-first App.	.41	.57	.38	(.44)
Need for Success	.19	.32	.26	(.26)
Superficial App.	.43	.47	.52	(.47)
Lack of Confidence	.39	.56	.35	(.43)
Thoroughness	.41	.43	.52	(.45)
Initial Explore	.42	.48	.45	(.45)
Vocational Impetus	.41	.50	.57	(.50)

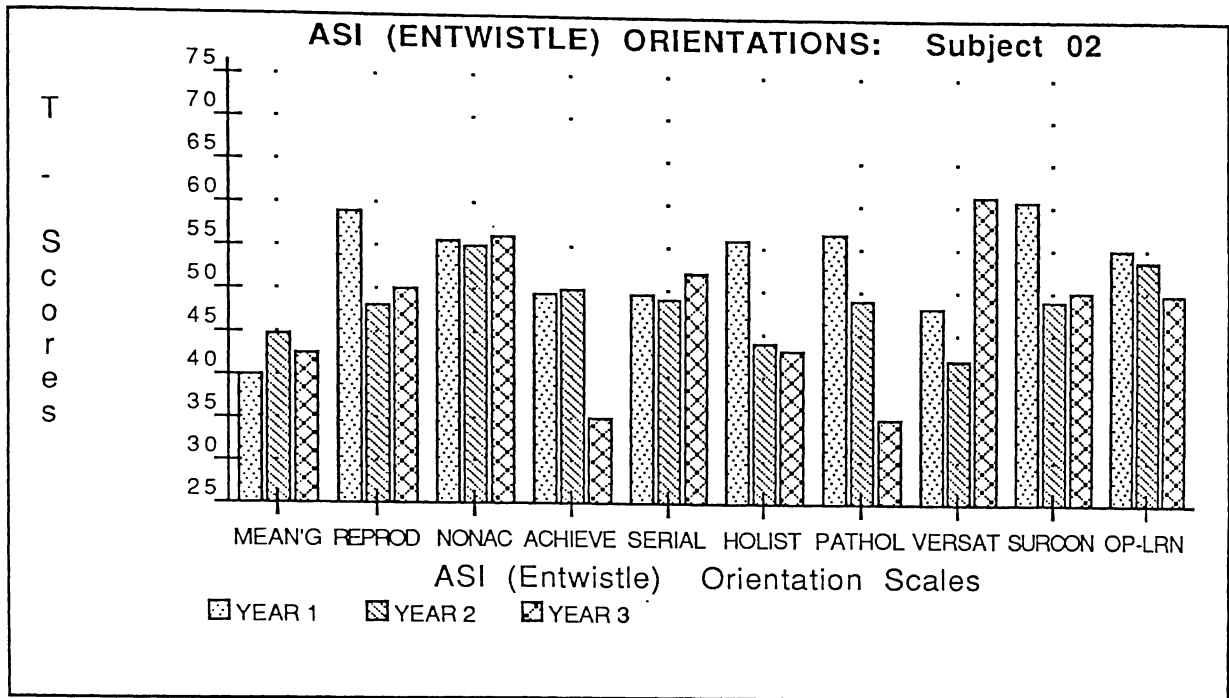
APPENDIX C.5

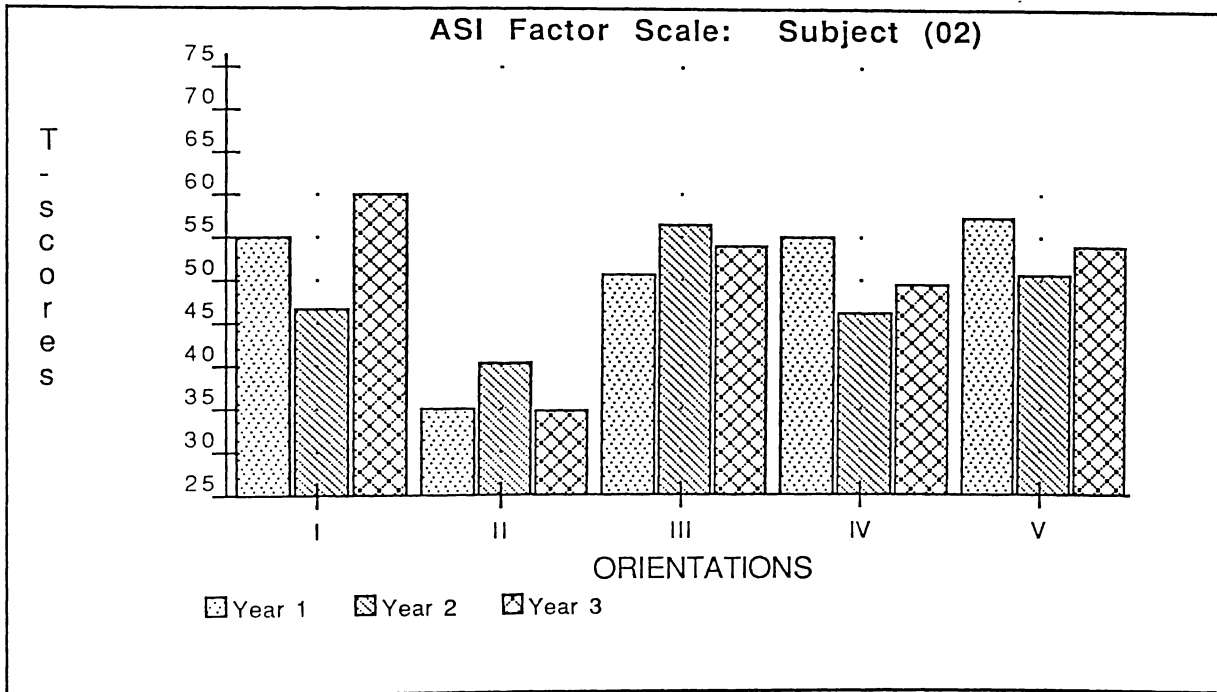
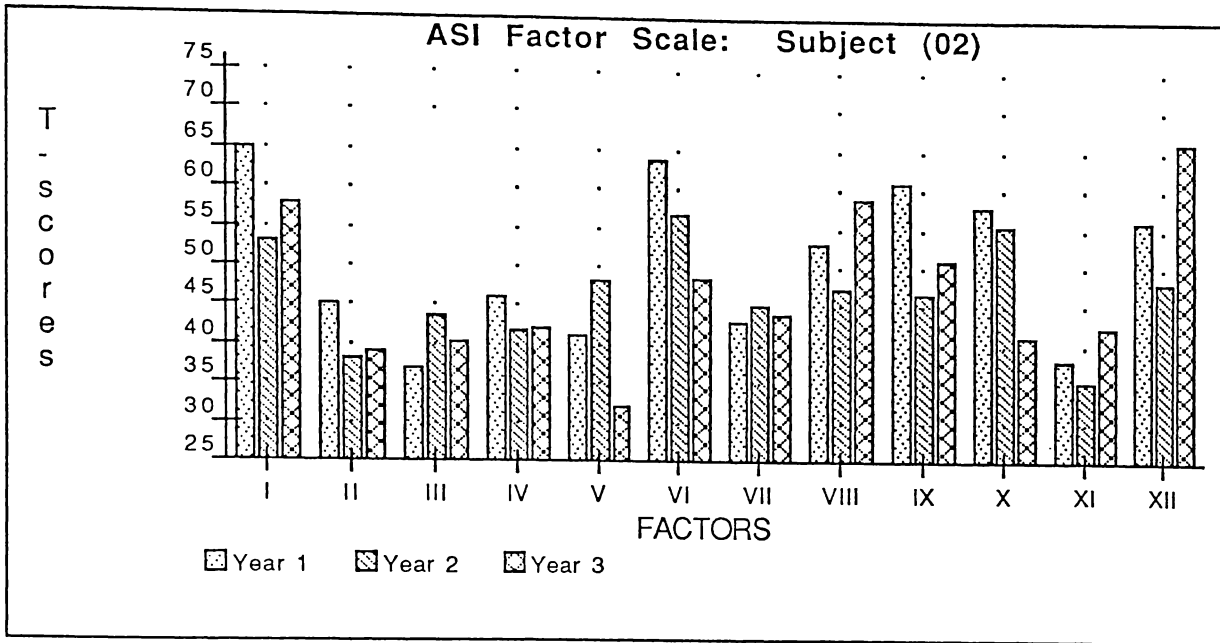
Approaches to studying Inventory profiles
for the six case studies

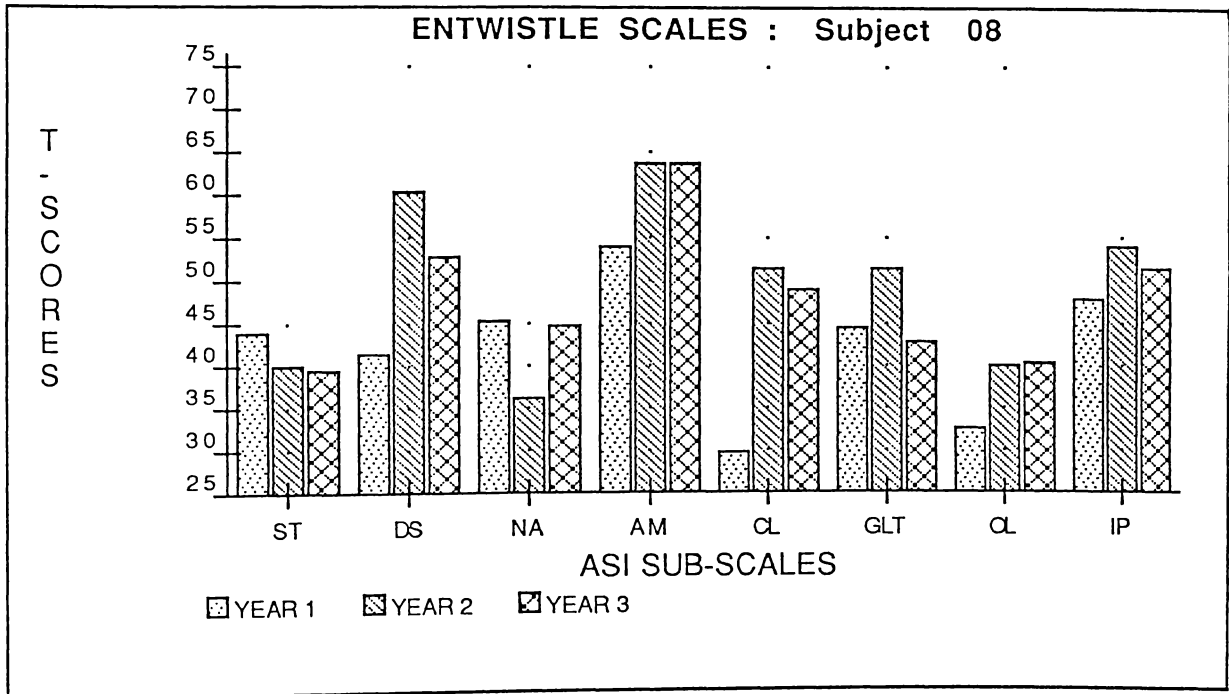
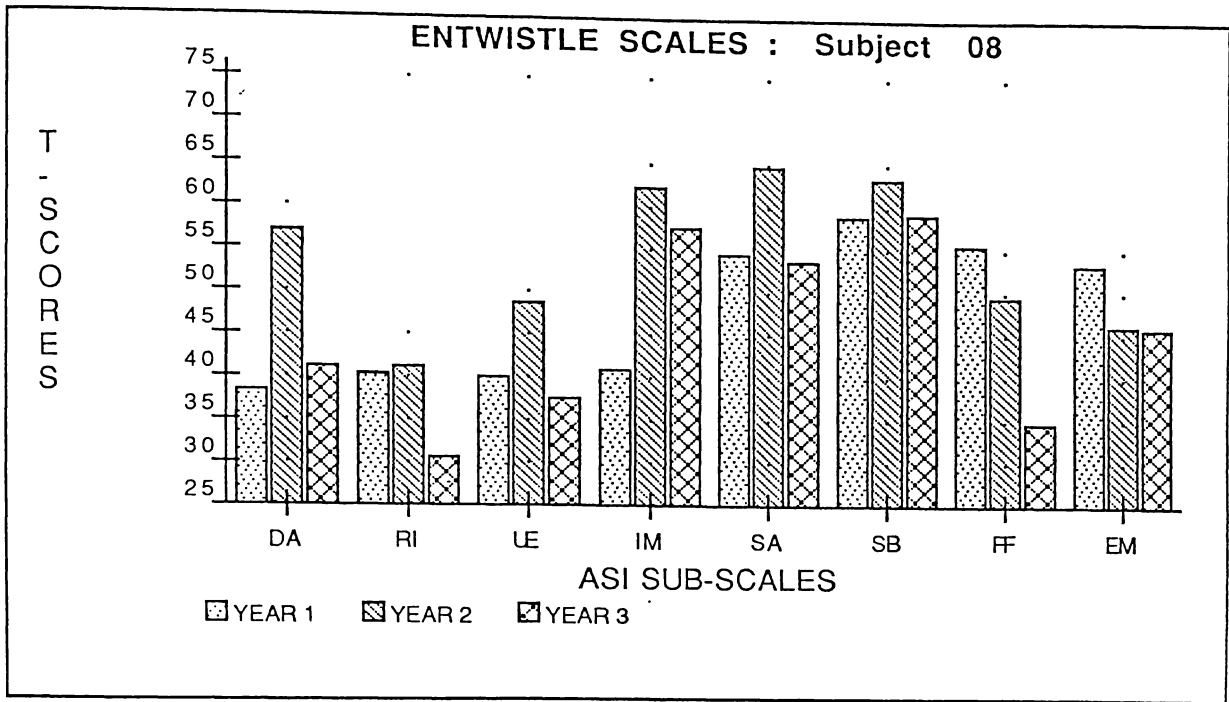
The students scores on the ASI sub-scales and orientations for each year of pre-service training were converted to T - scores with a mean of 50 and standard deviation equal to 10.

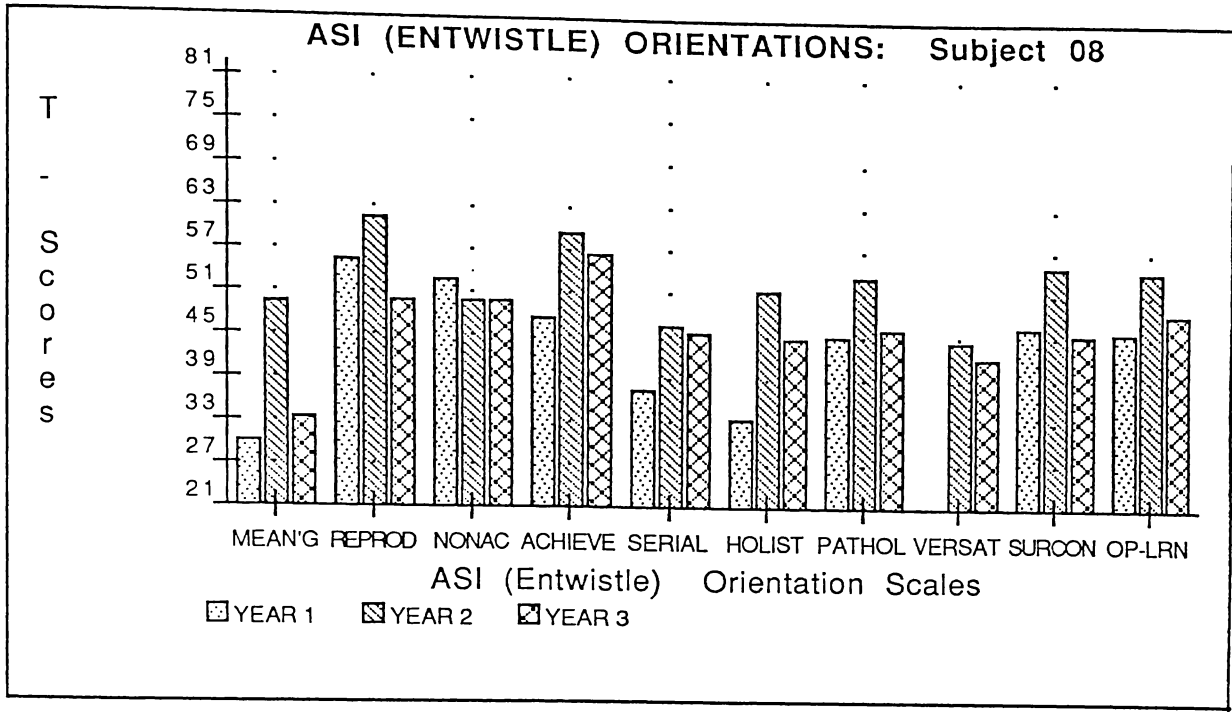
	Page
C.5.1 Case study Mary	132
C.5.2 Case study Phillip	135
C.5.3 Case study Candy	138
C.5.4 Case study Lisa	141
C.5.5 Case study Katie	144
C.5.6 Case study John	147

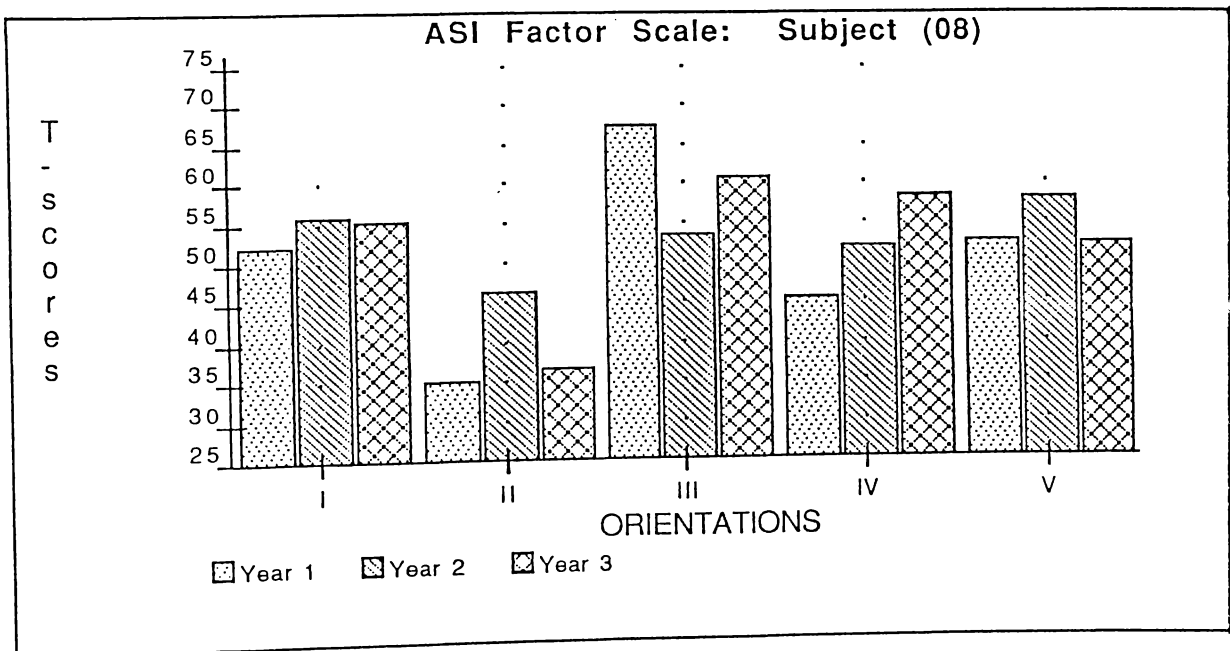
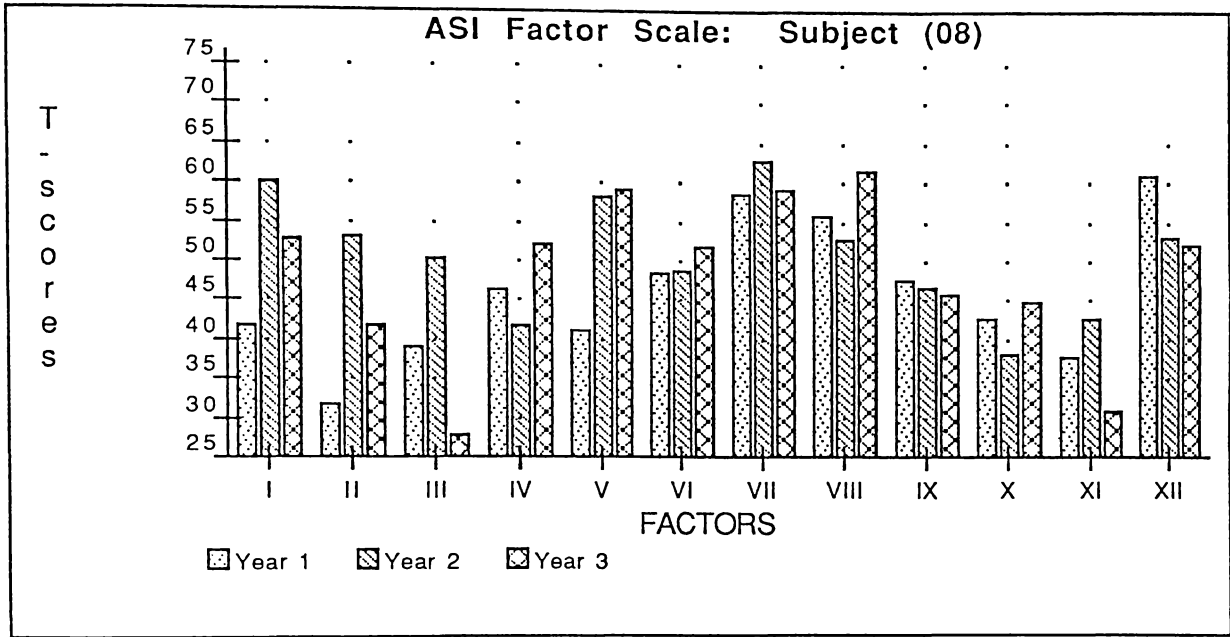


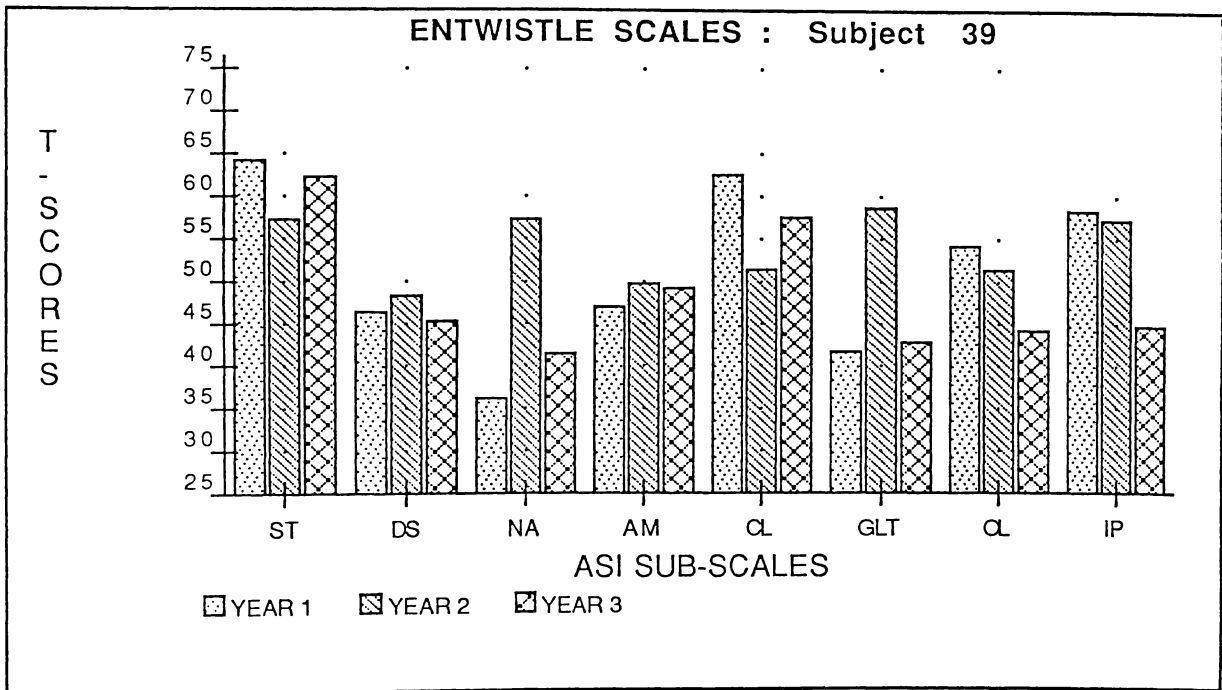
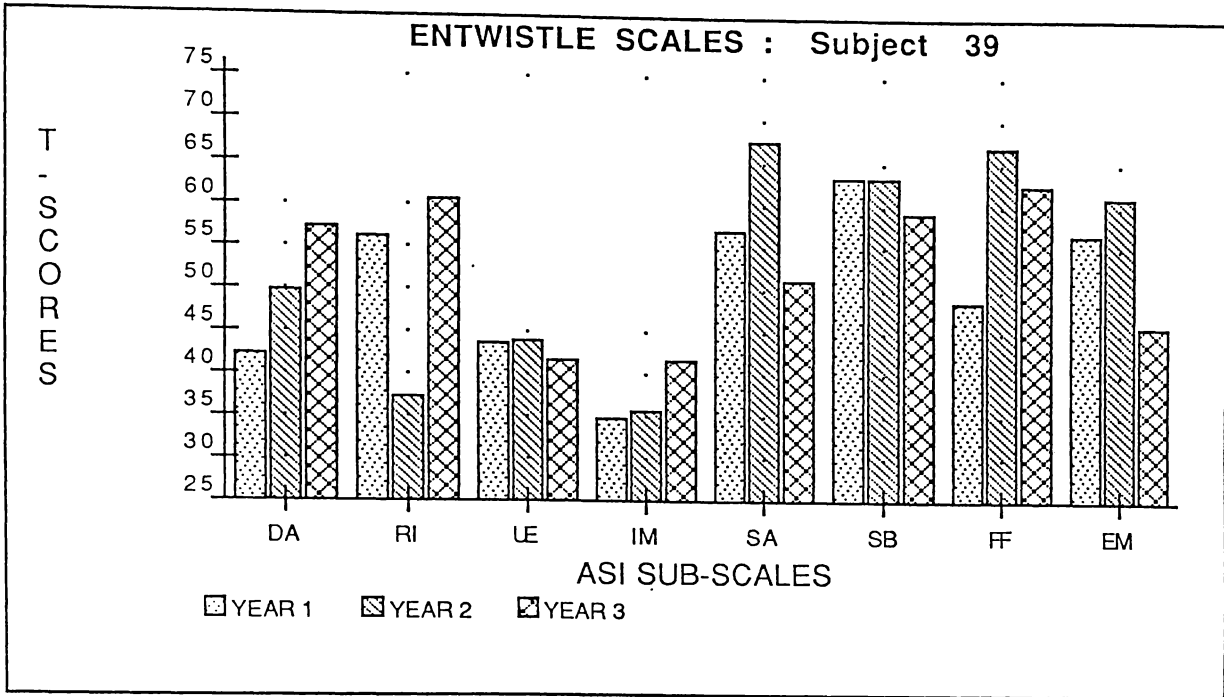


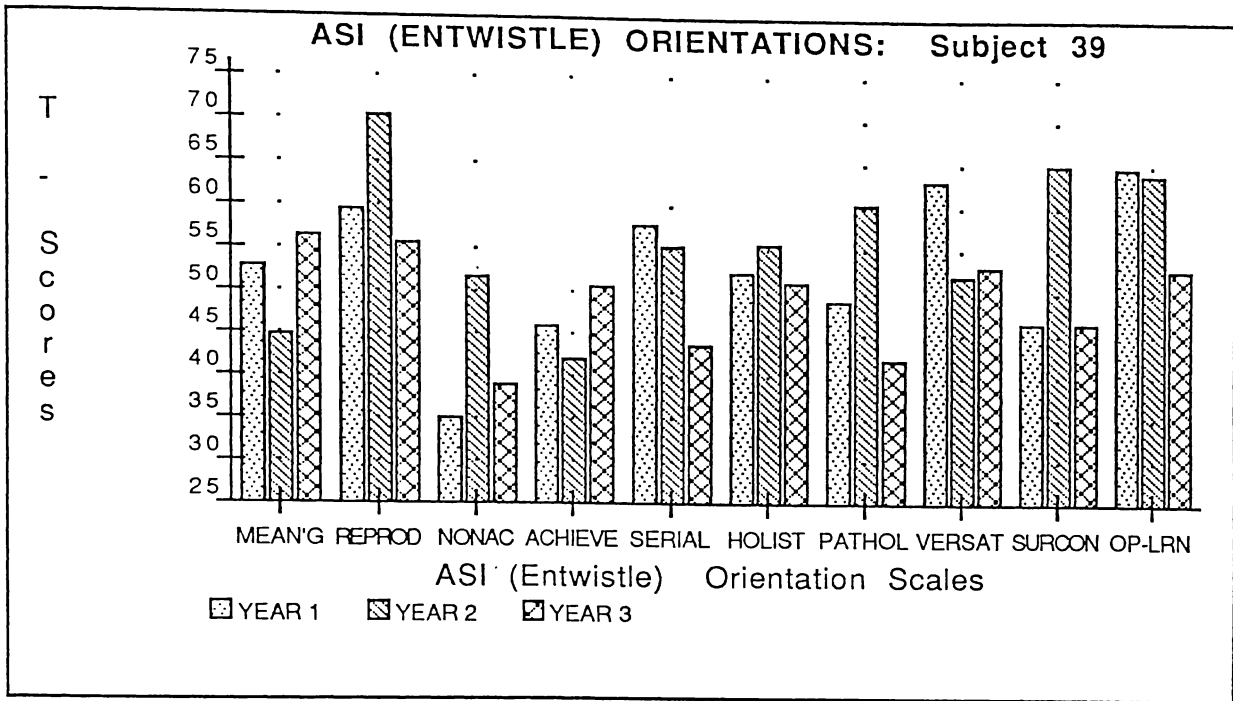


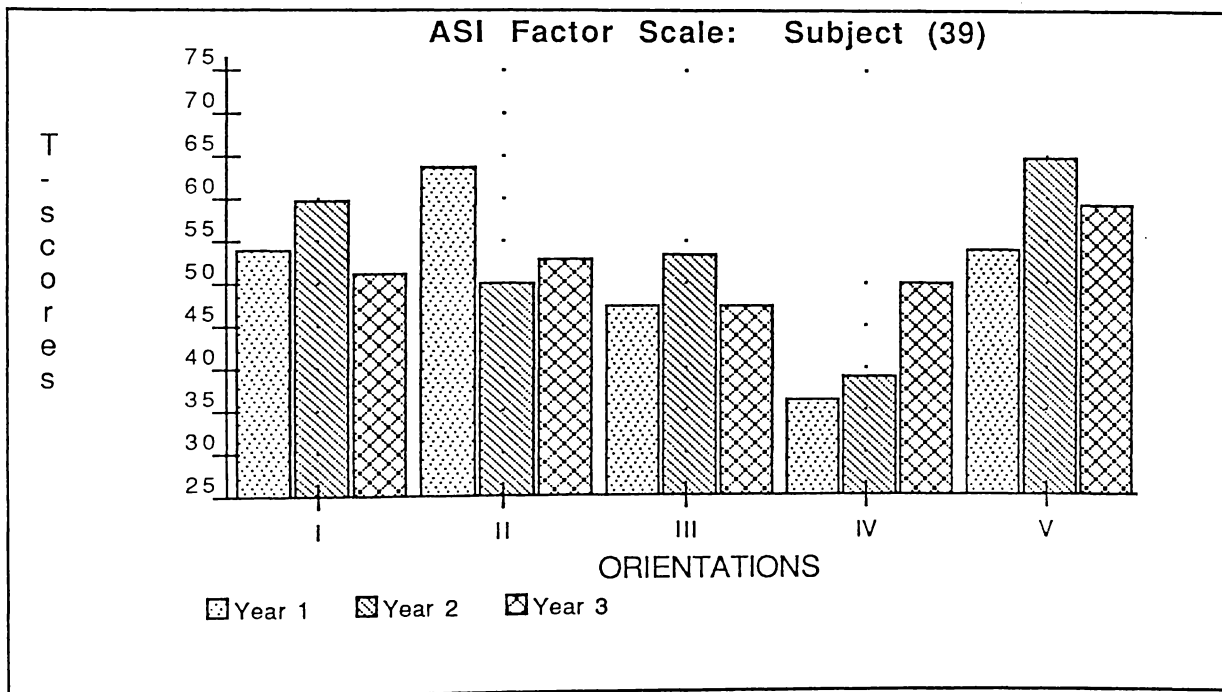
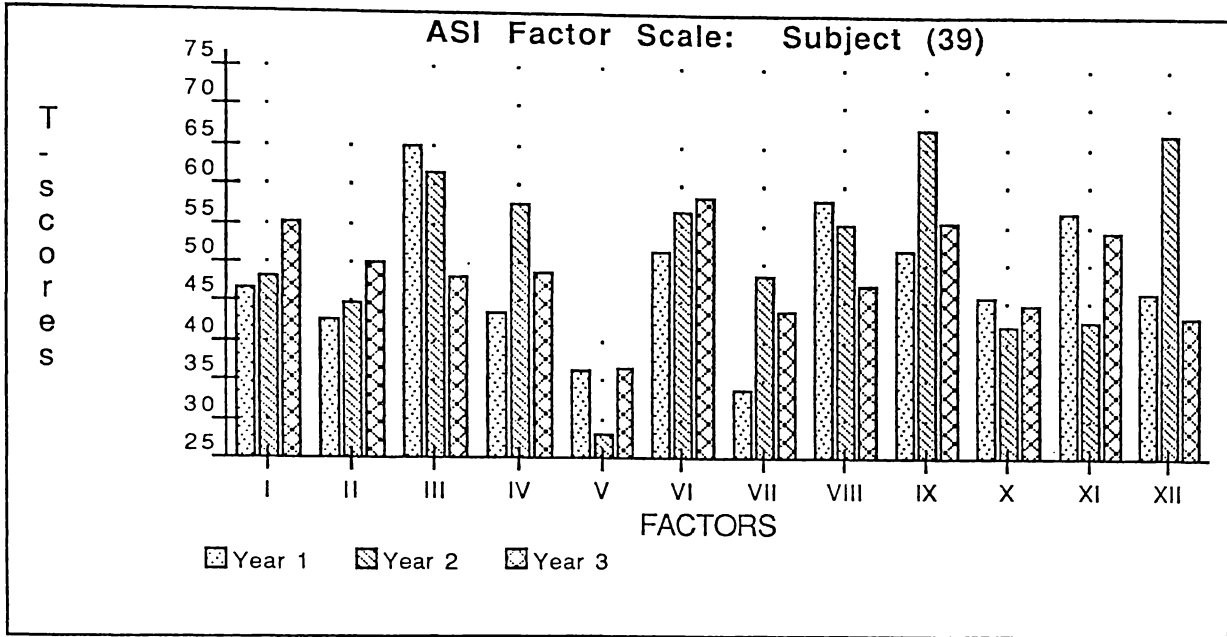


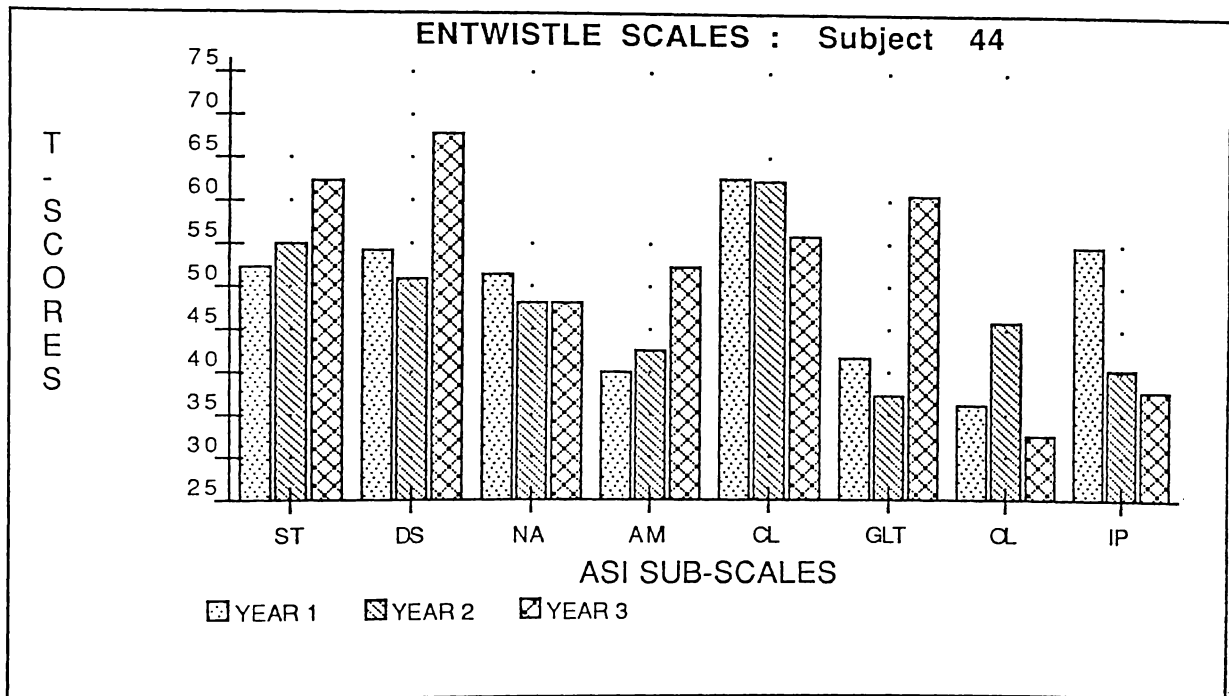
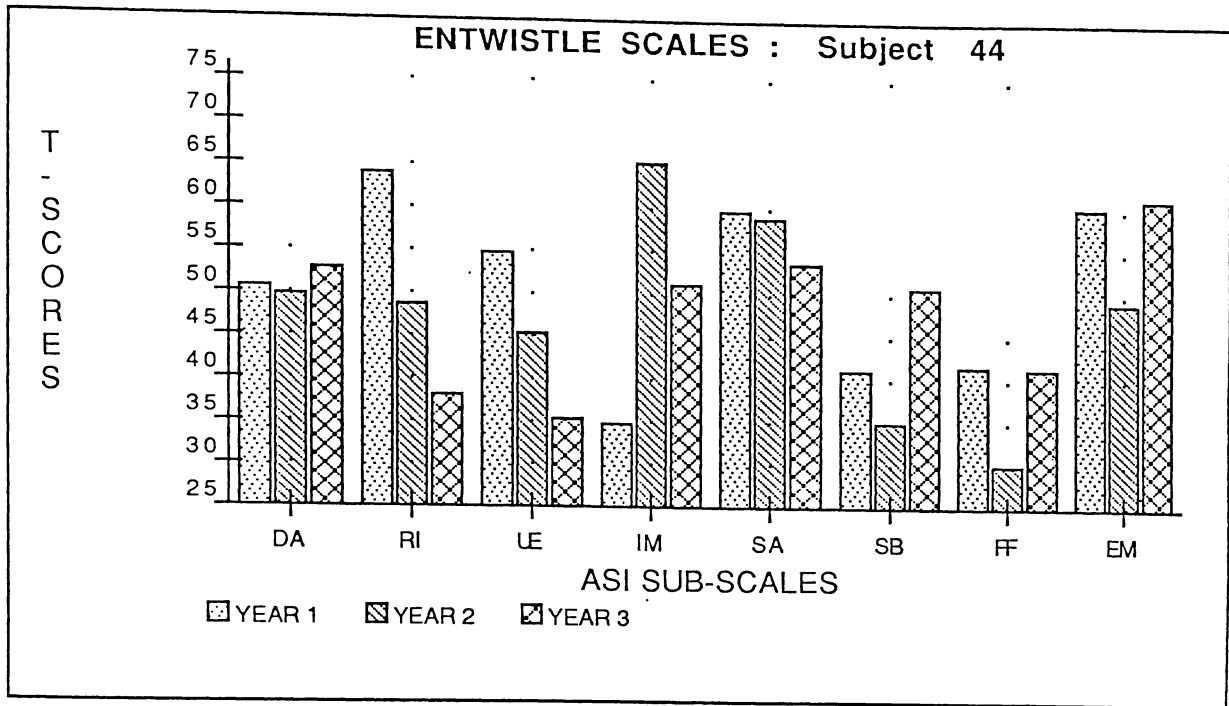


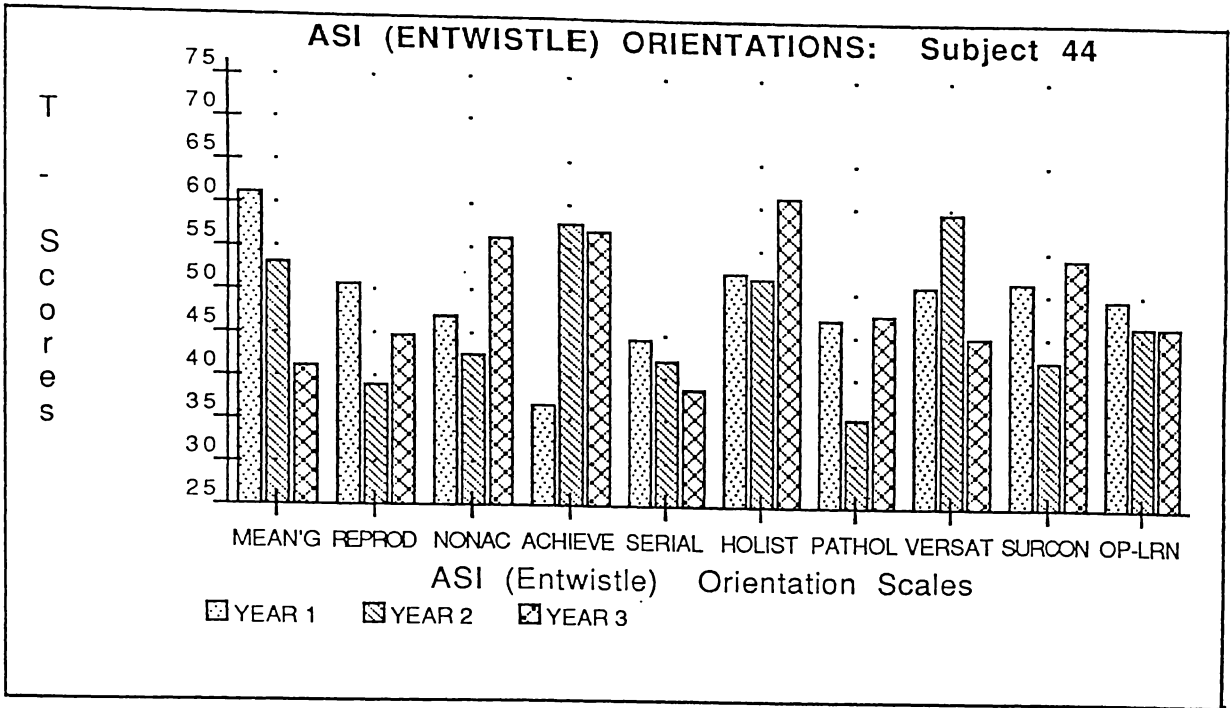


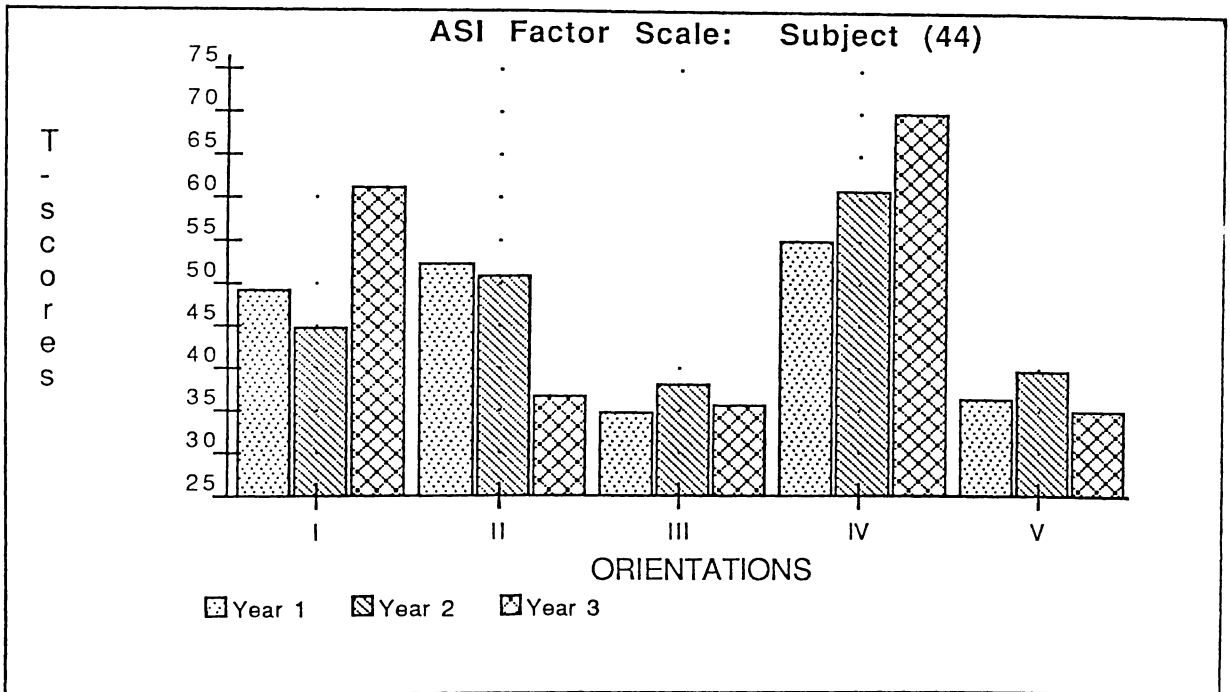
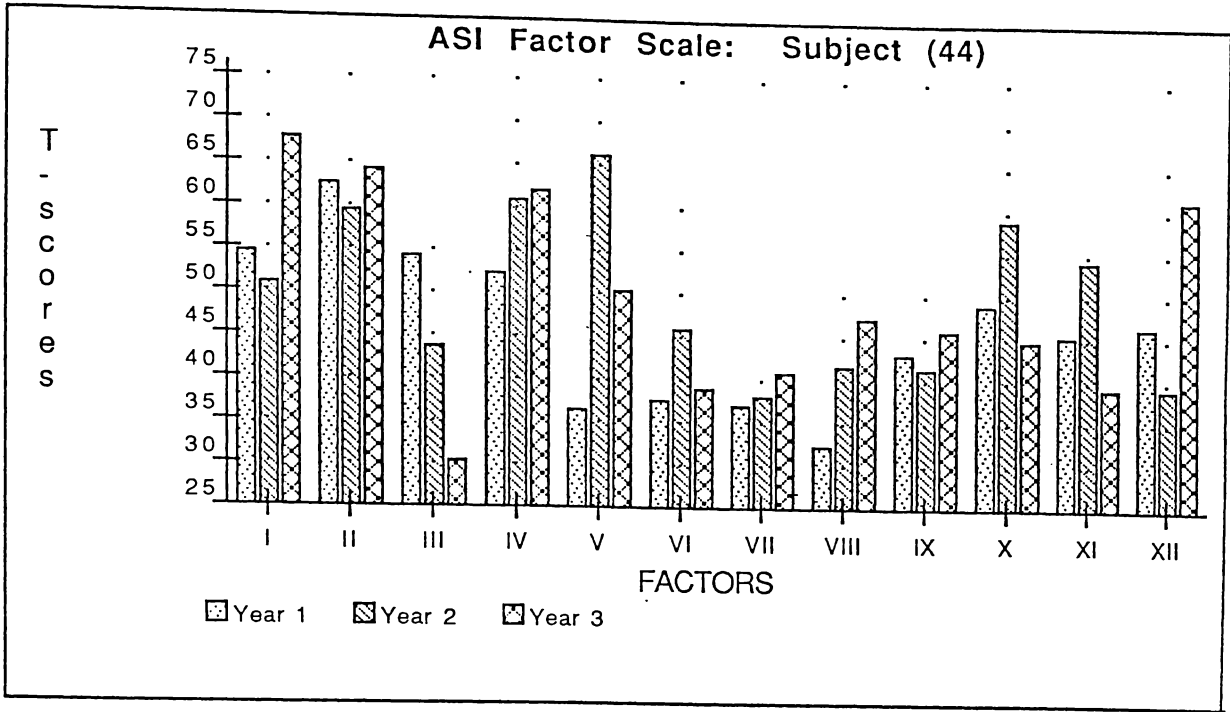


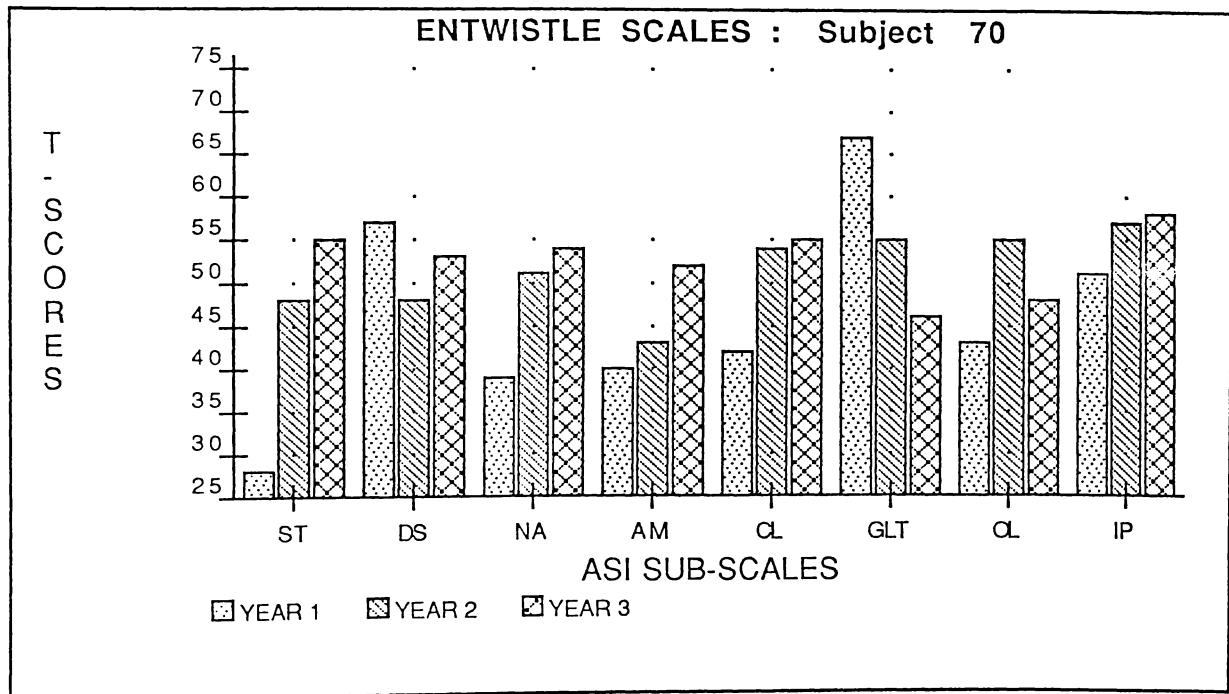
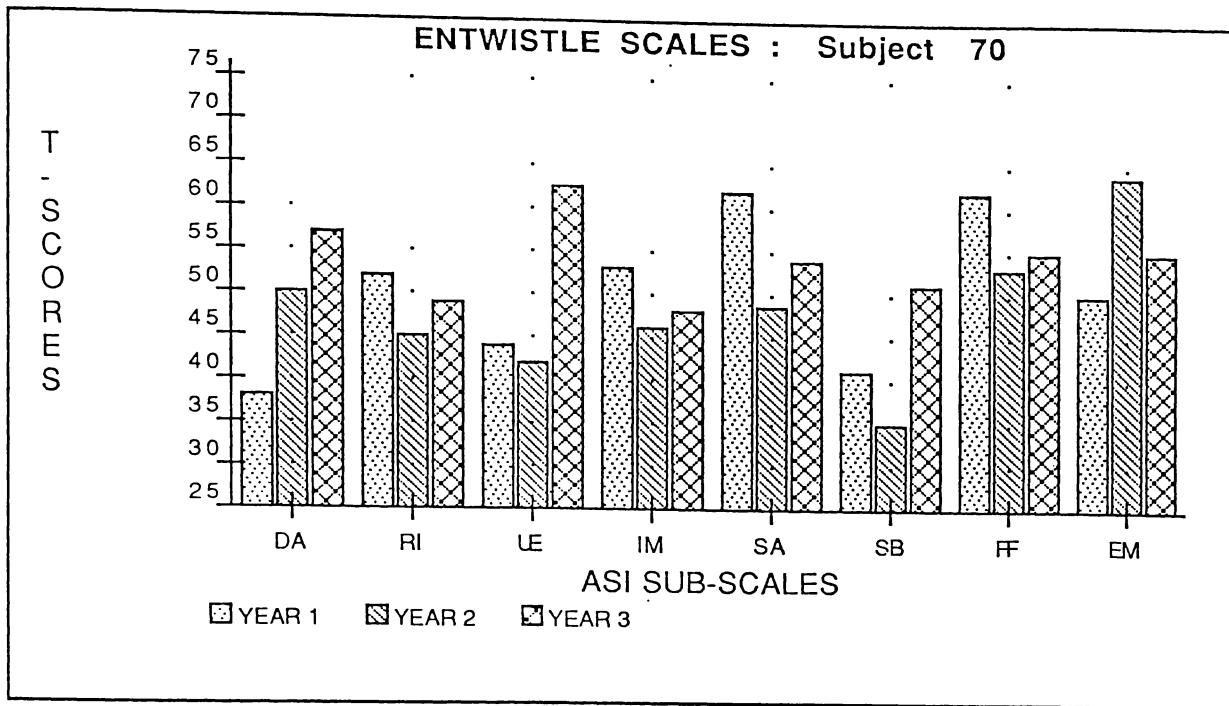


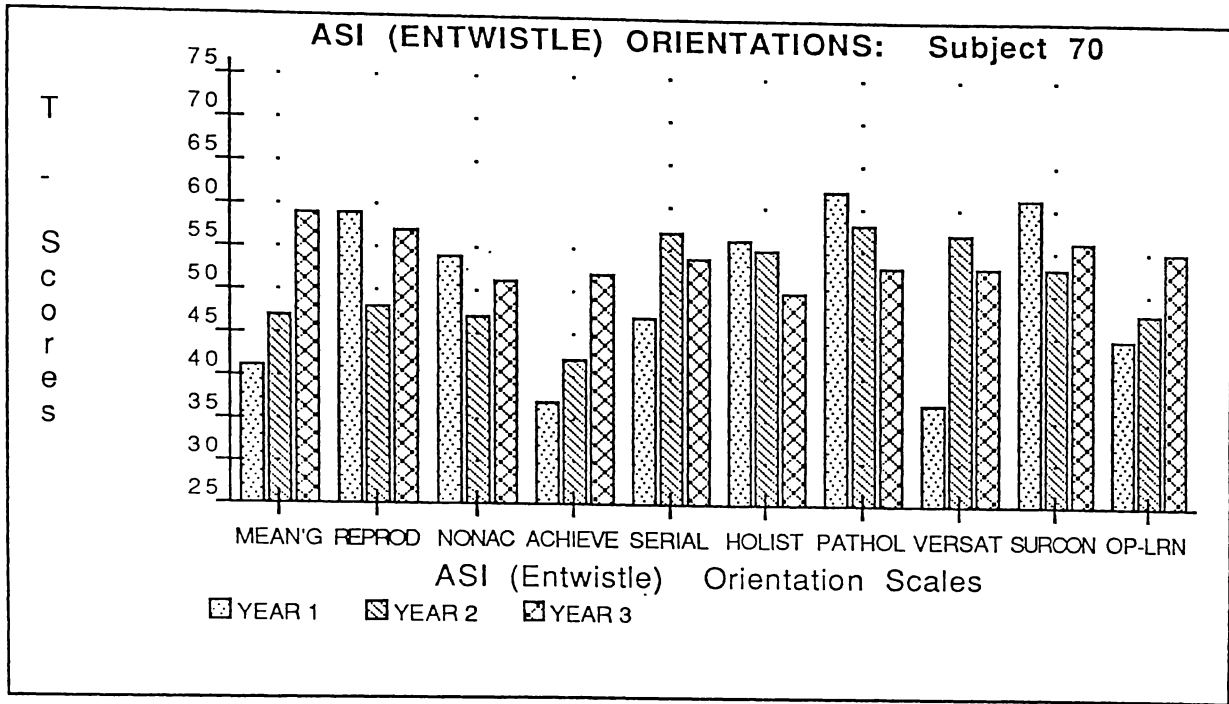


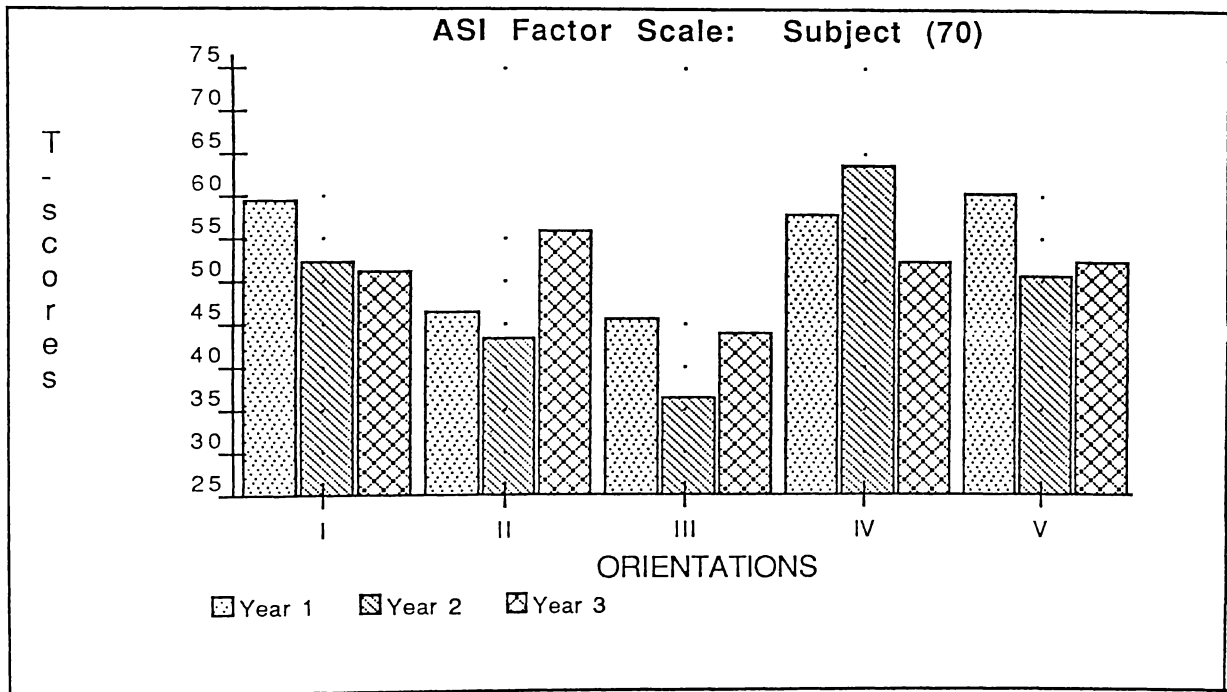
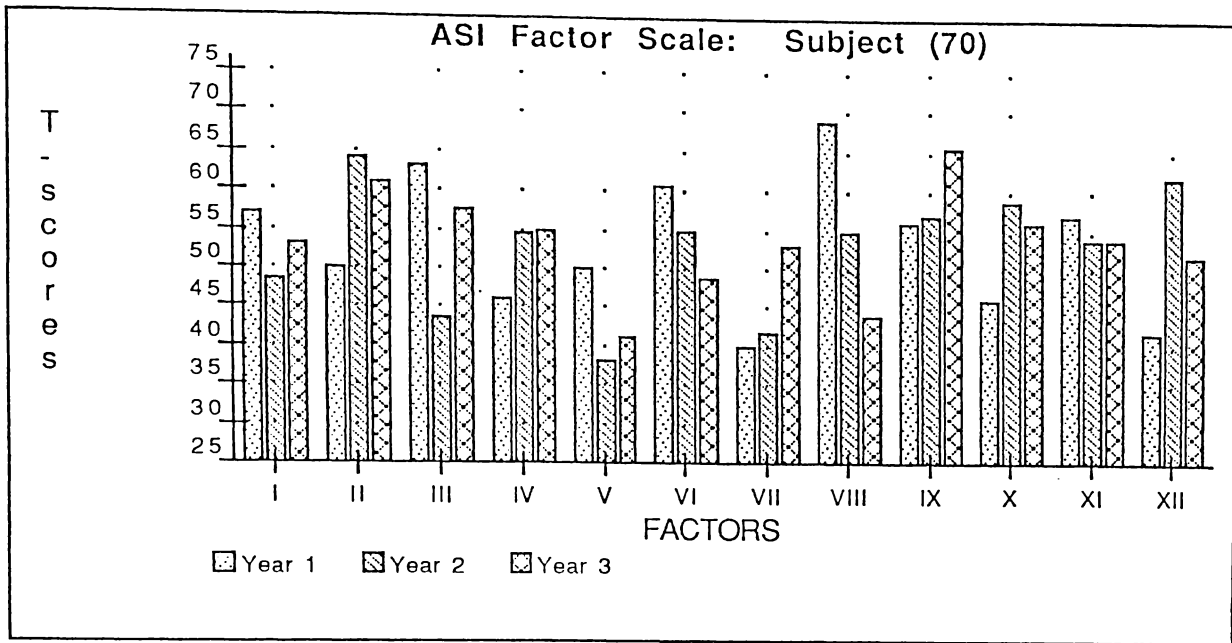


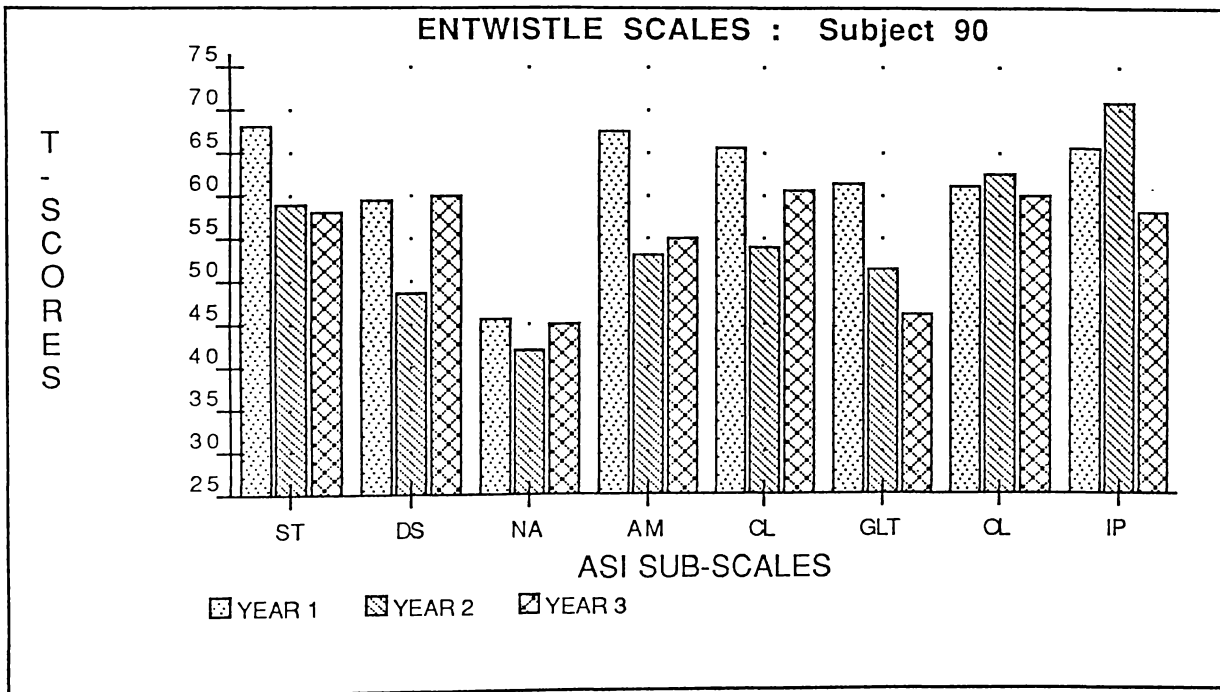
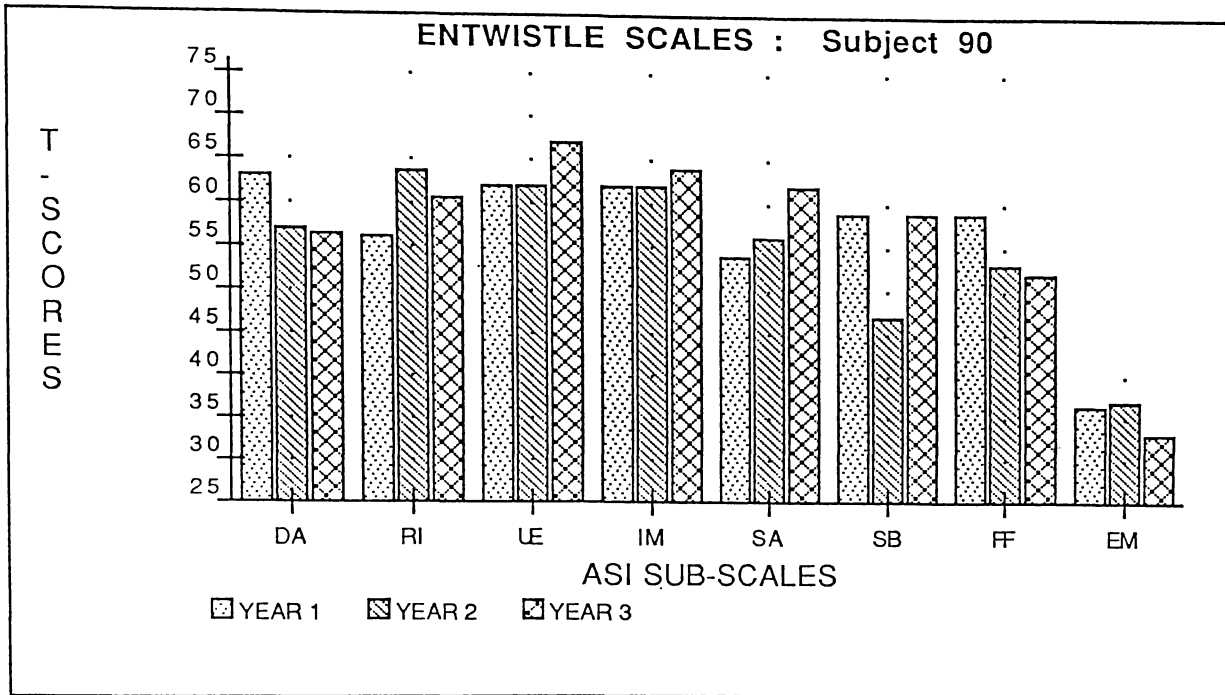


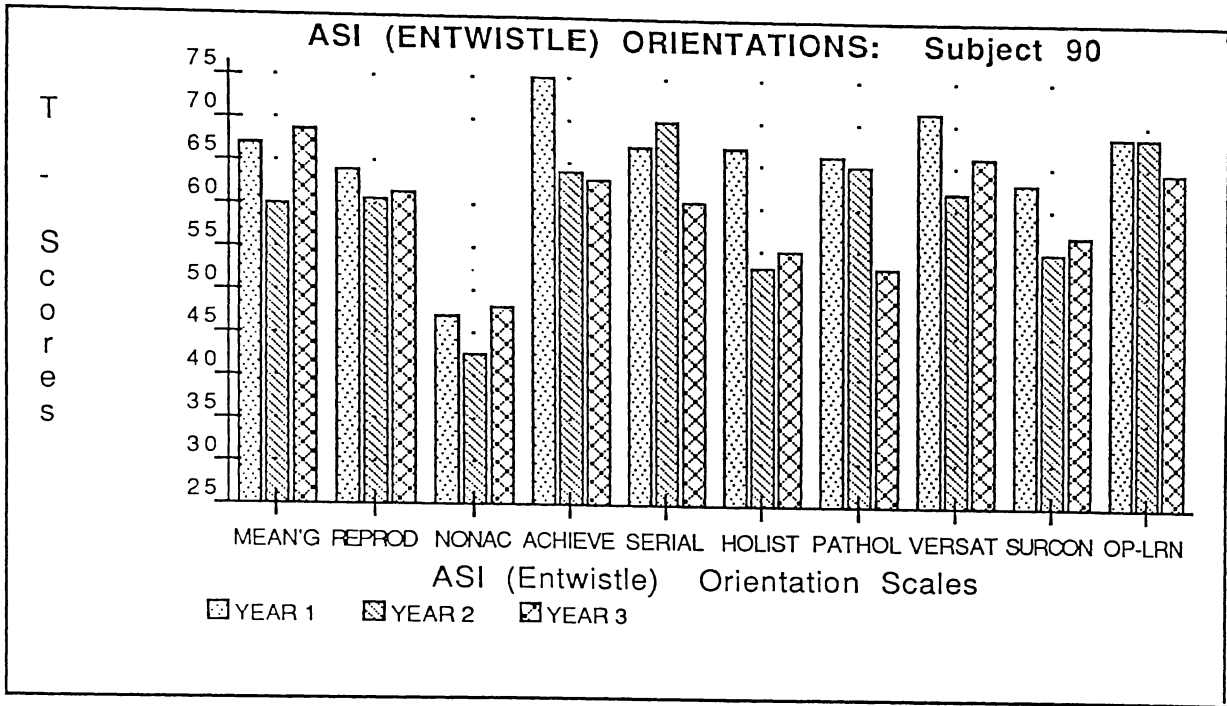


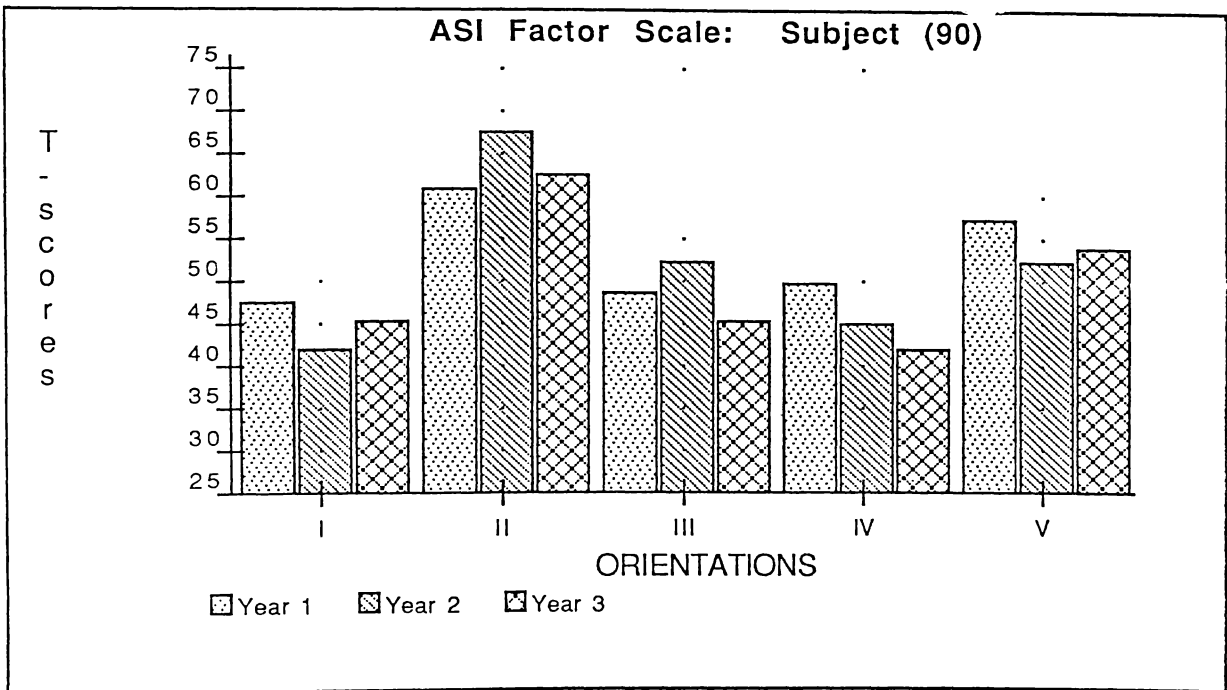
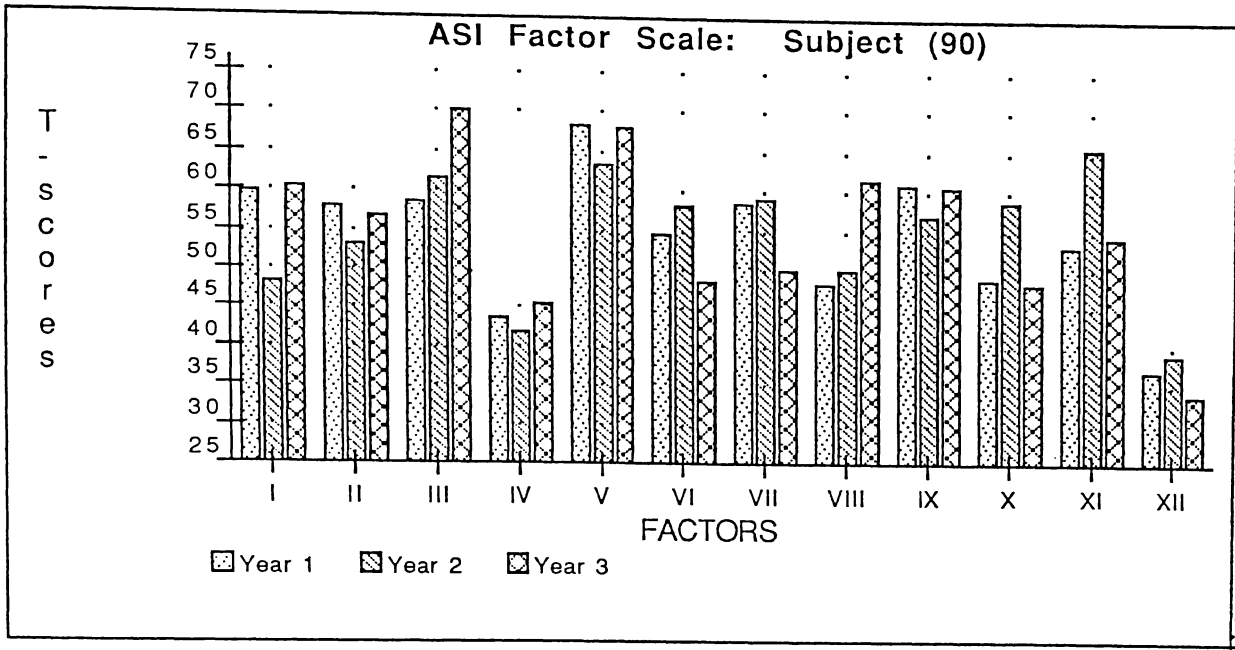












REFERENCES

- Ashby, E. (1973). The structure of higher education: a world view. *Higher Education*, 2, 142-151.
- Astin, A.W. (1977). On the failures of educational policy. *Change*, 9, 40-43.
- Atkinson, J.W. (1964). *An Introduction to Motivation*. Princeton, N.J.: Van Nostrand.
- Atkinson, R.C., and Feather, N.T. (1966). *A Theory of Achievement Motivation*. New York: Wiley.
- Ausubel, D.P. (1968). *Educational Psychology: A Cognitive View*. New York: Holt, Rinehart and Winston.
- Berlyne, D.E. (1961). *Conflict, Arousal and Curiosity*. New York: McGraw-Hill.
- Bieri, J., Atkins, A.L., Briar, J.S., Leaman, R.L., Miller, H., and Tripodi, T. (1966). *Clinical and Social Judgement: the Discrimination of Behavioural Information*. New York, Wiley.
- Biggs, J.B. (1976). Dimensions of study behaviour: another look at A.T.I. *British Journal of Educational Psychology*, 46, 68-80.
- Biggs, J.B. (1978). Individual and group differences in study processes. *British Journal of Educational Psychology*, 48, 266-279.
- Biggs, J.B. (1979). Individual differences in study processes and the quality of learning outcomes. *Higher Education*, 8, 381-394.

- Biggs, J.B., (1987). *Student Approaches to Learning and Studying*. Research monograph: Australian Council for Educational Research. Melbourne.
- Biggs, J.B., and Telfer, R. (1981). *The Processes of Learning*. Prentice Hall of Australia.
- Bloom, B.S., Engelhart, M.B., Furst, E.J., Hill, W.H., and Krathwohl, D.R. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive Domain*. New York: David McKay.
- Bogdan, R.C., and Biklen, S.K. (1982). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston: Allyn and Bacon.
- Boring, E.G., (1957). *A History of Experimental Psychology* (2nd edition) New York: Appleton Century Crofts.
- Brabeck, M.M. (1983). Intellectual development during the college years: How strong is the longitudinal evidence? Paper presented at the annual meeting of the American Educational Research Association. Montreal.
- Brumby, M. (1982). Consistent differences in cognitive styles shown for qualitative biological problem solving. *British Journal of Educational Psychology*, 52, 244-257.
- Bruner, J.S. (1960). *The Process of Education*. Cambridge, Mass.: Harvard University Press.
- Bruner, J.S. (1964). The course of cognitive growth. *American Psychology*, 19, 1-15.
- Bruner, J.S., Goodnow, J., and Austin, G. (1956). *A Study of Thinking*. New York: Wiley.

- Bruyn, S. (1966). *The Human Perspective in Sociology*. Englewood Cliffs, N.J.: Prentice Hall.
- Collis, K.F., and Biggs, J.B. (1982). *Evaluating the Quality of Learning: The SOLO Taxonomy*. Sydney: Harcourt Brace Jovanovich Group.
- Crandall, V.C., Karovsky, W., and Crandall, V.J. (1965). Children's belief in their own control of reinforcement in intellectual-academic achievement situations. *Child Development*, 36, 91-109.
- Cronbach, L.J., and Snow, R.E. (1977). *Aptitudes and Instructional Methods: A Handbook for Research on Interaction*. New York: Irvington Publishers Nailburg Publishing Corp.
- De Charms, R. (1968). *Personal Causation*. New York: Academic Press.
- Dunn, R.K., and Price, G. (1977). Diagnosing learning styles - a prescription for avoiding malpractice suits. *Phi Delta Kappan*, 58, 418-420.
- Dweck, C.S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, 31, 674-685.
- Entwistle, N.J. (1968). Academic motivation and school attainment. *British Journal of Educational Psychology*, 38, 181-188.
- Entwistle, N.J. (1975). How students learn: information processing, intellectual development and confrontation. *Higher Education Bulletin*, 3, 129-148.
- Entwistle, N.J. (1978). Knowledge and styles of learning: a summary of Pask's recent research. *British Journal of Educational Psychology*, 48, 255-265.

- Entwistle, N.J. (1981). *Styles of learning and teaching: an integrated outline of Educational Psychology*. New York: John Wiley and Sons.
- Entwistle, N.J., and Bennet, S.N. (1973). The Interrelationships between Personality, Divergent Thinking, and School Attainment. Final Report to SSRC on Project MR1346.
- Entwistle, N.J., Hanley, M., and Hounsell, D.J. (1979). Identifying distinctive approaches to studying. *Higher Education*, 8, 365-380.
- Entwistle, N.J., and Percy, K.A. (1971). Educational objectives and student performance within the binary system. In *Research into Higher Education*. London: S.R.H.E.
- Entwistle, N.J., and Percy, K.A. (1974). Critical thinking or conformity? An investigation of the aims and outcomes of higher education. *Research into Higher Education*, London: S.R.H.E.
- Entwistle, N.J., and Ramsden, P. (1982). *Student Learning: Approaches and Contexts*. London: Croom Helm.
- Entwistle, N.J., and Ramsden, P. (1983). *Understanding Student Learning*. London: Croom Helm.
- Entwistle, N.J., and Wilson, J.D. (1977) *Degrees of Excellence: The Academic Achievement Game*. London: Hodder and Stoughton.
- Fransson, A. (1977). On qualitative differences in learning. IV - effects of motivation and test anxiety on process and outcome. *British Journal of Educational Psychology*, 47, 244-257.

- Frostig, M. (1964). *The Frostig Programme for the Development of Visual Perception*. Chicago: Follett.
- Gage, N. (1963). *Handbook of Research on Teaching: a project of the American Educational Research Association*, Chicago: Rand McNally.
- Gage, N.L., and Berliner, D.C., (1979). *Educational Psychology*. Chicago: Rand McNally.
- Harris, T., and Mitchell, D.R. (1988). Students with special abilities at unstreamed high school. In D.R. Mitchell (Ed.), *One in Seven: a final report for Project One in Seven*. Education Department, University of Waikato. Hamilton.
- Heath, R. (1964). *The Reasonable Adventurer*. Pittsburg: University of Pittsburg.
- Heckhausen, H. (1975). Fear of failing as a self-reinforcing motive system. In Saronson, I.G. and Spielberger, C. *Stress and Anxiety*. Washington D.C., Hemisphere.
- Inhelder, B., and Piaget, J. (1958). *The Growth of Logical Thought from Childhood to Adolescence*. New York: Basic Books.
- Kagan, J. (1965). Reflection-impulsivity and reading ability in primary grade children. *Child Development*, 36, 609-628.
- Kagan, J., Rossman, B.I., Albert, J., and Phillips, W. (1964). Information processing in the child: significance of analytic and reflective attitudes. *Psychological Monographs, General and applied*. 78, (1, whole No. 578).

- Keating, D. (1980). Thinking process in adolescence. In Joseph Adelson, *Handbook of Adolescent Psychology*. New York: Wiley.
- Keefe, J.W. (1982). *Student Learning Styles and Brain Behaviour: Programs, Instrumentation, Research*. (J Keefe, Ed.) Reston, V.A.: National Association of Secondary School Principals.
- Keefe, J.W. (1985). Assessment of learning style variables: The NASSP task force model. *Theory into Practice*. Vol. XXIV, 2, pp. 138-144.
- Keeley, S.M., Brown, M.N. and Kreutzer, J.S. (1982). A comparison of freshmen and series on general and specific essay tests of critical thinking. *Research in Higher Education*, 17, 139-154.
- Kitchener, K.S., and King, P.M. (1981). Reflective judgement: concepts of justification and their relationship to age and education. *Journal of Applied Developmental Psychology*. 2, 89-116.
- Kogan, N., and Wallach, M.A. (1964). *Risk Taking*, New York: Holt, Rinehart and Winston.
- Kogan, N. (1971). Educational implications of cognitive styles, in G. Lesser (Ed.), *Psychology and Educational Practice*. Scott, Foresman, Glenview, Ill.
- Kohler, W. (1925). *The Mentality of Apes*. New York: Harcourt, Brace.
- Labouvie-Vief, G. (1982). Growth and aging in life span perspectives. *Human Development*. 25, 65-79.
- Laurillard, D. (1979). The processes of student learning. *Higher Education*. 8, 395-410

- Lawson, J.M. (1983). The development of reflective judgement in graduate students: selection as a factor. Paper presented at the annual meeting of the American Educational Research Association, Montreal.
- Marton, F. (1975). Non-verbatim learning: 1. Level of processing and level of outcome. *Reports from the Institute of Education, University of Goteborg*. No. 39.
- Marton, F. (1976). What does it take to learn? Some implications of an alternative view of learning. In Entwistle, N.J. (Ed.) *Strategies for Research and Development in Higher Education*. Amsterdam: Swets and Zeitlinger.
- Marton, F. (1978). Describing conceptions of the world about us. Research report from the Institute of Education, University of Gothenburg.
- Marton, F., and Säljö, R. (1976a). On qualitative differences in learning: I. Outcome and process. *British Journal of Educational Psychology*. 46, 4-11.
- Marton, F., and Säljö, R. (1976b). On qualitative differences in learning: II. Outcome as a function of the learner's conception of the task. *British Journal of Educational Psychology*. 46, 115-127.
- Marton R., and Svensson, L. (1979). On qualitative differences in learning I. Outcome and process. *British Journal of Educational Psychology*. 46, 4-11.
- McClelland, D.C., Clark, R.A., Roby, J.B. and Atkinson, J.W. (1949). The projective expression of needs. IV. The effects of the need for achievement on thematic apperception. *Journal of Experimental Psychology*. 39, 242-255.

- McGeoch, J.A., and Irion, A.L. (1952). *The Psychology of Human Learning*. New York: Longmans.
- Messick, S., and associates. (1976). *Individuality in Learning*. San Francisco: Jossey-Bas.
- Miller, C., and Parlett, H.R. (1974). Up to the mark: a study of the examination game. *Society for Research in Higher Education*. London.
- Miller, I.W., and Norman, W.H. (1979). Learned helplessness in students: a review and attribution-theory model. *Psychological Bulletin*, 86, 93-118.
- Mitchell, J.W. (1989). *Who is Different? Students Perception of Differences Among Their Peers*. M.Ed. Thesis, University of Waikato, Hamilton.
- Murray, H.A. (1938). *Explorations in Personality*. Oxford University Press, Oxford.
- Nie, N.H. and associates, (1983). *User Guide: SPSSX (Statistical Package for the Social Sciences)*. SPSS inc., New York: McGraw Hill Book Company.
- Niemark, E.D. (1975). Longitudinal development of formal operational thought. *Genetic Psychology Monographs*. 91, 171-225.
- Owens, L., and Barnes, J. (1982). The relationships between cooperative, competitive, and individualised learning preferences, and students' perceptions of classroom learning atmosphere. *American Educational Research Journal*. 19, 182-200.
- Parlett, M.R. (1970). The syllabus-bound student. In Hudson, L., *Ecology of Human Intelligence*. Harmondsworth: Penguin Books.

- Parlett, M.R., and Dearden, N.G. (1977). *Introduction to Illuminative Evaluation: Studies in Higher Education*. Pacific Soundings Press.
- Pask, G. (1976a). Conversational techniques in the study and practice of education. *British Journal of Educational Psychology*, 46, 12-25.
- Pask G. (1976b). Styles and strategies of learning. *British Journal of Educational Psychology*, 46, 128-148.
- Pask, G. (1976c). *Conversation Theory: Applications in Education and Epistemology*, Amsterdam: Elsevier.
- Pask, G. (1977). *Third Progress Report on SSRC Research Programme HR 2708*. System Research Limited, 37 Sheen Road, Richmond, Surrey.
- Pask, G., and Scott, B. (1972). Learning strategies and individual competence. *International Journal Man-machine Studies*, 4, 217-253.
- Percy, K.A., and Salter, F.W. (1976). Student and staff perception and the 'pursuit of excellence' in British higher education. *Higher Education*, 5, 457-473.
- Perry, W.G. (1970). *Forms of Intellectual and Ethical Development in the College Years: A Scheme*. New York: Holt, Rinehart and Winston.
- Perry, R. (1982). *Tertiary Attribution of Achievement Questionnaire*. University of Manitoba.
- Peterson, P.L. (1982). Individual differences. In Mitzel, H., Best, J., and Rabinowitz, W. (Eds.) *Encyclopaedia of Educational Research*, 844-851. The Free Press: Macmillan.

- Ramsay, P.D.K., (1978). *The Vocational Commitment of Student Nurses and Student Teachers*. D.Phil. Thesis, University of Waikato, Hamilton.
- Ramsden, P. (1979). Student learning and perceptions of the academic environment. *Higher Education*, 8, 411-428.
- Ramsden, P. and Entwistle, N.J. (1981). Effects of academic department on students approaches to studying. *British Journal of Educational Psychology*, 51, 368-383.
- Rist, R. (1977). On the relations among educational research paradigms: from disdain to detente. *Anthropology and Education*, 8.
- Rogers, C.R. (1951). *Client Centred Therapy*. Boston: Houghton Mifflin.
- Rogers, C.R. (1969). *Freedom to Learn*, Columbus, Ohio: Merrill.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, Whole No. 609, 1-28.
- Säljö, R. (1979). Learning about learning. *Higher Education*, 8, 443-451.
- Saronson, S.B., Lighthall, F.F., and Ruebush, B.K. (1960). *Anxiety in Elementary School Children*. New York: Wiley.
- Schneck, R.R., Ribich, F., and Ramanaiah, N. (1977). Development of a self-report inventory for assessing individual differences in learning processes. *Applied Psychological Measurement*, 1, 413-431.

- Seligman, M. (1975). *Helplessness*. San Francisco: W.H. Freeman.
- Smith, J.K., and Heshusius, L. (1986). Closing down the conversation: the end of the quantitative-qualitative debate among educational inquirers. *Educational Researcher*. 15, 4-12.
- Spielberger, C.D., Gorsuch, R.l., and Lushene, R. (1968). *Self-evaluation questionnaire*. Consulting Psychologists Press. Palo Alto, California.
- Svensson, L. (1977). On qualitative differences in learning: III. study skill and learning. *British Journal of Educational Psychology*. 47, 233-243.
- Thorndike, E.L. (1932). *The Fundamentals of Learning*. New York: Teachers College.
- Travers, R.M.W. (Ed.) (1973). *Second Handbook of Research on Teaching: a Project of the American Educational Research Association*. Chicago: Rand McNally.
- Uguroglu, M., and Walberg, H.J. (1979). Motivation and achievement: a quantitative synthesis. *American Educational Research Journal*. 16, 375-389.
- Van Rossum, E.J., and Schenk, S.M. (1984). The relationship between learning conception, study strategy and learning outcome. *British Journal of Educational Psychology*. 54, 73-83.
- Walberg, H.J., and Uguroglu, M. (1980). Motivation and educational productivity; theories, results and implications. In Fyans, L.J., (Ed.) *Achievement Motivation: Recent Trends in Theory and Research*. New York: Plenum.

- Wallach, M.A., and Kogan, N. (1965). *Modes of Thinking in Young Children*. New York: Holt Rinehart and Winston.
- Watkins, D. (1982a). Identifying the study process dimensions of Australian university students. *Australian Journal of Education*, vol. 26, 76-83.
- Watkins, D. (1982b). Academic achievement and the congruence of study motivation and strategy. *British Journal of Educational Psychology*, 52, 260-263.
- Watkins, D. (1982c). Factors influencing the study methods of Australian tertiary students. *Higher Education*, 11, 369-380.
- Watkins, D. (1982d). A development study of the learning styles of mature age and school age leaver tertiary students. *Paper delivered at Australian Association of Adult Education Research Network Sub Conference, Canberra.*
- Watkins, D. (1983a). Assessing tertiary study processes. *Human Learning*. 2, 29-37.
- Watkins, D. (1983b). Depth of processing and the quality of learning outcomes. *Instructional Science*, 12, 244-254.
- Watkins, D. (1983c). Beyond tertiary entry scores: prediction of first year grades at ANU in 1982. *Monograph: Personal Communication with Author.*
- Watkins, D. (1983d). Students perceptions of tertiary learning. *Monograph: Personal Communication with Author.*
- Watkins, D. (1986). The approaches to learning of Australian tertiary students: A replication. *Higher Education Research and Development*. 5, 185-190.

- Watkins, D., and Hattie, J. (1981). The learning processes of Australian university students: investigations of contextual and personological factors. *British Journal of Educational Psychology*, 51, 384-393.
- Watkins, D., and Hattie, J. (1983). A longitudinal study of the learning processes of Australian tertiary students. *Monograph: Personal Communication with Authors*. (Later published in *Human Learning*, Vol. 4, 127-141, (1985).
- Watson, D. (1967). Relationship between locus of control and anxiety. *Journal of Personality and Social Psychology*. 6, 91-93.
- Weiner, B. (1972). *Theories of Motivation: From Mechanism to Cognition*. Chicago: Markham.
- Weiner, B. (1974). *Achievement Motivation and Attribution Theory*. Morristown, N.J.: Central Learning Press.
- Weiner, B. (1979). A theory of motivation for classroom experiences. *Journal of Educational Psychology*. 71, 3-25.
- Weiner, B. (1980). *Human Motivation*. New York: Holt, Rinehart and Winston.
- Wertheimer, M. (1945). *Productive Thinking*. New York: Harper.
- Witkin, H.A. (1976). Cognitive style in academic performance and in teacher student relations. In Messick, S. (Ed.), *Individuality in Learning*. San Francisco: Jossey Bass.
- Witkin, H.A., Moore, C., Goodenough, D., and Cox, P. (1977). Field Dependent, and field independent cognitive styles, and their educational implications. *Review of Educational Research*, 47, 1-64.

Wittrock, M.C. (1974). Learning as a generative process. *Educational Psychology*, 11, 87-95.

Wittrock, M.C. (Ed.) (1986). *Handbook of Research on Teaching*. 3rd edition. New York: MacMillan; London, Collier MacMillan.

Wlodkowski, R.J. (1985). *Enhancing Adult Motivation to Learn*. San Francisco: Jossey-Bas.

Zakay, D., Zipora, B., and Kreitler, S. (1984). Cognitive orientation and changing the impulsivity of children. *British Journal of Educational Psychology*, 54, 40-50.