DOCUMENT RESUME

ED 398 977 JC 960 535

AUTHOR	Sarkar, Gerlinde
TITLE	Factors Affecting Retention of First-Year Certificate and Diploma Students. SIAST Retention Study.
INSTITUTION	Saskatchewan Inst. of Applied Science and Technology, Saskatoon.
REPORT NO	SIAST-93-01
PUB DATE	Feb 93
NOTE	79p.; For a 1995 longitudinal study of the 1991 cohort, see JC 960 537.
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Comparative Analysis; *Enrollment Influences; Foreign Countries; High Risk Students; *Labor Market; *School Holding Power; *Student Attitudes; *Student Characteristics; Student Educational Objectives; Technical Institutes; Two Year Colleges; *Withdrawal (Education)
IDENTIFIERS	Saskatchewan Institute of Applied Sci and Techn

ABSTRACT

In fall 1991, the Saskatchewan Institute of Applied Science and Technology (SIAST), conducted a study to determine factors affecting retention and to identify students facing higher risk of non-completion. Specifically, the study sought to determine the effects of selected student characteristics and attitudes, as well as labor market conditions, on student persistence. Data were collected in two stages. First, surveys were distributed to all 2,822 first-year certificate/diploma students in October 1991, responses were received from 1,557 (55%). In the second stage, follow-up questionnaires were sent in June 1991 to the original respondents, and responses were received from 720 students, of whom, 105 identified themselves as non-completers after their first year. Study findings included the following: (1) compared to completers, non-completers were more likely to be disabled, of aboriginal ancestry, married, females with dependent children, employed, and older; (2) non-completers were less certain about career goals than completers, expressed less goal commitment, and set lower final goals; (3) for all students, high employment rates in particular sectors were related to higher rates of student attrition; (4) 40% of all respondents were 20 years of age or younger, 53.7% were female, and 4.9% identified themselves as disabled; and (5) 93.7% of all students indicated that they were satisfied or very satisfied with their experience at SIAST. Contains 62 references. The survey instruments are appended. (HAA)

SIAST Retention Study

Factors Affecting Retention of First-Year Certificate and Diploma Students

Prepared by:

SIAST Planning and Research Services

SIAST

SASKATCHEWAN INSTITUTE OF APPLIED SCIENCE AND TECHNOLOGY

February, 1993
93-01

Acknowledgements

The following people have played a significant role in the development of this study and the preparation of the final report. I would like to express my appreciation for their efforts.

Dianne Bannerman, A/Registrar, Woodland Institute.

Donna Benson, A/Registrar, Palliser Institute.

Bruce Dawson, Registrar, Kelsey Institute.

Bob Welte, Registrar, Wascana Institute.

The Registrars provided lists and address labels for all first year certificate and diploma students. Their cooperation is greatly appreciated, especially since the request for their assistance coincided with a very busy season in their respective offices.

Tom Stevens, Associate V.P, Planning and Research Services (until December, 1992), who assisted with the literature search, the development of the survey instrument, and the conceptual model for the study.

Claire Stallard, SIAST Planning and Research Services, who coordinated the data entry, conducted the computer analysis of the data and prepared the graphical representations.

Colleen Gallant, SIAST Communication Services, who assisted with the design and production of the questionnaires.

Support Staff, SIAST Secretariat, who all had a part at some stage or other in assisting with the mailings, data entry, typing of comments, and the production of the report.

And a special thanks to ***Michele Conn***, SIAST Planning and Research Services, who coordinated the project from the mailing of the questionnaires for Part I and Part II, the typing of the text and tables, to the production of the final report.

Gerlinde Sarkar
Research Officer
Planning and Research Services
SIAST Secretariat
February, 1993

Executive Summary

A two part study was undertaken to identify what factors impact on student persistence in order to develop policies to support those students most at risk of becoming non-completers.

- Non-completers are more likely to be disabled; of aboriginal ancestry, married, females with dependent children. They are more frequently employed and work more hours. They are also generally older; proportionately twice as many non-completers are over 35 years old.

- Tutorial help, counselling, computer and library facilities were more frequently used by non-completers.

- Non-completers stated more often that sessions to improve study skills, tutorial sessions and instructor office hours have an impact on program completion.

- Non-completers are less certain about career choices, expressed less goal commitment and had set themselves lower final educational goals.

- Previous educational achievement was lower for non-completers.

- Non-completers were more influenced by the current economic conditions.

In addition to the above factors, attrition rates also show a strong positive correlation with employment rates in particular occupational sectors. If it is relatively easy to find employment, students are more likely to leave before completing their program. If graduates have greater difficulty in securing full-time employment, students were more likely to persist in order to gain the extra little edge in the employment market.

- Previous withdrawal rates from a post-secondary institution were not significantly different for non-completers.

- Those respondents who had ever withdrawn or transferred from another educational institution stated "changed career plans" and "wanted practical experience" as the primary reasons for leaving.

- Instructors are a major strength of SIAST. Highest levels of satisfaction (from a list of factors) were with class size and accessibility of instructors.

- 40 percent of first year Certificate/Diploma students are 20 years old or younger, and another 26.4 percent are between 21 - 24 years of age.

- 22.9 percent of first year Certificate/Diploma students are sequential, that is continuing right after high school. (At Palliser almost 41 percent of first year students are sequential.)

- 18 percent indicated a four year University degree as their highest educational goal and an additional 11 percent want to do graduate studies.

- 22.2 percent of first year Certificate/Diploma students have previously attended university (2.9 percent have completed a degree).

- 9 percent of first year Certificate/Diploma students have completed an Adult Basic Education program.

- 76.4 percent of all respondents are single.
- 21.8 percent of all first year Certificate/Diploma students have dependent children.
- 46.3 percent are male; 53.7 percent are female.
- 6.2 percent indicated that they are of aboriginal ancestry.
- 4.9 percent identified themselves as being disabled.
- 93.7 percent are satisfied or very satisfied with their experience at SIAST.

Table of Contents

List of Tables

List of Figures

SIAST Retention Study

Factors Affecting Retention of First-Year Certificate/Diploma Students

1.0 Introduction

Student attrition has been the focus of investigation for many years. Some have argued that student completion rates are a fundamental measurement of student success (or the institution's success in meeting the needs of its students). However, in recent years the validity of assuming that attrition suggests somehow failure has been questioned, and it is now more the concern for the waste of human and financial resources that have fuelled the interest in investigating why some students exit their program of study. Researchers found it more useful to study the reasons why post-secondary students drop out and what factors may impact on persistence so that the institution can develop specific policies and practices to enhance student retention.

1.1 Background

The Saskatchewan Institute of Applied Science and Technology (SIAST) is a provincial technical institute located at the four major cities in the province of Saskatchewan. It was formed in 1987 through an amalgamation of four urban community colleges, four provincial technical institutes, and an Advanced Technology Training Centre and it is governed by a Board. Prior to the amalgamation, the various institutions came under the jurisdiction of the Department of Education. Minimal data was kept on student retention. It became apparent that there was a need to know the retention rates at the four institutes and in specific programs.

Planning and Research Services of SIAST undertook to develop a model to elaborate the various criteria that affect retention, such as goal commitment, student characteristics, educational ability, academic integration, social integration and labour market conditions. Where the SIAST study differs from the numerous other studies on retention is that the SIAST study also considers retention as a function of fluctuations in economic conditions. Employment in certain occupations is more strongly affected by cycles in the economy and this may impinge on student persistence.

1.2 Objectives

The objectives of the SIAST Retention Study are:

- to determine the factors that impact on student retention.
- to identify student populations facing higher risk of non-completion.
- to determine the impact of economic fluctuations on the retention of students.

1.3 Applications

By analyzing the data from the survey responses, we can identify the factors impinging on student retention over which the institution has some control. Once identified, SIAST can then develop policies to support those students most at risk of becoming non-completers.

2.0 Methodology

Primary research was undertaken by surveying all first year students enrolled in diploma and certificate programs in two stages. Certificate students normally complete their program in one year, whereas diploma students normally follow a two year program. For Part I, a questionnaire was mailed in October, 1991 to all first year certificate/diploma (C/D) students enrolled as of September 30, 1991 (the list of addresses for 2,822 students was supplied by the respective Registrars from the four institutes). 1,557 completed questionnaires (or 55 percent of the census sample) were received and analyzed for Part I. For Part II, a follow-up questionnaire was sent in June, 1992 to the respondents of the first questionnaire. At that time, most programs would have completed the first year of studies. 720 completed questionnaires were received for Part II, a response rate of 47 percent. 105 respondents identified themselves as non-completers, an attrition rate of 14.5 percent of Part II respondents. The analysis compared the responses of these non-completers to the responses of the general sample (n = 1,557) to determine significant differences.

3.0 Literature Search

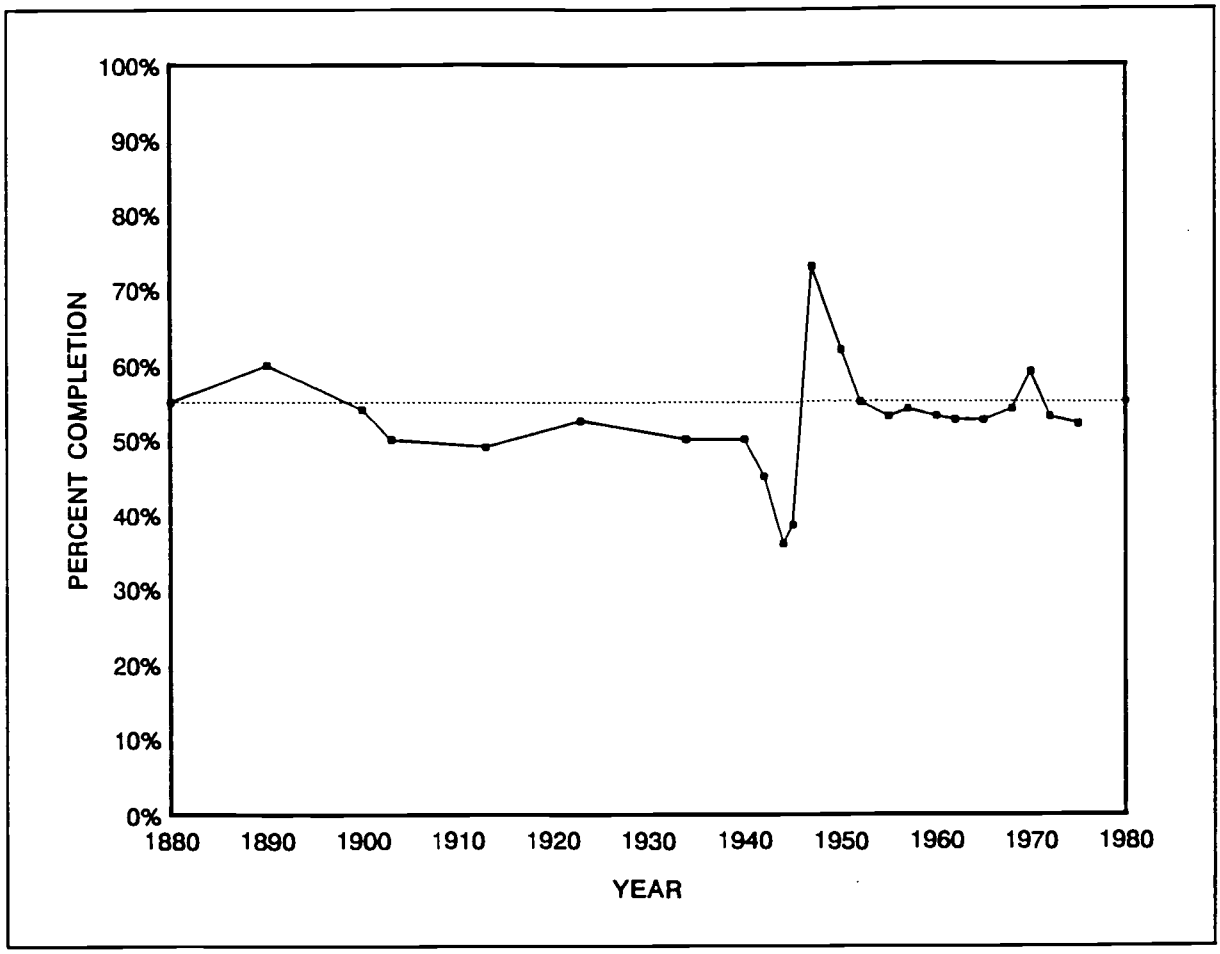
An extensive literature search on the topic of student retention and student attrition was conducted prior to undertaking this study. The studies and articles that have been examined as secondary data sources are enumerated in the list of references.

3.1 Long Term Attrition Rates

In a 1982 article by Tinto, whose work on attrition has influenced thinking in higher education regarding student attrition since his first study in 1975, aggregate attrition rates in America have remained surprisingly constant over the past 100 years. (See Figure 1.)

With the exception of the period during and immediately following World War II, dropout rates have remained at about 45 percent. After an understandable decline in completion rates during the war, a large number of veterans took advantage of the GI Bill to re-enter higher education after the war. Degree completion rates were calculated by the ratio of the number of BAs or first professional degrees given in any one year to the number of first-time degree enrollments four years earlier.

Figure 1 BA Completion Rates in Higher Education 1880 - 1980 with Estimated Regression Line



Source: Vincent Tinto, "Limits of Theory and Practice in Student Attrition", Journal of Higher Education, 1982, Vol. 53. No.6. page 694. Ohio State University. 1982.

Similar figures have been reported for non-degree granting post-secondary institutions. An analysis of withdrawal from the Colleges of Applied Arts and Technology of Ontario (CAATs) between 1974 and 1979 found total student withdrawal rates from 44.1 to 47.1 percent[1].

[1] Stoll, R. and E. Scarff. Student Attrition from Post-secondary Programs at the Ontario Colleges of Applied Arts and Technology. Toronto, Ontario; Ministry of Colleges and Universities, Special Projects Office, 1983.

3.2 Summary of Literature Search

Past studies can be categorized as falling roughly into one of five categories, depending on the emphasis they give to individual and environmental forces:

psychological
societal
economic
organizational
interactional

Psychological Theories on Student Persistence focus on individual personality traits, which distinguish those students who persist from those who do not complete their program of study. Retention is viewed as being dependent upon the individual's ability to complete successfully the requirements of the institution.

Societal Theories stress the roles of social status, race, prestige, and opportunity relative to student persistence, or they examine the barriers and hurdles that students have to overcome. External forces are stressed in the process of student retention.

Economic Theories of student departure emphasize the importance of individual finances and financial aid in student retention. There is little evidence to support the contention that financial forces are paramount to individual retention decisions. The financial situation was taken into account in the decision regarding entry, that is where and whether to attend in the first place[2]. When students' experiences are positive, they are more likely to accept greater financial burdens in order to continue their attendance[3].

Organizational Theories stress the impact of such variables as size of institution, student/teacher ratios, institutional goals and organizational structure on student departure rates. These factors appear to be more important in residential degree-granting institutions. Interactional Theories look at the fit between what a student expects from an institution and how well he/she integrates into the social and academic environment. Tinto's 1975 study is the major work in this area. Pascarella and Chapman in a 1983 study found that academic integration had an effect on institutional commitment for both four-year and two-year commuter post-secondary institutions, but social integration had no effect on persistence. Voorhees studied the social integration model on community colleges. He suggested that academic integration may be less important in explaining persistence of community college students compared to four-year University students. Women had higher levels of persistence. Students indicating that their purpose for attending was "self-improvement or "other" had the lowest persistence rates[4].

---

[2] Manski, C.F. and D.A. Wise. College Choice in America. Cambridge Harvard University Press, 1983.

[3] Tinto, Vincent. "Limits of Theory and Practice in Student Attrition." Journal of Higher Education, 1982, Vol. 53, No. 6, pp. 687 - 699; and Collins, Turner, and Maquire, 1979.

[4] Voorhees, R.A. "Towards Building Models of Community College Persistence: A Logit Analysis." Research in Higher Education. Vol. 26, 1987, 115-129.

Until recently most research has focused on traditional full-time students participating in four-year degree program studies. Part-time students, two-year college/institute and continuing education students, who are generally older have received relatively little attention. Older students probably leave higher education for reasons far different from those identified in Tinto's model of student attrition. For example, social integration, important in Tinto's model, appears to have little empirical support as a reason for explaining non-traditional college attrition[5].

Since goal commitment is an important variable in many studies, we must first examine what this goal is for non-traditional students[6].

It has long been assumed that "completion of the program of studies undertaken" should be the goal of the student; however, in effect, especially the older student may have a different goal. Students who do not intend to finish a certificate or diploma when entering a program should not necessarily be considered as having dropped out. The students' goal may be "to be able to find employment", when they do, hence when the goal is achieved, they leave the program. We should therefore re-evaluate our definition of "attrition". The word carries many negative connotations and suggests failure, when in effect students have achieved what they set out to achieve. We examined the goals or reasons for entering a post-secondary program in our study and found that completion was not always the most important goal.

---

[5] Metzner, Barbara and John P. Bean. "The Estimation of a Conceptual Model for Non-traditional Under-graduate Student Attrition." Research in Higher Education. Vol. 27(1), 1987, p. 15-38.

Pascarella, Duby and Iverson. "A Test and Reconceptualization of a Theoretical Model of College Withdrawal." American Educational Research Journal. 20, 1983, p. 87-102.

[6] The non-traditional student was defined as older than 24 and/or a commuter and/or part-time (Metzner and Bean, 1987, p.18). Many of SIAST's students would be considered non-traditional under this definition.

4.0 Results of the Study

We examined a number of factors that are often identified with student persistence. The SIAST study set out to validate these factors as influencing retention for our own group of first year students at SIAST. We added another factor "labour market condition" to the list.

The SIAST Retention Study set out to examine the impact of the following factors on persistence:

1. reasons for taking program
2. goal commitment
3. educational ability
4. academic/social integration
5. satisfaction/use of services
6. student characteristics
7. labour market conditions

4.1 Differences Between Completers and Non-Completers

The responses of those who had identified themselves as non-completers in Part II were tagged in the database of Part I and then compared to the overall respondents for significant differences. We found that non-completers differed on all of the above factors with the exception of #4 academic/social integration.

4.1.1 Reasons for Taking Program

Working conditions and personal interest/aptitude are more important to non-completers in determining career choices. Acquiring skills to change careers was a stronger motivating factor for non-completers. Non-completers had lower educational goals.

4.1.2 Goal Commitment

Non-completers are less certain about their career choices, expressed less goal commitment, and had set themselves lower final educational goals. Twice as many non-completers stated two months after enrollment that they would definitely take a job right now rather than finish the program, if they were offered a job requiring their skills.

4.1.3 Educational Ability

Previous educational achievement was lower for non-completers. Three times as many respondents from the total sample said that their high school grades were "excellent - over 80%" compared to non-completers.

4.1.4. Academic/Social Integration

There was no significant difference between non-completers and the total sample in terms of social and/or academic integration, measured by the participation in various activities and groups relating to these areas.

4.1.5 Satisfaction/Use of Services

Tutorial help, counselling, and computer and library facilities were more frequently used by non-completers. Sessions to improve study skills, tutorial sessions, and instructor office hours are perceived by non-completers to have greater impact on program completion.

4.1.6 Student Characteristics

Non-completers are more likely to be disabled, of aboriginal ancestry, female, married, have dependent children. They are more frequently employed and work more hours. Non-completers are generally older; proportionately twice as many non-completers are over 35 years old.

The percentage of unemployed prior to entering SIAST was twice as high for non-completers. For non-completers family responsibilities were significantly more important reasons for transfer or withdrawal from previously attempted post-secondary programs.

4.1.7 Labour Market Conditions

Non-completers were more influenced by the current economic conditions. A higher percentage of non-completers stated that they would accept a job in preference of completing their program depending on future job prospects and the state of the economy. The preference for taking a job over completing the program may be a reflection of the fact that the percentage of unemployed prior to entering SIAST was twice as high for non-completers, they may therefore be more eager to become employed.

Unemployment rates for various sectors were compared to attrition rates for programs preparing for occupations in that sector. The general conclusion (although it could not be proven for all programs) was that if it is relatively easy to find employment, students are less likely to complete the program other factors held constant.

4.2 Detailed Study Results

4.2.1 Response Rates

According to the Registrars' offices, a total of 2,822 first year Certificate and Diploma students were registered as of September 31, 1991. Part I of the survey was mailed out in December, 1991 and 1,557 completed surveys were received. An overall response rate of over 55 percent was achieved for Part I and a response rate of 46 percent was achieved for Part II (questionnaire mailed in June 1992). A breakdown of response rates by campus is listed below.

Table 1
Response Rates

	Total	Kelsey		Palliser		Wascana		Woodland	
Part I	#	#	%	#	%	#	%	#	%
Questionnaires sent	2,822	1,078	38.2%	704	24.9%	742	26.3%	298	10.5%
Completed questionnaires received	1,557	580	37.0%	369	23.7%	456	29.3%	152	10.0%
Response Rate	55.2%		53.8%		52.4%		61.5%		51.0%
Part II									
Questionnaires sent	1,557	580		369		456		152	
Completed questionnaires received	720	285	39.5%	175	24.3%	207	28.8%	53	7.4%
Response Rate	46.2%		49.0%		47.4%		45.4%		34.9%
Non-completers Received	14.5%		10.2%		12.8%		13.9%		51.1%

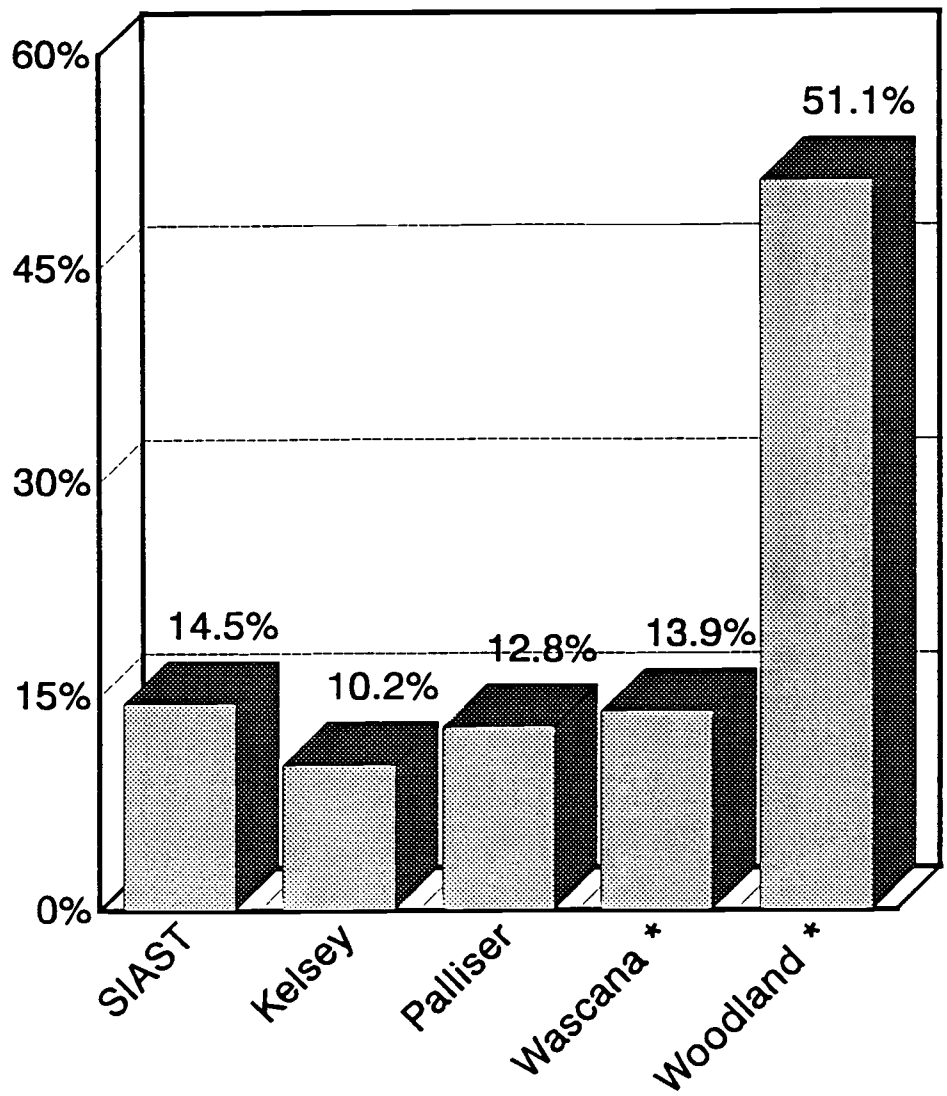
Wascana Institute has a higher percentage of female students due to relative high enrollments in the Office Education and Diploma Nursing programs. The response rates for Part I are significantly higher for Wascana. This suggests that females are more likely to complete and return questionnaires than males.

The last row of Table 1, "Non-completers" as a percentage of questionnaires received in Part II can be taken as a rough indicator for attrition rates. However, we must take a number of factors into consideration. Past research studies have shown that completers are more likely to respond to questionnaires[7]. Hence, the overall SIAST attrition rate of 14.5 percent based on respondents of Part II understates the real attrition rate.

[7] Cheryl Farabaugh-Dorkin, "Beginning to Understand Why Older Students Drop Out of College: A Path Analytic Test of the Bean/Metzner Model of Non-traditional Student Attrition". The Association for Institutional Research, Number 39, Spring 1991, p. 8.

The differences in non-completion rates by institute are shown in Figure 2. Non-completion rates are based on responses of Part II of the study.

Figure 2 Non-Completion Rates by Institute (Based on Responses of Part II of the Study)



* At Woodland, competency-based mode of instruction must be taken into consideration. Students work at their own speed and may not have completed their program by June. A number of programs at Wascana also apply to this learning method.

4.2.2 Goal Commitment

How sure are you of your choice of career goal? *(Question #3)*

Table 2 Career Goal		
	Total Sample	Non-Completers
very sure	56.2%	50.0%
fairly sure	37.6%	39.8%
not sure	6.2%	10.2%
Total # of Respondents	1,536	105

The vast majority of first year students (93.8 percent) are quite certain about their career goals. This is important to note since we later find out that a change in career plans played a major role in the decision to withdraw from previously attended educational institutions (Question 13). 10.2 percent of those students that did not complete their program were "not sure" about their career goal compared to only 6.2 percent of the total sample.

If you were offered a job right now that requires your skills and which pays the going wage rate, would you take the job now or finish off the program in which you are enrolled? *(Question #8)*

Table 3 Job Offers		
	Total Sample	Non-Completers
I would definitely take the job right now.	5.5%	10.35
I would not take the job right now, but finish program.	61.3%	48.5%
I don't know. Whether or not I would take the job now would depend on the state of the economy, what future job prospects might be, etc.	28.0%	35.1%
Other	5.1%	6.2%
Total # of Respondents	1,535	105

61 percent of overall students are committed to completing their program first compared to 49 percent of non-completers. Although students believe that a certificate or diploma increases job prospects and earning potential, a fairly high percentage (28 percent) indicated that concerns of the future economic conditions override the commitment to program completion.

The non-completers show less commitment towards completing their program. Almost twice as many non-completers said they would take a job now rather than completing the program; they also are more influenced by the economic conditions prevailing at the time.

How important to you are the following factors in determining your career choice? (Question #4)

Table 4
Importance of Factors in Determining Career Choice

Factors	very important (3)	somewhat important (2)	not important (1)	mean	Total # Respondents
salary	51.3%	47.1%	1.6%	2.5	1,549
job availability	76.9%	21.5%	1.6%	2.8	1,547
location of available jobs	39.6%	47.5%	12.9%	2.3	1,544
job prestige or status	24.8%	56.6%	18.6%	2.1	1,540
working conditions	60.7%	37.1%	2.3%	2.6	1,549
personal interest/aptitude	82.6%	16.7%	0.7%	2.8	1,542

The higher the mean, the more important the factor in making a career choice.

Students are very much influenced by job availability in their choice of a career. It is a very important factor and ranked equally with personal interest or aptitude (both factors have a mean of 2.8). Comparing the responses of the overall survey to the responses of those students who did not complete the program, there are no significant differences for most factors. Working conditions and personal interest/aptitude are slightly more important (mean of 2.7 and 2.9 respectively) for non-completers compared to 2.6 and 2.8 for the total sample.

4.2.3 Educational Goal

During the next 5 - 10 years, what is the highest level of education you plan to achieve? (Question #5)

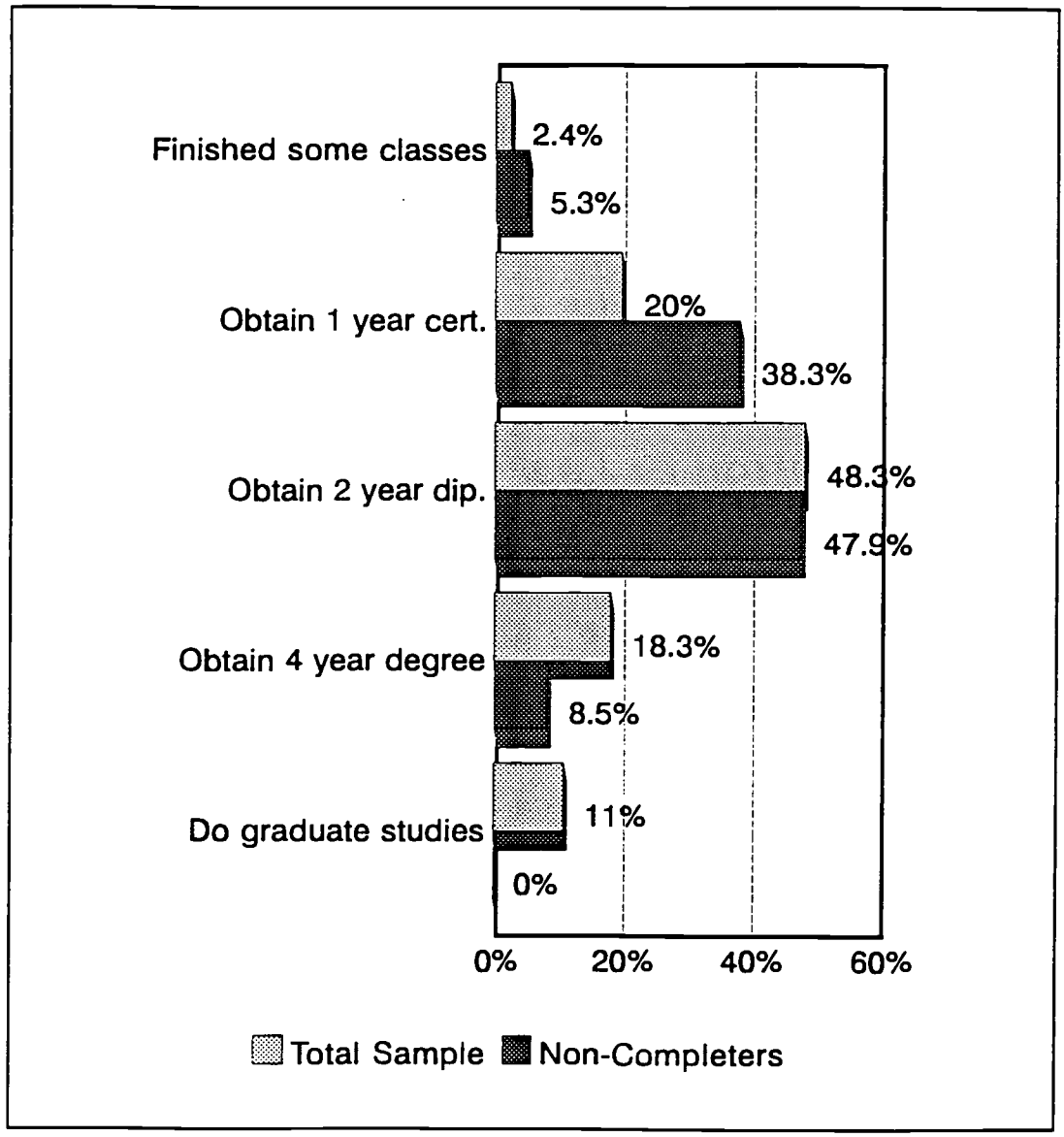
Table 5
Highest Educational Goal

Level of Education	Total	Kelsey	Palliser	Wascana	Woodland
finish some classes	2.4%	1.6%	1.8%	3.5%	3.7%
obtain a one year certificate	20.0%	18.2%	8.9%	28.3%	28.9%
obtain a two year diploma	48.3%	47.6%	60.7%	40.9%	43.7%
obtain a four year University degree	18.3%	20.7%	15.7%	18.7%	13.3%
do graduate studies beyond four year degree	11.0%	11.8%	13.0%	8.6%	10.4%
Total # of Respondents	1,451	550	338	428	135

Students have set themselves high goals. Nearly 30 percent plan to obtain a four year university degree or undertake graduate studies beyond that level.

It has been shown that employment levels among recent graduates increases with the level of educational qualifications[8]. No doubt SIAST students believe this as well. 97.7 percent said that prospects of finding employment are increased by having a certificate or diploma compared to a person without such qualifications, and 95.3 percent believe that they have a higher income potential with a certificate or diploma. This belief is also held by non-completers (Questions 6 and 7 in the questionnaire). However, non-completers have lower educational goals. 5.3 percent (compared to 2.4 percent) only wanted to finish some classes and markedly fewer planned to go on to University. The difference between completers and non-completers is illustrated graphically in the following figure.

Figure 3 Highest Education Goal (Total Sample Compared to Non-Completers)



[8] Profile of Higher Education in Canada, 1991 edition, Department of the Secretary of State of Canada, March 1991, p. 40.

We also compared responses given in December, 1991 regarding highest educational goals to the responses given in July, 1992 (Part II Questionnaire). In the second questionnaire, 16.5 percent said they are not considering further education. 47.9 percent said they wanted to finish their program at SIAST. These would primarily be students enrolled in a two year diploma program (48.3 percent stated in Part I that their goal was to complete a two year diploma).

12.9 percent said they were still planning to go to university (compared to 39 percent in Part 1) and another 27 percent planned to go to another institution or into apprenticeship. In most cases (56), the "other institution" was listed as another SIAST program.

This intention of students to transfer to and from other educational institutions is a phenomena which must be taken into consideration when studying attrition. This inter-institutional transfer has been well documented in a paper by Leslie Vaala[9]. Closer co-operation amongst educational institutions will ensure that students are given maximum credit for what they have already learned and allow for greater flexibility in addressing the educational needs of our students.

4.2.4 Reasons for Taking Program

In deciding to enroll at SIAST, how important were each of the following reasons? *(Question #8)*

Table 6
Importance of Reasons in Decision to Enroll at SIAST

Reasons for Enrolling	very important (3)	somewhat important (2)	not important (1)	not applicable	mean without n/a	Total # Respondents
to acquire skills in the field of my choice	88.1%	11.0%	0.5%	0.4%	2.9	1,551
to acquire skills needed for employment	79.9%	16.8%	1.8%	1.4%	2.8	1,549
to acquire additional skills to change careers	36.8%	28.8%	9.7%	24.6%	2.4	1,543
to be able to earn more money	54.5%	35.4%	5.2%	4.9%	2.5	1,547
to qualify for a promotion	24.9%	25.4%	12.9%	36.8%	2.2	1,536
to obtain a certificate or diploma	77.5%	18.5%	2.4%	1.6%	2.8	1,546
for personal interest/enjoyment	49.7%	37.2%	8.0%	5.1%	2.4	1,545
to be able to transfer to a university later	13.4%	24.6%	28.1%	34.0%	1.8	1,543

The means have been calculated without the response category "not applicable - n/a" in order to better reflect the importance of the reason. The higher the mean, the more important the reason. A mean of '3' would tell us that all respondents who found this reason applicable had rated it as "very important".

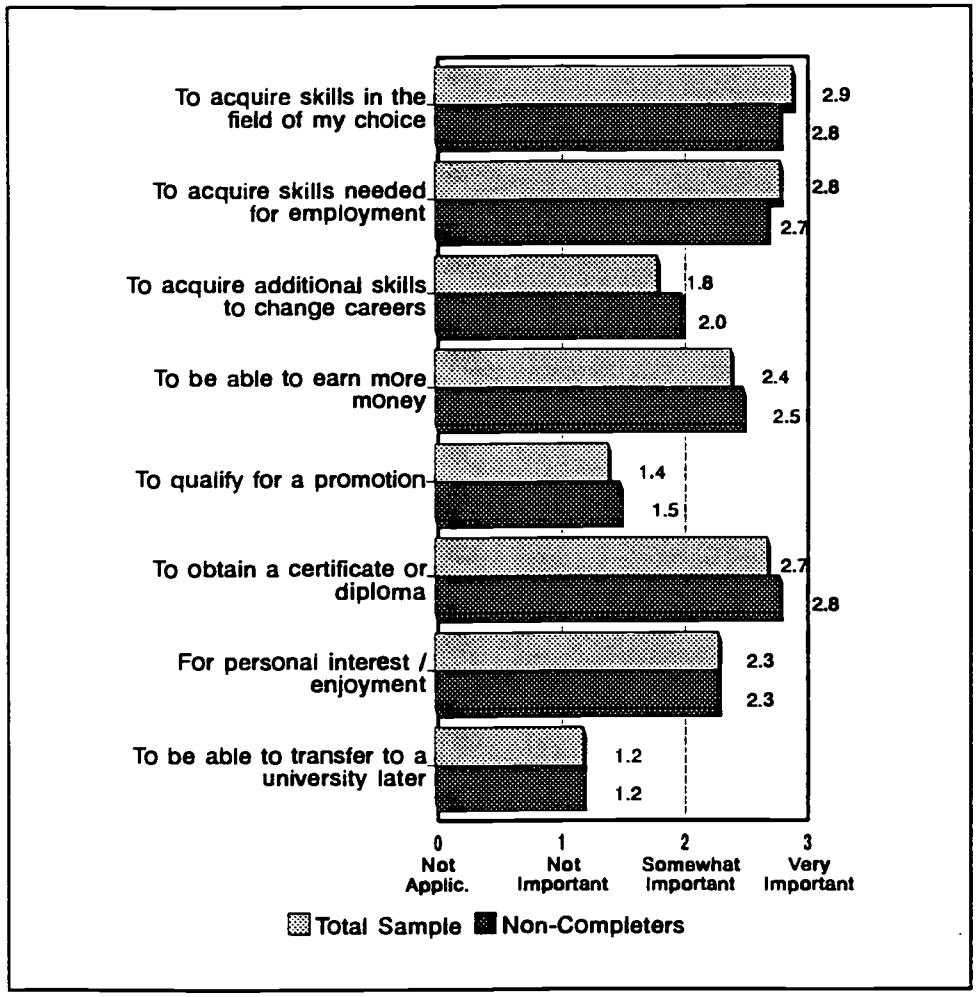
[9] Vaala, Leslie D. "The Best Place to be: New Perspectives on Attending a Two-Year College After a Four Year University." A paper presented at the Annual Conference of the Society for the Study of Higher Education. Kingston, Ontario, June 2-4, 1991.

To acquire skills that have currency in the job market is by far the strongest motivational force for students to enroll in SIAST certificate and diploma programs. Most students are still in the early stages of their career paths, therefore taking the program to qualify for a promotion is less important. Almost two thirds of the students decided to enroll at SIAST in order to acquire additional skills to change careers and 38 percent are enrolled at SIAST in order to be able to transfer to a university later. For some of these students completing the SIAST program and receiving a certificate or diploma would not be the goal in itself, but if the program enabled them to go on to university these students would have met their own objectives.

The figure below indicates the difference of how important these reasons are to the non-completers in comparison to the total sample. In this case the calculation of the means included the "non-applicable" category (for both groups) to ensure that non-use or non-applicability is also reflected. The lower the mean indicates less importance or non-applicability.

Non-completers ranked "acquiring skills to change careers" higher as a reason for enrolling at SIAST. "To qualify for a promotion" and "be able to earn more money were also more important. Since 95 percent of non-completers also believe that obtaining a certificate or diploma would increase their earning potential (see p. 10), it is not surprising that they give this factor higher ratings which is consistent with stronger motivation to earn more money. Stronger financial or promotion incentive does not correlate with a greater probability of persisting.

Figure 4 Importance in Reasons in Decision to Enroll at SIAST



4.2.5 Employment History Prior to Attending SIAST

What was your main activity prior to attending SIAST? *(Question #10)*

Table 7
Main Activity Prior to Attending SIAST

Activity	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
was working full time	581	38.1%	37.6%	32.0%	39.9%	49.7%	34.4%
was unemployed but looking for work	172	11.3%	11.5%	10.9%	8.3%	20.5%	21.9%
was working part time	350	23.0%	21.0%	23.7%	28.3%	13.2%	19.8%
was not employed, but not looking for work	420	27.6%	30.0%	33.4%	23.5%	16.6%	24.0%
Total # of Respondents	1,523		567	359	446	151	105
no response	34		13	10	10	1	

A relatively high percentage of students were working full time prior to entering SIAST. Their decision to take further education was no doubt influenced by the widely held belief that a certificate or diploma would increase their potential income levels. A greater percentage of students from Woodland Institute were unemployed prior to attending SIAST.

Table 7A
Comparison of Total Sample & Non-Completers

Activity	Total Sample	Non-Completers
	%	%
was working full time	38.1%	34.4%
was unemployed but looking for work	11.3%	21.9%
was working part time	23.0%	19.8%
was not employed, but not looking for work	27.6%	24.0%

It is interesting to note that a greater percentage of non-completers (21.9 percent compared to 11.3 percent of the total sample) was unemployed prior to attending SIAST. This may explain their preference to accept employment rather than complete the program (Question #8, Table 3).

If you answered "was not employed, but not looking for work"' above, please specify reason(s). (Question #11)

Table 8 Reasons For Not Being Employed and Not Looking For Work			
Reason	Total Sample (N = 1,557)		Non-Completers (N = 99)
	#	%	#
completing high school	307	19.7%	14
enrolled at university	84	5.4%	2
enrolled at other institution	70	4.5%	1
medical	27	1.7%	3
family reasons	44	2.8%	1
travelling	3	0.2%	0
other	41	2.6%	5
Total	573		26

The total number of respondents answering this question is higher than those that were not in the work force (unemployed and not looking for work), therefore, a number of part time employed or unemployed (but looking for work) also responded. Relatively more non-completers gave "medical" as a reason for not being in the workforce.

4.2.6 Previous Withdrawals from Educational Institutions

Before entering SIAST had you ever withdrawn from school or another educational institution or had you transferred from another post-secondary educational institution? *(Question #12)*

Table 9 Previous Transfer or Withdrawal from Other Educational Institution						
	SIAST		Kelsey	Palliser	Wascana	Woodland
	#	%	%	%	%	%
took leave of absence	44	2.8%	1.2%	0.3%	0.9%	0.3%
transferred before completing my program	52	3.3%	1.3%	0.5%	1.2%	0.3%
withdrew from educational institution	309	19.8%	8.5%	3.9%	5.7%	1.7%

26 percent of all first year responding students had not completed a program from another post-secondary educational institution. The reasons for non-completion of previous post-secondary programs may shed some light on whether students may be likely to persist in present programs. A withdrawal rate (or attrition rate) of 20 percent may be considered to be quite acceptable by students. If this is the case, a goal of 10 - 15 percent attrition may be too optimistic. There was no significant

difference for previous withdrawal rates by the non-completers compared to the overall respondents. The higher percentage of Kelsey and Wascana students who had previously withdrawn reflect the location of the two universities and the trend towards reverse transfer. 22 percent had previously attended university (see Table 19, Question #22).

If you marked one of the above, how important were each of the reasons listed below in your decision to take a leave of absence, withdraw or transfer? *(Question #13)*

Table 10
Importance of Reasons For Non-Completion of Previous Post-Secondary Programs

Reasons	very important (3)	somewhat important (2)	not important (1)	not applicable	mean without n/a	Total # Respondents
changed my career plans	32.2%	22.7%	9.8%	35.4%	2.3	410
wanted practical experience	27.2%	23.7%	15.6%	33.1%	2.2	405
didn't feel I "fit in"	15.7%	17.9%	21.8%	44.6%	1.9	408
had a good job offer	10.1%	10.6%	16.2%	63.1%	1.8	407
wanted to be closer to home	6.5%	10.9%	21.6%	61.0%	1.6	403
had financial problems	17.1%	21.0%	19.6%	42.3%	2.0	409
family responsibilities	15.8%	10.0%	17.7%	56.6%	2.0	412
found course work too difficult	10.8%	16.3%	24.6%	48.3%	1.7	406
was asked to discontinue	9.2%	6.7%	6.9%	77.2%	2.1	403

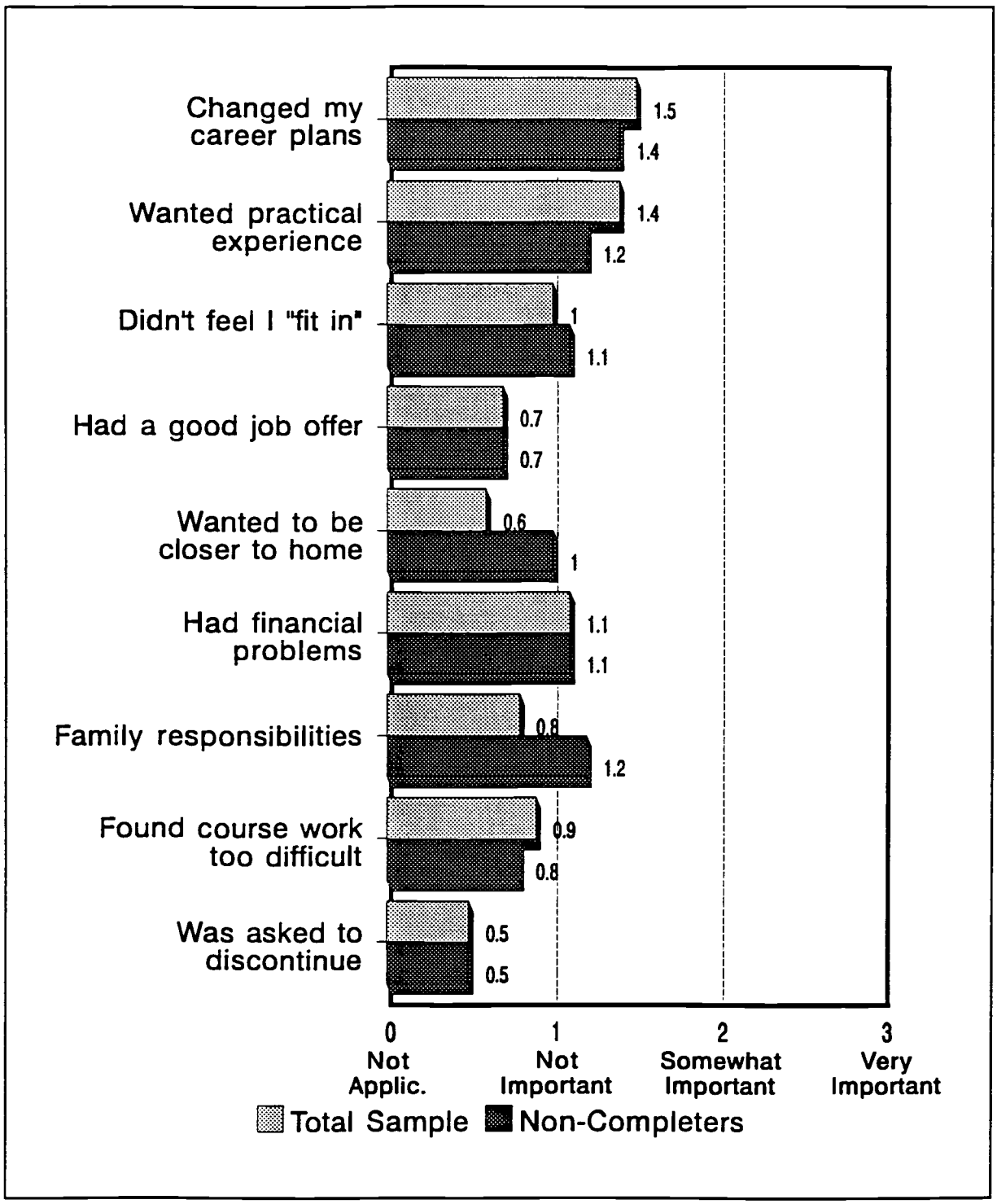
Again, the mean in this table does not include the respondents who answered "non-applicable" to reflect the level of importance to students who are influenced by these reasons.

Changing career plans is the most important reason for discontinuing a previously attempted post-secondary program. This points to the importance of career counselling. Providing extensive career counselling prior to enrolling in a SIAST program would be the student service that would have the greatest pay-off in terms of ensuring that students will complete their program.

Financial problems are a reason for some but over 62 percent said this reason did not apply or was not important. However, it was more important to non-completers.

For non-completers "family responsibilities" and "wanting to be closer to home" were significantly more important reasons for non-completion of previous post-secondary programs. See the following figure. The comparative means illustrating the differences of non-completers in this figure do include "non-applicable" responses to reflect the overall importance of the reason for each group. This procedure will be followed throughout the report. The means comparing non-completers to the total sample include the "non-applicable" responses.

Figure 5 Importance of Reasons for Non-Completion of Previous Post-Secondary Programs



4.2.7 Importance of Factors in Choosing SIAST

How important were the following factors in choosing SIAST? (Question #14)

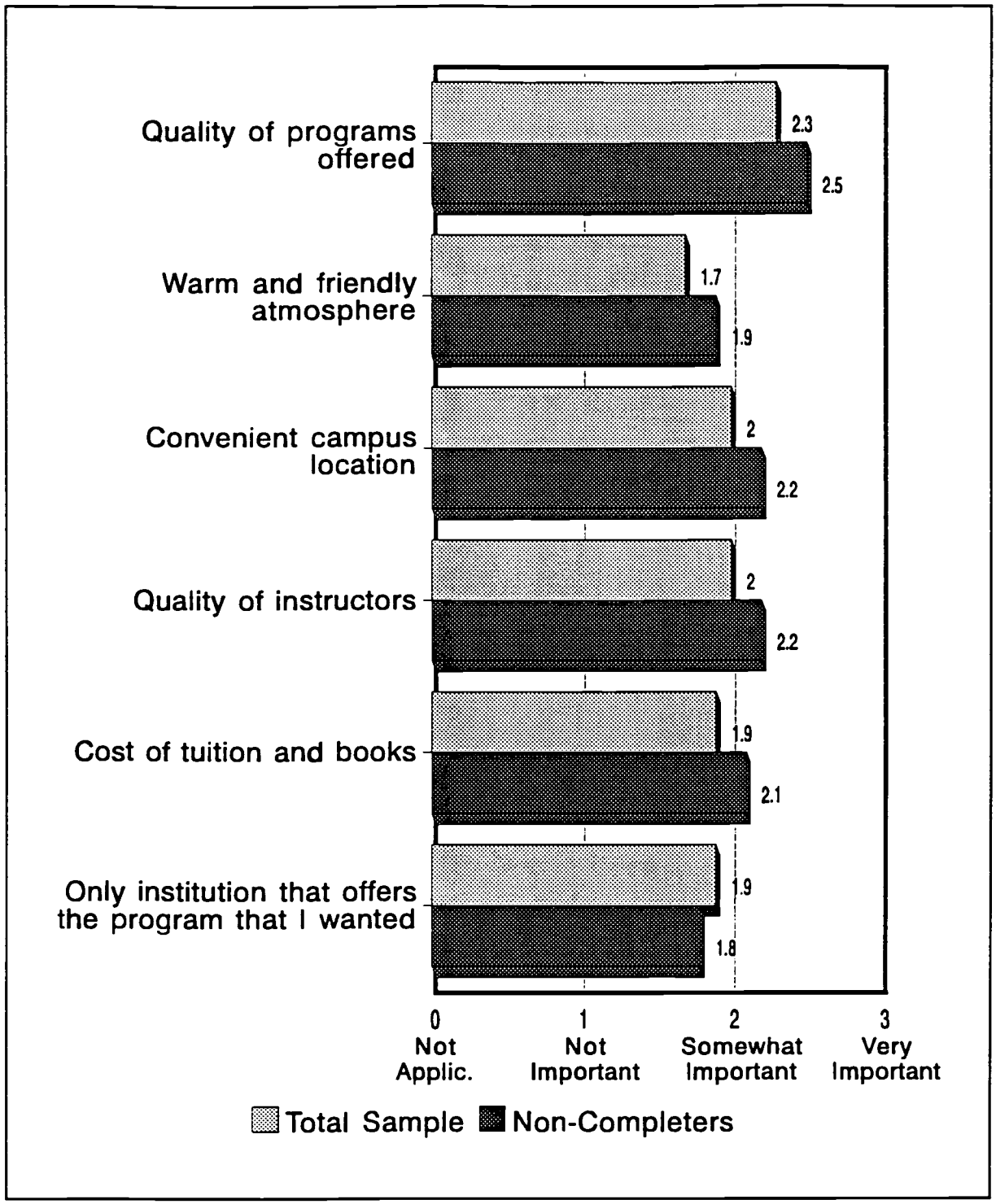
Table 11
Importance of Factors in Choosing SIAST

Factors	very important (3)	somewhat important (2)	not important (1)	not applicable	mean without n/a	Total # Respondents
quality of programs offered	57.6%	29.3%	2.6%	10.4%	2.6	1,513
warm and friendly atmosphere	24.1%	41.2%	14.2%	20.6%	2.1	1,505
convenient campus location	36.5%	34.0%	18.9%	10.6%	2.2	1,517
quality of instructors	46.5%	29.2%	5.0%	19.3%	2.5	1,504
cost of tuition and books	33.7%	38.4%	15.5%	12.4%	2.2	1,506
only institution that offers the program that I wanted	44.4%	20.2%	11.5%	23.9%	2.4	1,500

Quality of programs and instructors are the most important factors. To 29.5 percent of the respondents convenient campus location is not important or not applicable. Three quarters of the students are single (see question #25) and quite young (66.5 percent are 24 or younger - see Question #19), and hence still quite mobile.

To non-completers all of these factors (except "only institution that offers the program that I wanted") are more important in the decision to choose SIAST.

Figure 6 Importance of Factors in Choosing SIAST



4.2.8 Satisfaction with Facilities and Services

Please rate your satisfaction with your SIAST campus for each of the factors below. *(Question #15)*

Table 12
Satisfaction with SIAST

Factors	Total # Respondents	very satisfied (3)	somewhat satisfied (2)	not satisfied (1)	not applicable	mean without n/a
library facilities	1,541	32.6%	43.3%	7.3%	16.7%	2.3
accessibility to instructors	1,557	51.2%	39.9%	7.7%	1.2%	2.4
vocational and career counselling	1,537	24.3%	29.6%	5.8%	40.3%	2.3
personal counselling	1,536	21.5%	24.3%	5.1%	49.2%	2.3
computer facilities	1,534	28.2%	26.7%	10.2%	34.9%	2.3
financial aid	1,531	12.9%	20.2%	14.9%	51.9%	2.0
campus health services	1,533	21.8%	25.4%	3.8%	49.0%	2.4
class size	1,543	54.9%	35.1%	5.7%	4.3%	2.5
campus social life	1,535	32.7%	38.1%	7.3%	21.9%	2.3
orientation sessions for new students	1,543	33.7%	40.3%	11.4%	14.6%	2.3
tutorial help	1,536	16.6%	22.7%	8.5%	52.2%	2.2
availability of scholarships	1,526	12.1%	27.7%	18.9%	41.3%	1.9
extracurricular activities	1,536	29.2%	32.4%	7.1%	31.4%	2.3
overall experience	1,557	46.1%	46.7%	3.4%	3.7%	2.4

The "non-applicable" response category was used to indicate non-use and non-availability of a service. Means were again calculated without the "non-applicable" category to better reflect the satisfaction level of those responding students who have actually used such services.

Differences by institutes are illustrated in Table 12A. Means do not include "not applicable"; therefore, the ratings represent only those who have actually used such services.

Table 12A
Satisfaction with SIAST
Comparison of Mean by Institute

Factors	Total # Respondents	Kelsey Institute	Palliser Institute	Wascana Institute	Woodland Institute
library facilities	1,541	2.3	2.2	2.4	2.5
accessibility to instructors	1,557	2.5	2.5	2.4	2.2
vocational and career counselling	1,537	2.2	2.4	2.3	2.3
personal counselling	1,536	2.3	2.3	2.4	2.4
computer facilities	1,534	2.2	2.2	2.3	2.5
financial aid	1,531	2.0	1.8	1.9	2.2
campus health services	1,533	2.4	2.1	2.3	2.5
class size	1,543	2.5	2.6	2.4	2.6
campus social life	1,535	2.4	2.3	2.2	2.3
orientation sessions for new students	1,543	2.2	2.4	2.2	2.4
tutorial help	1,536	2.1	2.0	2.3	2.4
availability of scholarships	1,526	1.9	1.8	1.9	2.1
extracurricular activities	1,536	2.4	2.4	2.1	2.4
overall experience	1,557	2.5	2.4	2.4	2.5

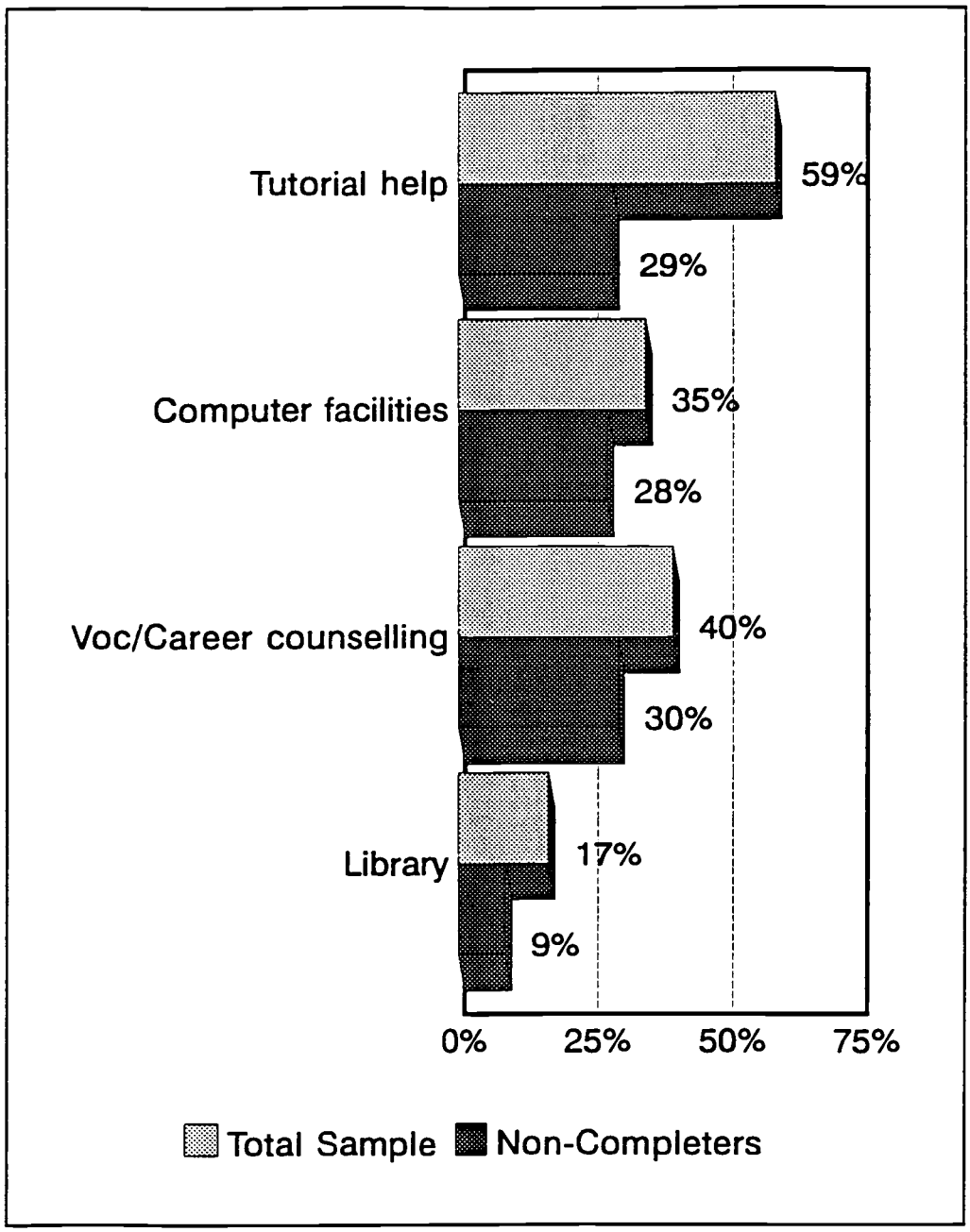
The highest levels of satisfaction are with class size and instructor accessibility. Instructors should be congratulated on the superb job they are doing. Students indicate their lowest level of satisfaction with the availability of scholarships and financial aid. This is an area that cannot be easily remedied; however, orientation sessions for new students and computer facilities are services that could be improved. 11.4 percent and 10.2 percent of students respectively are not satisfied with these services.

The use of vocational and career counselling should be more encouraged. Over 49 percent of respondents indicated "not applicable". Those that do use the service are generally satisfied. As we have seen before, "changes in career plans" were major reasons for previous withdrawals from post-secondary institutions (see question #13); therefore, making vocational and career counselling easily accessible and encouraging prospective students to use these services would enhance retention rates.

Students at Woodland Institute rate a number of services higher than students elsewhere. Library, computer facilities and health services are rated especially high at Woodland; however, accessibility to instructors received lower ratings.

We will now compare the use and satisfaction of non-completers to the overall responders.

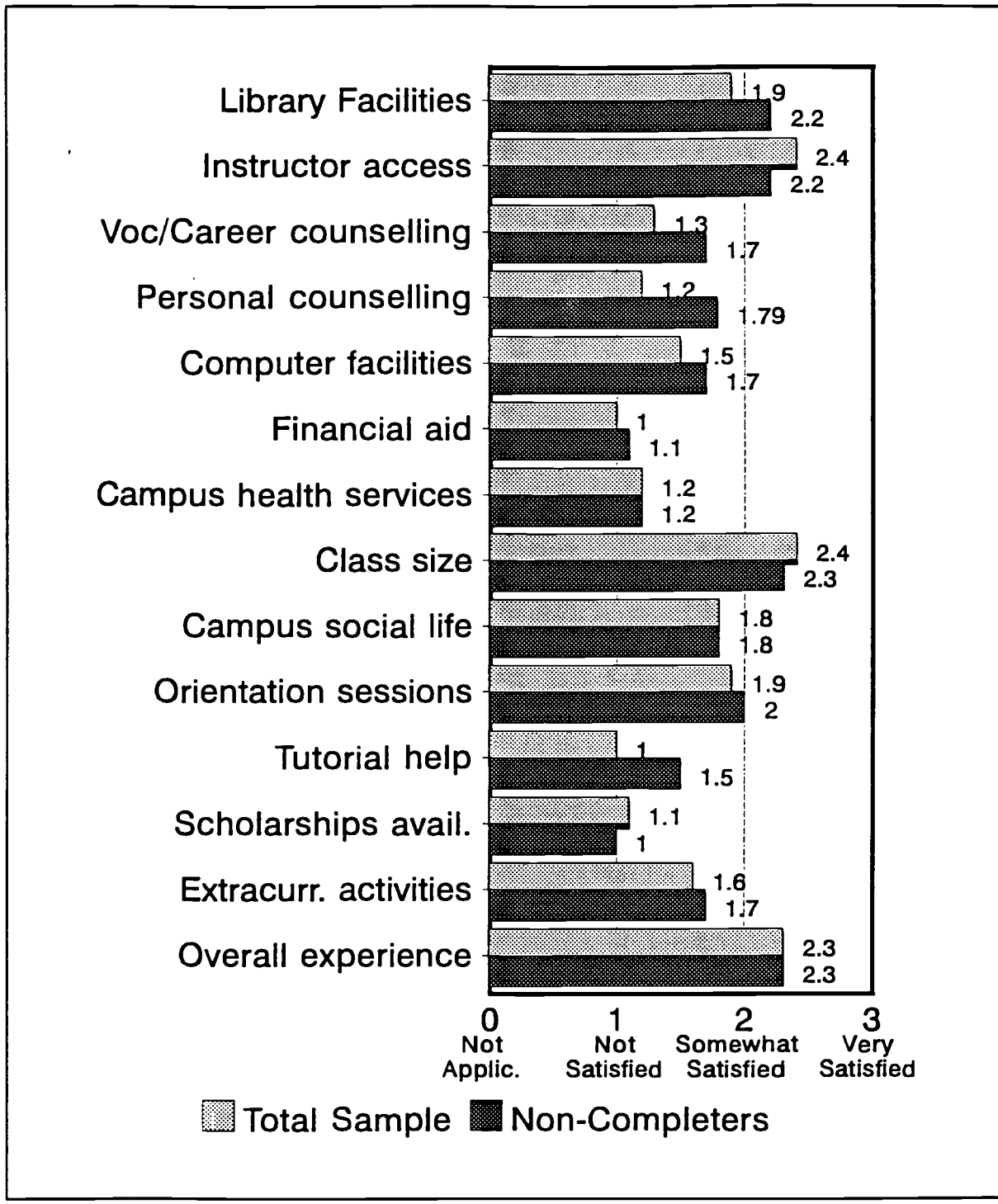
Figure 7 Comparison of Total Sample and Non-Completers - Percent Stating Service Was Not Used/Not Available



Non-completers have used the services to a greater extent than the respondents overall. Especially library facilities, vocational and career counselling, computer facilities and tutorials show marked differences. For example, 52 percent of the total sample responded that "tutorial help" was not applicable; whereas only 29 percent of non-completers answered not applicable or not used. 28 percent of non-completers responded that "computer facilities" were not applicable, compared to 35 percent of the total sample; 30 percent of non-completers said that "vocational and career counselling" was not applicable, compared to 40 percent of the total sample; and 9 percent of non-respondents responded that "library facilities" had not been used compared to 17 percent of the total sample.

The following figure compares the total sample to non-completers with regard to satisfaction level with services and facilties. Non-use or not-applicable is taken into consideration. Therefore, a lower rating does not necessarily mean not satisfied but it is also an indication of how many respondents have not used such a service. A mean of "1" would indicate that close to 50 percent of respondents have not used the service.

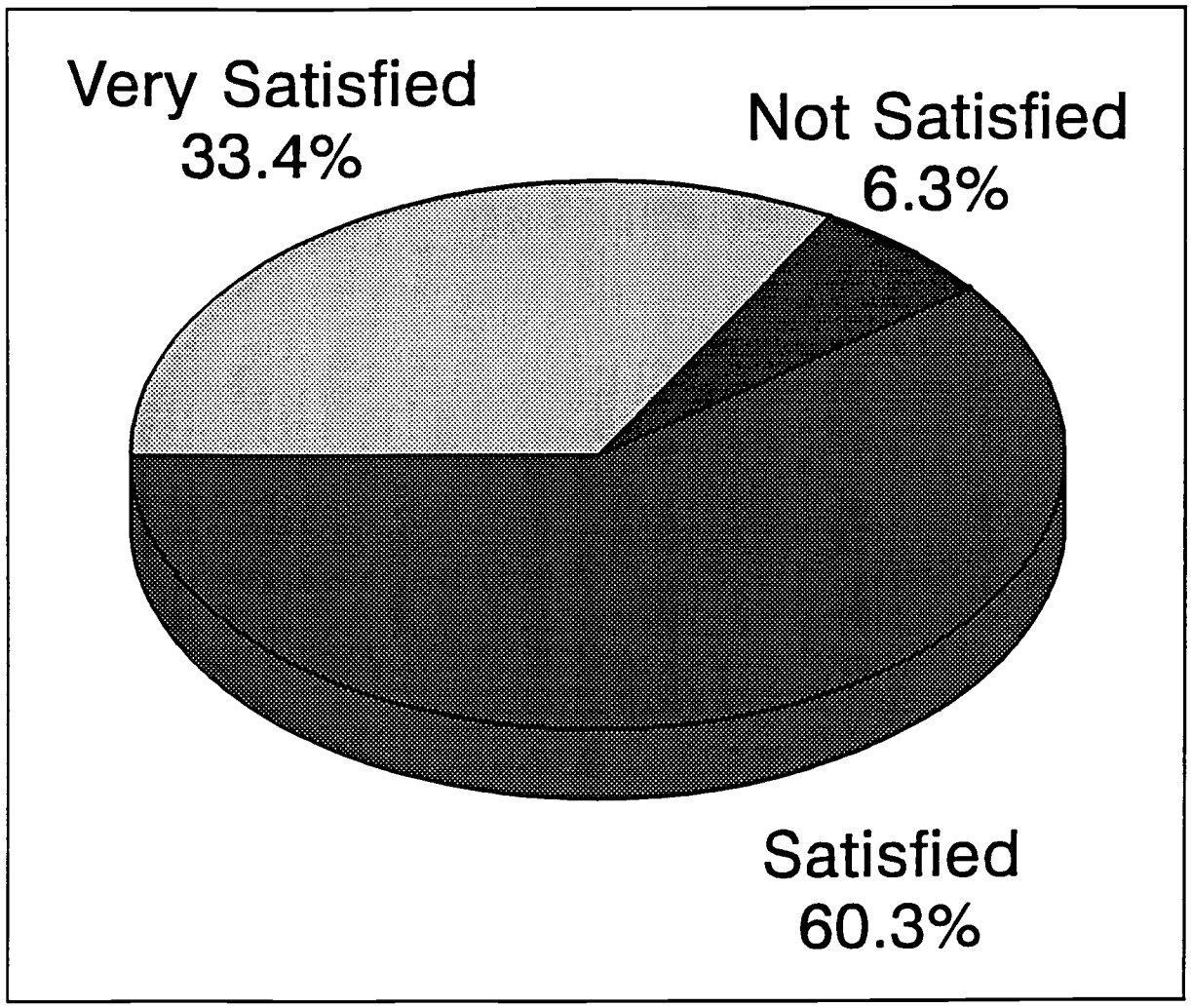
Figure 8 Satisfaction with SIAST - Comparison of Total Sample and Non-Completers



How would you rate your overall experience at SIAST? *(Question #5 in Part II)*

The overwhelming majority of students (93.7 percent) had very positive experiences at SIAST. Of the 713 students responding to Part II, 33.4 percent are very satisfied and 60.3 percent are satisfied with their overall experience at SIAST.

Figure 9 Satisfaction Levels with SIAST Overall



4.2.9 Social and Academic Integration

In your experience at SIAST during the current year, how often have you done each of the following? *(Question #16)*

Table 13
Participation in Activities

Activities	very often (4)	often (3)	occasionally (2)	never (1)	mean
read or asked about a club, student organization or student government activity	5.8%	15.4%	41.3%	37.5%	1.9
attended a program or event put on by a student group	7.1%	13.3%	35.6%	44.0%	1.8
worked on a student committee	3.3%	3.0%	8.3%	85.4%	1.2
discussed policies and issued related to campus activities	4.4%	10.6%	35.7%	49.3%	1.7
participated in on campus sports or recreational activities	15.8%	16.2%	27.1%	40.9%	2.1
met with a group of students for discussions	12.1%	17.7%	33.9%	36.4%	2.1
made friends with students in your program area at SIAST	61.5%	27.7%	9.3%	1.4%	3.5
made friends with students who are taking different programs	23.4%	21.6%	37.5%	16.5%	2.5

Students rely primarily on informal networks such as friends from their own program area rather than organized student activities. Participation in organized student activities is "occasional". Over 30 percent of respondents have participated "very often" or "often" in on campus sports or recreational activities. There is no significant difference in frequency of participation in activities by non-completers compared to the overall sample.

Since starting your program at SIAST, who provided assistance to you in the following areas? (Question #17)

Table 14
Sources of Assistance at SIAST

Sources	instructors	counsellors	deans	family/ friends	other students	others
advice and guidance about program	58.2%	27.3%	3.3%	36.2%	44.5%	10.1%
emotional support and encouragement	31.1%	11.2%	1.2%	78.8%	46.2%	10.0%
tutorial assistance	38.6%	7.8%	0.5%	12.5%	32.9%	8.9%
help with improving study skills	33.5%	21.1%	0.6%	17.9%	28.5%	8.5%
intellectual challenge and stimulation	56.8%	4.5%	1.1%	21.5%	33.3%	7.5%
a role model to follow	40.6%	4.6%	1.3%	30.7%	29.3%	13.8%
finding your way around the campus	32.9%	8.9%	1.0%	12.0%	71.5%	7.6%
Average in all areas	41.67%	12.2%	1.29%	29.9%	40.9%	9.5%

Instructors are rated as being extremely important in providing assistance in a number of areas. Overall they are the most important source of assistance followed by other students. Family and friends are used mainly for emotional support. The assistance of counsellors is primarily limited to advice and guidance about programs and help with improving study skills. Approximately 25 percent of respondents had received assistance from counsellors in these two areas. More counsellors should be made available so that the heavy reliance on instructors for advice and guidance could be reduced. (Approximately 50 percent of students have not used counselling or tutorial services; see question #15, Table 12.)

4.2.10 Perceived Impact of Factors on Completion of Program

***To what extent would the following factors have an impact on whether you will complete your program?** (Question #18)*

Table 15
Impact of Factors on Program Completion

Factors	great impact (3)	some impact (2)	no impact (1)	mean
sessions in improving study skills	19.1%	37.1%	43.8%	1.8
scheduled office hours for instructors	16.7%	39.4%	43.9%	1.7
financial aid counselling services	20.2%	27.2%	52.6%	1.7
tutorial sessions	17.0%	34.4%	48.5%	1.7
child care facilities	6.5%	5.2%	88.4%	1.2
overall Saskatchewan unemployment rates	25.3%	25.7%	48.9%	1.8

Child care facilities have the least impact on decisions to complete programs. Since only 22 percent of respondents have children, this service does not affect very many students. Overall Saskatchewan employment rates have the greatest impact on whether students will complete their program. 25 percent of respondents rated this factor as having "great impact" and the percentage rose to 26.4 percent for non-completers.

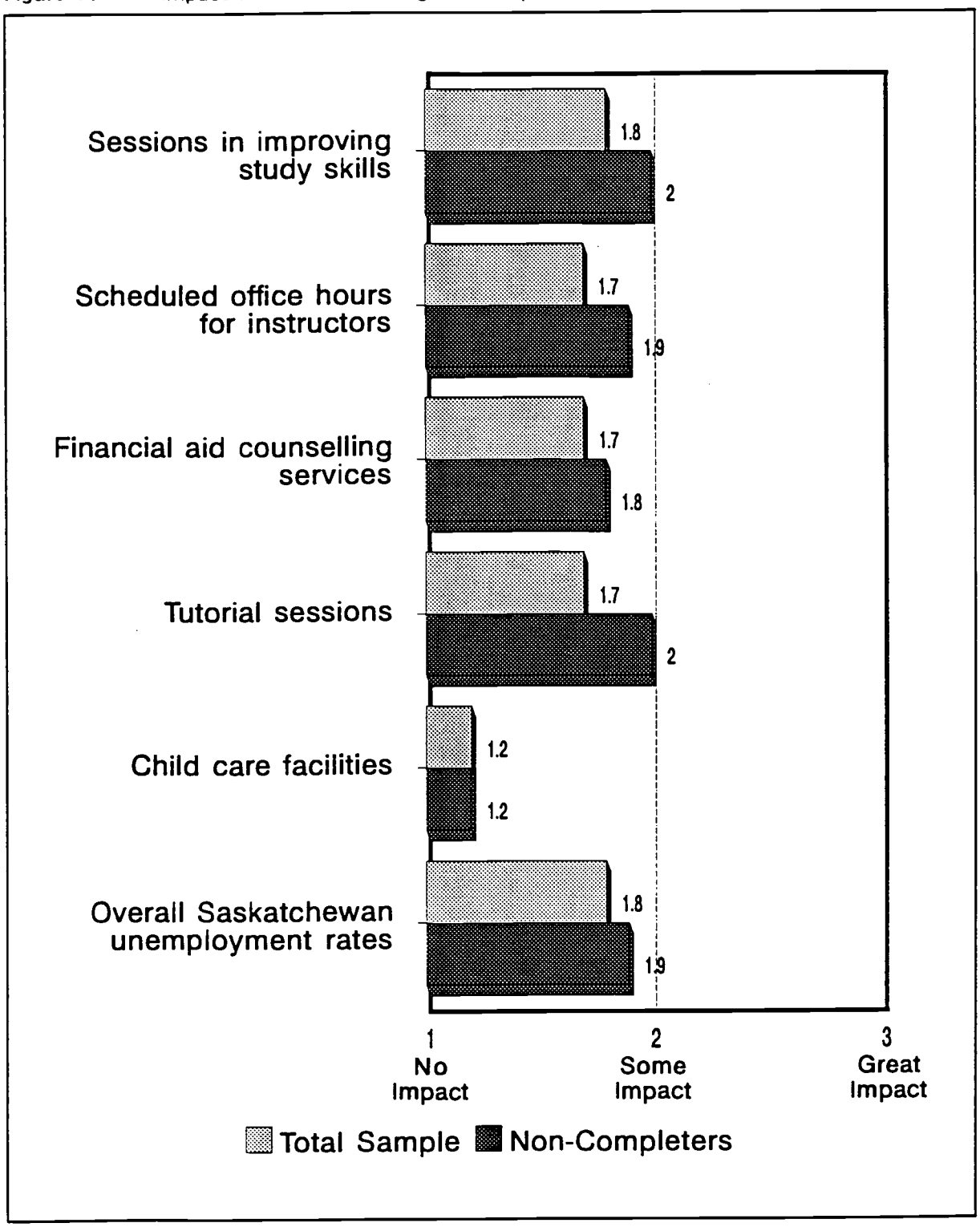
All of the above factors, with the exception of "child care facilities", have a greater impact on program completion according to non-completers compared to the overall respondents.

Comparing these factors by institutes, unemployment rates have the greatest impact on students at Woodland Institute. Scheduled office hours for instructors are perceived to have much more impact on retention at Woodland compared to the other institutes. All the factors listed are perceived by Woodland students to have greater impact. It appears that there is a need for Woodland Institute to increase accessibility of instructors, and provide more sessions in improving study skills.

Table 15A
Impact of Factors on Program Completion
Means by Institutes

Factors	Kelsey	Palliser	Wascana	Woodland
sessions in improving study skills	1.7	1.8	1.7	2.0
scheduled office hours for instructors	1.6	1.7	1.7	2.2
financial aid counselling services	1.6	1.7	1.7	2.0
tutorial sessions	1.6	1.7	1.7	1.8
child care facilities	1.1	1.1	1.3	1.3
overall Saskatchewan unemployment rates	1.8	1.8	1.7	1.9

Figure 10 Impact on Factors on Program Completion



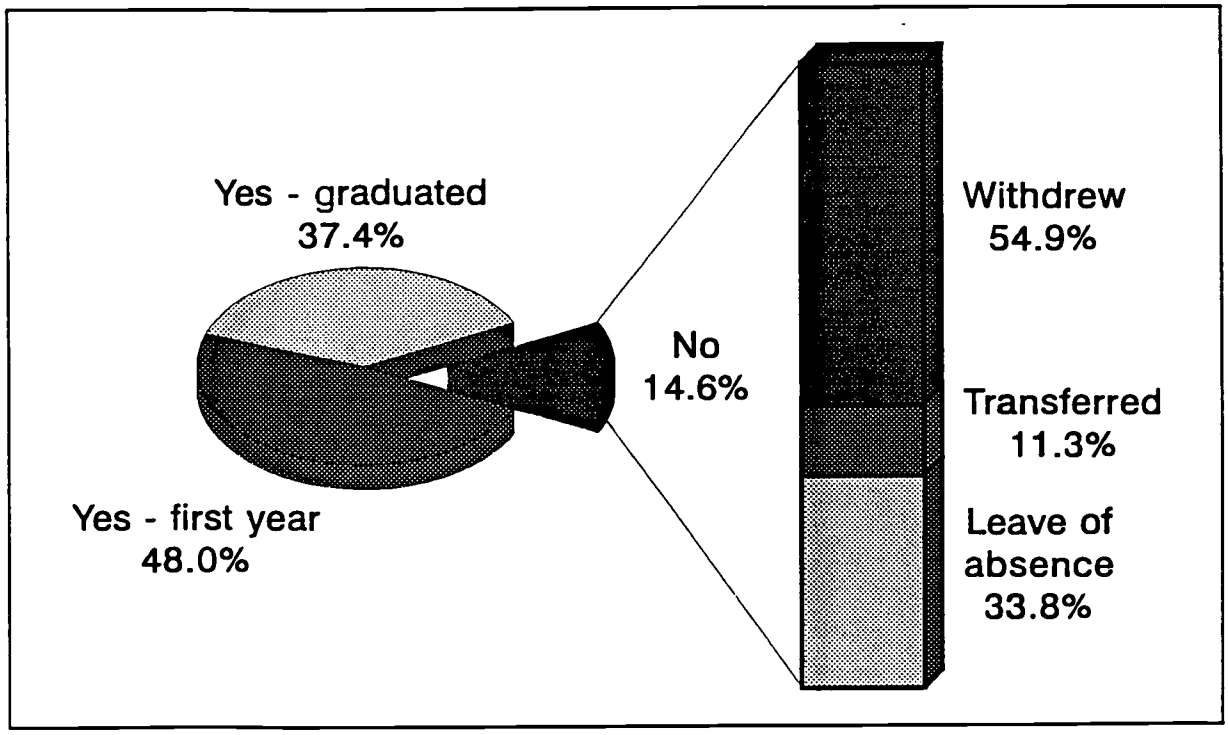
4.2.11 Importance of Reasons for Withdrawal

In Part II of the study, we asked specific questions on reasons why students had discontinued their studies and the importance of these reasons.

First of all, we established that in many cases students did not simply "drop out", but they took a leave of absence or transferred to another institution.

719 students responded to the Part II questionnaire. Of these, 37.4 percent have completed the program and graduated, 48 percent have completed the first year and will continue with the second year, and 14.6 percent did not complete their program.

Figure 11 Completion of Program - Reason For Not Completing



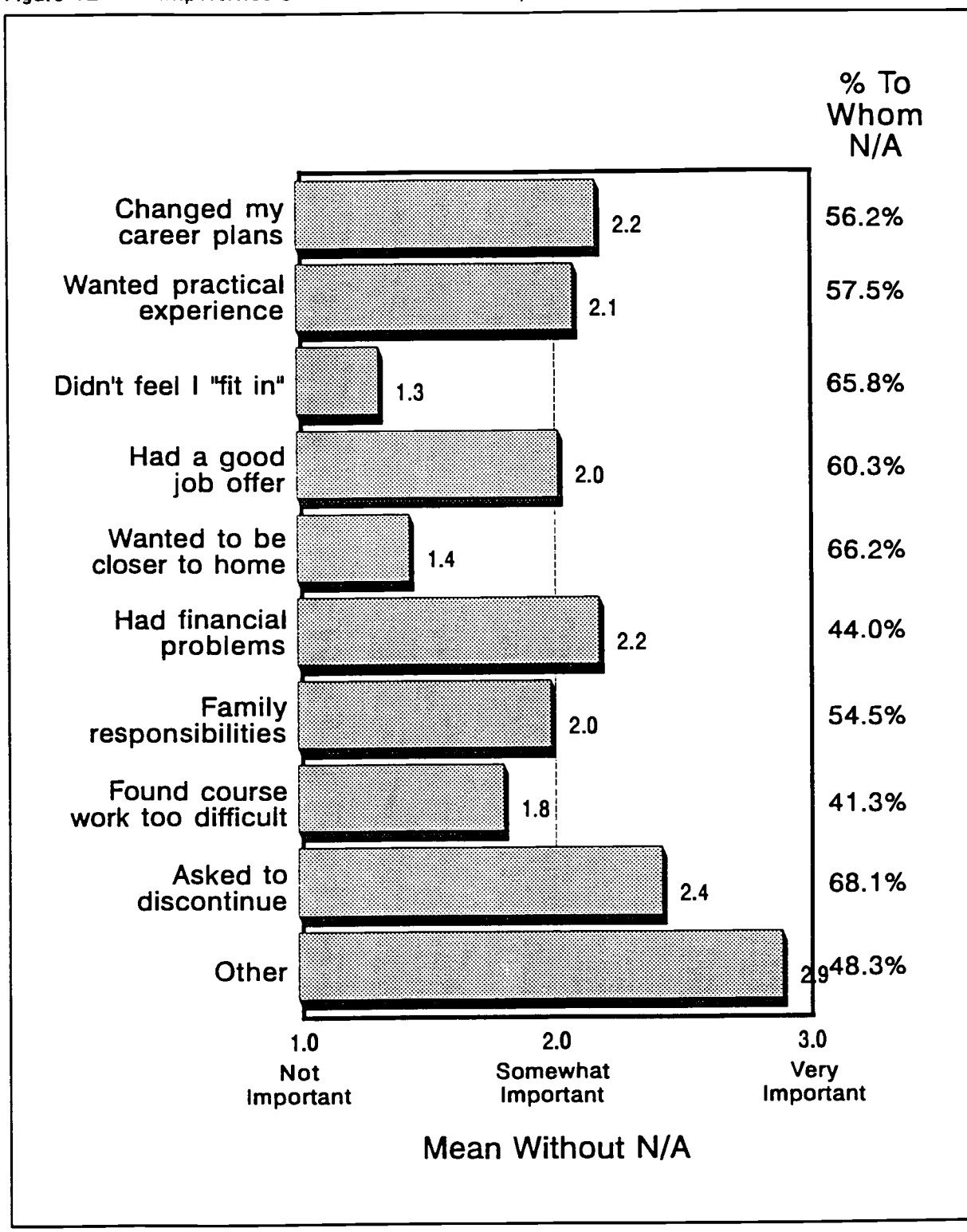
Of the students that did not complete the program (n = 105), 27 took a leave of absence, 9 transferred to another institution (usually another program at SIAST), and 9 changed to part-time study.

Table 16
Importance of Reason for Non-Completion
Non-Completers Only (n = 105)

Reason	# respondents	very important (3)	somewhat important (2)	not important (1)	not applicable (0)	mean	mean without n/a
changed my career plan	73	20.5%	11.0%	12.3%	56.2%	.96	2.18
wanted practical experience	73	16.4%	13.7%	12.3%	57.5%	.89	2.09
felt "I did not fit in"	73	0	11.0%	23.3%	65.8%	.45	1.32
had a job offer	73	17.8%	5.5%	57.5%	60.3%	.81	2.03
wanted to be closer to home	74	2.7%	9.5%	21.6%	66.2%	.49	1.44
had financial problems	75	24.0%	18.7%	13.3%	44.0%	1.23	2.19
family responsibilities	77	18.2%	9.1%	18.2%	54.5%	.91	2.00
found course work too difficult	75	9.3%	29.3%	20.0%	41.3%	1.07	1.81
was asked to discontinue	72	20.8%	4.2%	6.9%	68.1%	.78	2.43
other (please specify)	58	48.3%	1.7%	1.7%	48.3%	1.5	2.90

We have calculated two means, with and without the non-applicable category, to measure two separate situations. The reasons ranked by means which include "non-applicable" indicate to what extent these factors apply. Having financial problems and finding the course work too difficult was most frequently one of the reasons for discontinuing. For those non-completers affected by a particular reason (mean without n/a), being asked to discontinue, financial problems and changing career plans were the most important reasons for withdrawing.

Figure 12 Importance of Reason for Non-Completion (Non-Completers Only)



4.3 Student Characteristics

4.3.1 Age of Students

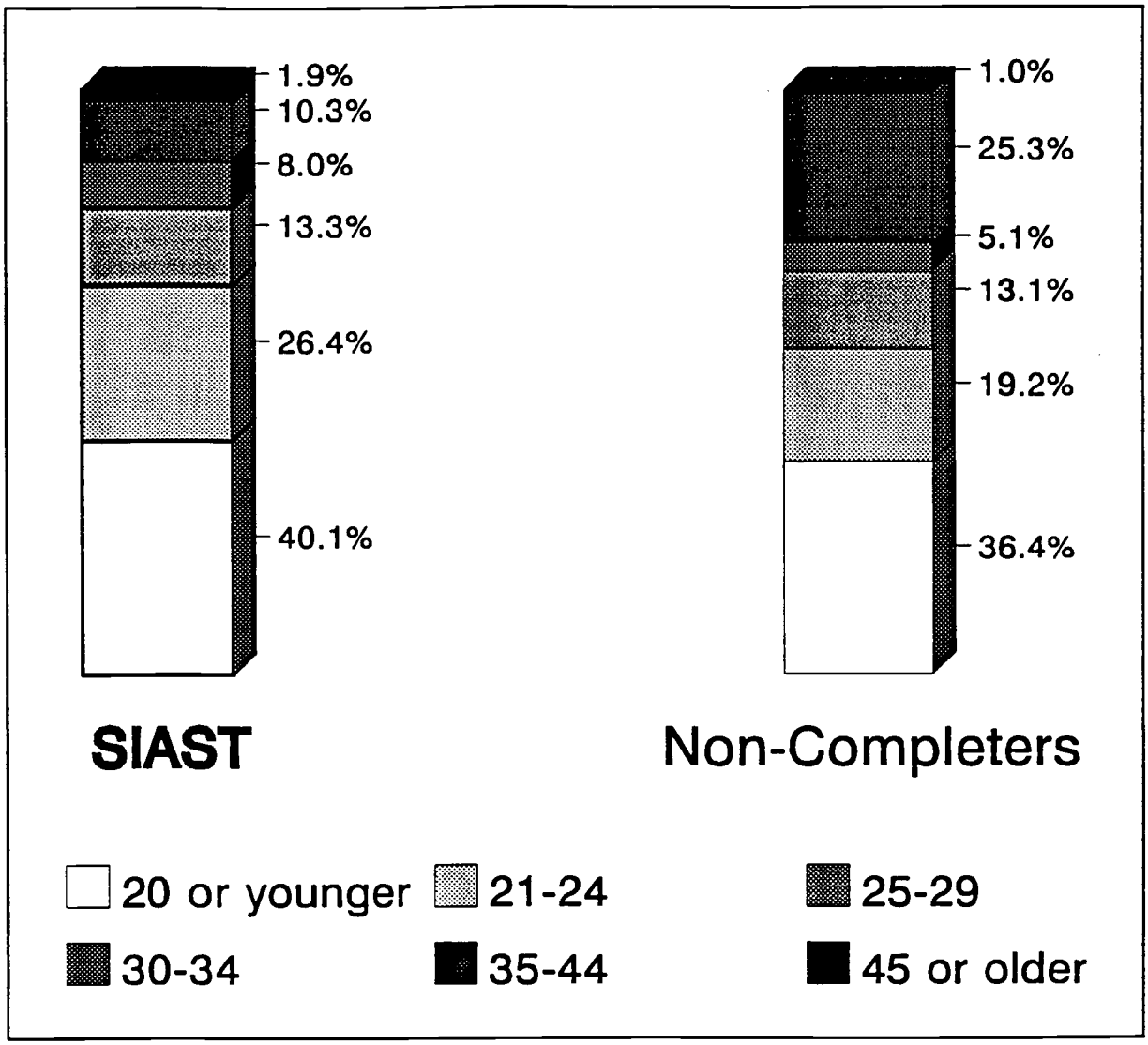
How old will you be on December 31 of this year? *(Question #19)*

Table 17
Age of First Year Certificate/Diploma Students

Age Category	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
20 or younger	622	40.1%	37.0%	57.7%	35.8%	22.4%	36.4%
21 - 24	409	26.4%	28.9%	20.5%	27.3%	28.3%	19.2%
25 - 29	207	13.3%	14.7%	9.6%	14.7%	13.2%	13.1%
30 - 34	124	8.0%	8.1%	4.4%	9.7%	11.2%	5.1%
35 - 44	160	10.3%	9.5%	6.6%	10.8%	21.1%	25.3%
45 or older	29	1.9%	1.7%	1.4%	1.8%	3.9%	1.0%
Total # of Respondents	1,551		578	366	455	152	199
No response	6						

Two thirds of first year students enrolled in certificate or diploma programs are 24 years old or younger. Palliser Institute has the youngest student population; Woodland Institute has the oldest. One quarter of all non-completers are over 35 years old compared to 12 percent of the total sample.

Figure 13 Age of First Year Certificate/Diploma Students



4.3.2 Previous Academic Background

In what year did you graduate from high school? *(Question #20)*

Table 18
Year of High School Graduation

Year	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
1991	335	22.9%	18.7%	40.7%	17.4%	12.6%	19.2%
1990	242	15.9%	16.5%	18.0%	14.3%	10.6%	18.2%
1989 or earlier	760	49.1%	55.1%	33.6%	53.0%	52.3%	46.5%
did not graduate but passed GED test	113	7.3%	7.1%	3.0%	10.2%	9.9%	9.1%
never completed high school	77	5.0%	2.6%	4.6%	5.1%	14.6%	7.1%
Total # of Respondents	1,527		577	366	453	151	
No Response	10						

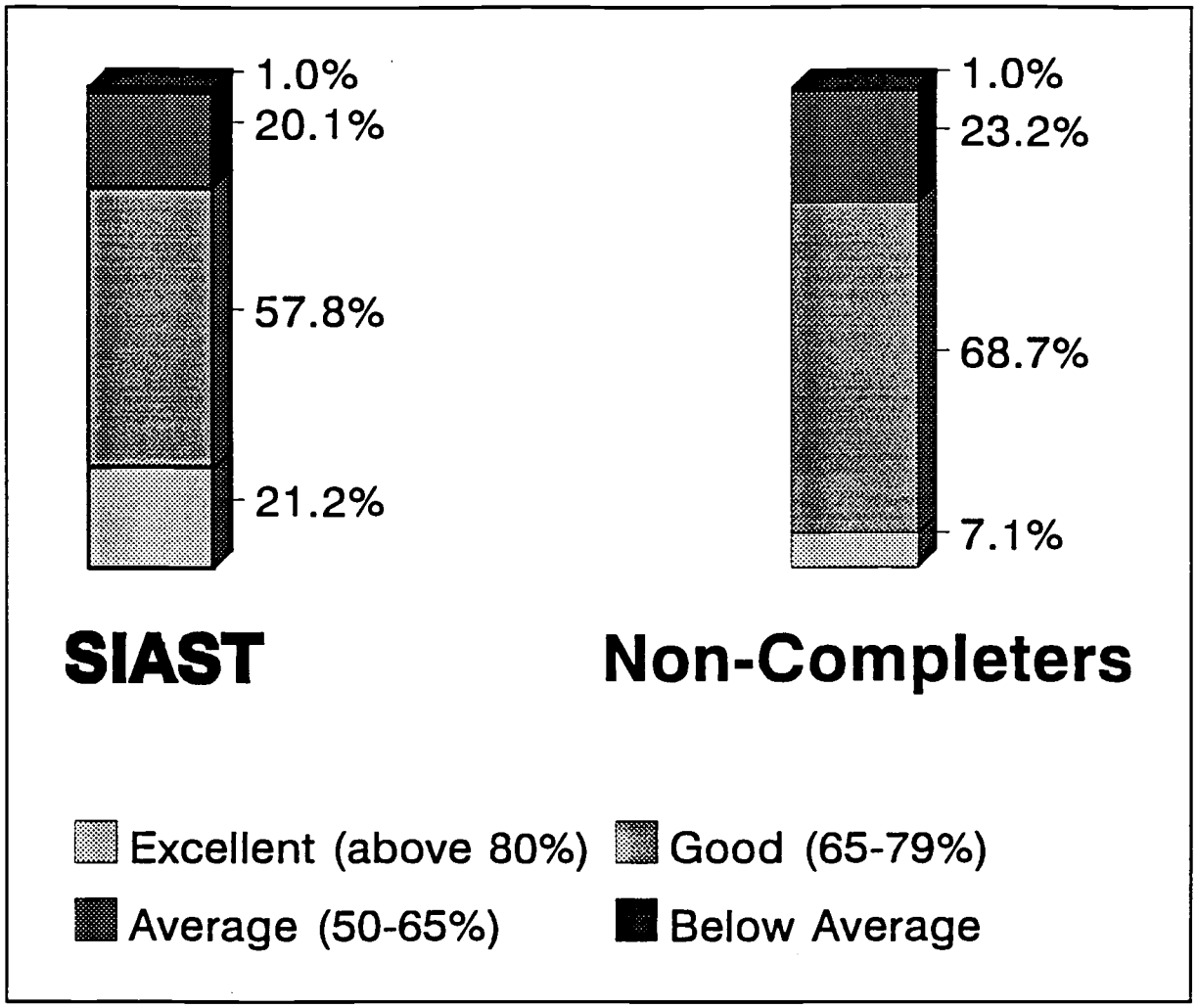
Nearly 23 percent of all first year certificate and diploma students are sequential students, whereas only 19 percent of the non-completers had entered SIAST directly after graduating from high school. Palliser has the highest percentage of sequential students (almost 41 percent), and Woodland has the lowest percentage of sequential students, which reflects its older student population.

Which one of the following best describes your high school grades? *(Question #21)*

Table 19
High School Grades

Grades	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
excellent (above 80%)	327	21.2%	26.0%	18.4%	20.0%	12.6%	7.1
good (65 - 79%)	893	57.8%	54.8%	59.6%	61.2%	54.3%	68.7%
average (50 - 65%)	311	20.1%	18.9%	21.4%	17.4%	29.8%	23.2%
below average	15	1.0%	0.3%	0.5%	1.3%	3.3%	1.0%
Total # of Respondents	1,546		577	364	454	151	99
No Response	11						

Figure 14 High School Grades - SIAST & Non-Completers



Nearly 80 percent of respondents stated that their school grades are good or excellent. Over 21 percent of the total sample had stated that their high school grades had been excellent, compared to only 7 percent of the non-completers. Previous academic achievement can, therefore, be linked to retention. The probability of completing a program increases with higher previous academic performance.

The highest previous high school grades were held by Kelsey and Wascana students; most likely a reflection of the fierce competition and high admission standards for some of the programs in the health field. This is further demonstrated in Table 20. About one quarter of Kelsey and Wascana students have attended some university.

Have you ever attended University? (Question #22)

Table 20 Previous University Attendance							
	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
yes	342	22.2%	26.8%	15.1%	25.4%	12.15	15.3%
no	1,199	77.8%	73.2%	84.9%	74.6%	87.9%	84.7%
Total # of Respondents	1,541		575	365	452	452	

The table below (20A) must be interpreted with care. Percentages are based only on those students who had attended some university and replied to the question (n = 339). 46 have completed a degree or 2.98 percent of the total respondents.

Table 20A If yes, did you complete a degree?						
	SIAST		Kelsey	Palliser	Wascana	Woodland
	#	%	%	%	%	%
yes	46	13.6%	14.4%	16.4%	11.5%	11.1%
no	293	86.4%	85.6%	83.6%	88.5%	88.9%
Total # of Respondents	339		153	55	113	18

Transfers from and to another post-secondary institution are quite common. Over 22 percent of SIAST first year certificate and diploma students entered the institution after previous university attendance (reverse transfer). 18 percent want to eventually achieve a four year university degree and another 11 percent want to undertake graduate or professional study beyond a four year degree (see question #5 or Table 4). Co-operation amongst the various post-secondary institutions is necessary to facilitate the flow of students and to ensure that maximum credit is granted for studies already completed to avoid unnecessary duplication, and hence avoid unnecessary public expenditure on education. Clearly defined transfer guides would facilitate this. Thus students do not necessarily "drop out", but they are making mid-way adjustments to their career paths.

Have you completed an Adult Basic Education (ABE) program? (Question #23)

Table 21 ABE Programs		
	Total Sample	Non-Completers
yes	9.0%	14.0%
no	91.0%	86.0%

133 former ABE students are now registered in certificate and diploma programs, representing 9 percent of the total sample. The percentage of former ABE students amongst the non-completers rose to 14 percent.

4.3.3 Relocation From Home to Pursue Program

Did you have to move from your home address to attend this campus? (Question #24)

Table 22 Percent of Students Who Had to Move							
	SIAST		Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	%	%	%	%	%
yes	867	56.0%	55.4%	77.0%	40.4%	54.6%	47.4%
no	680	44.0%	44.6%	23.0%	59.6%	45.4%	52.6%
Total # Respondents	1,547		578	366	451	152	
No Response	9						

Although more than half of the students had to move from home to attend the institute of their choice, only 36 percent stated that convenient campus location was a very important factor in choosing SIAST. This had almost the same importance as cost of tuition and books. Quality of instructors and quality of programs are much more important in choosing SIAST. (Question #14, Table 11).

Fewer non-completers moved to attend SIAST. This is consistent with the fact that these students are generally older, have more family responsibilities and are less mobile. Palliser Institute, with the youngest student population, had the greatest percentage of its first year student population that had to move from home to pursue their studies.

4.3.4 Demographics of First Year Certificate and Diploma Students Responding to Survey

Table 23
Demographics of First Year Certificate and Diploma Students

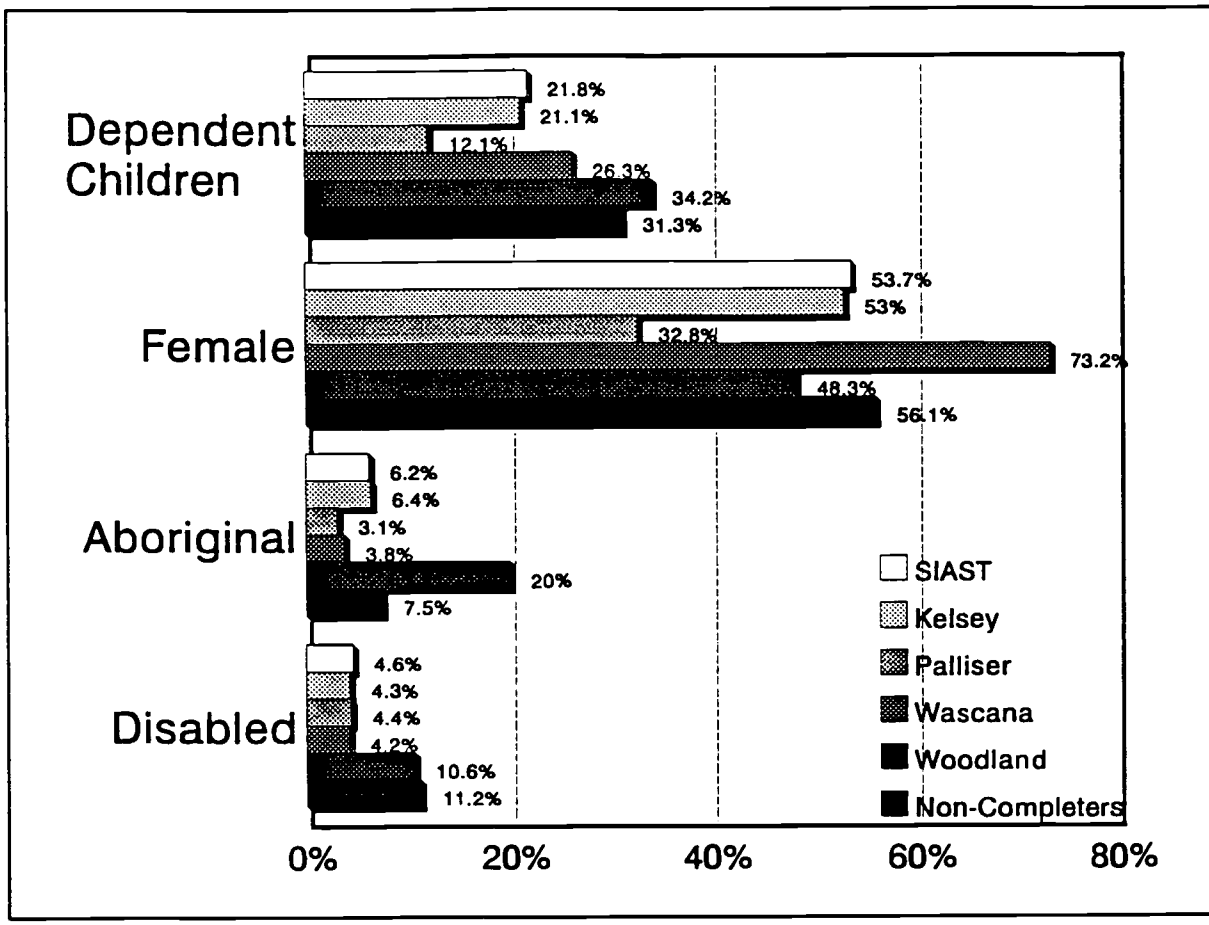
Question	SIAST (n = 1,557)			Kelsey	Palliser	Wascana	Woodland	Non-Completers
	#	%	N/R	% *	% *	% *	% *	%
Are you:			16					
single	1,177	76.4%		76.0%	84.7%	73.3%	66.9%	73.5%
married	363	23.6%		24.0%	15.3%	26.7%	33.1%	26.5%
Do you have dependent children?			8					
yes	337	21.8%		21.1%	12.1%	26.3%	34.2%	31.3%
no	1,212	78.2%		78.9%	87.9%	73.7%	65.8%	68.7%
Are you:			13					
male	715	46.3%		47.0%	67.2%	26.8%	51.7%	43.9%
female	829	53.7%		53.0%	32.8%	73.2%	48.3%	56.1%
Are you of Aboriginal ancestry?			31					
yes	94	6.2%		6.4%	3.1%	3.8%	20.0%	7.5%
no	1,432	93.8%		93.6%	96.9%	96.2%	80.0%	92.5%
Are you disabled?			12					
yes	76	4.9%		4.3%	4.4%	4.2%	10.6%	11.2%
no	1,468	95.1%		95.7%	95.6%	95.8%	89.4%	88.8%

* Percent of those that responded.

Non-completers are more likely to be disabled, of aboriginal ancestry, female, married, have dependent children, and they work more hours while enrolled at SIAST.

There are quite significant differences by institute as well. Palliser Institute's first year certificate/diploma students are more likely to be young, single, without dependent children, and male; whereas at Woodland Institute one third of the student population has dependent children, 20 percent are of aboriginal ancestry, and over 10 percent identified themselves as being disabled. These are the characteristics we found more frequently among the non-completers.

Figure 15 Selected Demographics of First Year Certificate/Diploma Students by Institute



How many hours per week are you employed while enrolled at SIAST? *(Question #30)*

Table 24
Number of Hours Employed

	None	1 - 10	11 - 15	16 - 20	21 - 30	31 or more
Total Sample	72.6%	8.5%	4.2%	5.1%	3.8%	5.8%
Non-Completers	69.1%	11.3%	3.1%	5.2%	5'2%	6.2%

The overwhelming majority of students are not employed while studying their programs at SIAST.

Once you have completed your certificate/diploma, would you like to stay in contact with the Institute via the Alumni Association? *(Question #32)*

58 percent would like to stay in contact with the Institute via the Alumni Association. This increased to 61 percent for non-completers.

Where can we contact you in June 1992 for Part II of the survey? (Question #33)

15 percent of total sample (13 percent for non-completers) indicated that they would be at a different address in June, 1992 for the mailing of the second questionnaire than in December, 1991 (the time Part I of the survey questionnaire was mailed).

Generally, no forwarding address was known at this time, thus the response rate for Part II of the study was reduced.

4.4 Labour Market and Student Retention

Although many of the studies on student persistence recognize the importance of outside influences, little emphasis is placed on the relationship between the student's decision to persist or to drop out and the broader economic environment. How does the labour market, in particular prevailing unemployment rates, affect attrition? We examined this factor in more detail and present the results below.

Since 97.7 percent of our sample believed that their prospects of finding employment are increased by having a certificate or diploma compared to a person without such a diploma, and since 95.3 percent of respondents believed that they will be able to earn a higher income with a certificate or diploma than without such qualifications, we make the assumption that persistence would be tied to perceived job opportunities.

We know that occupations are influenced by the ups and downs of the economy. Some occupations are more sensitive to economic fluctuations than others. As a proxy of this sensitivity, we took the variance of sectorial unemployment rate relative to the overall unemployment level. We make the assumption that occupations that are less sensitive have lower unemployment rates in recessionary times than the aggregate unemployment rate. To gain employment in these types of occupations, it is relatively easy and there is less incentive to complete a certificate or diploma. On the other hand, if occupations have higher unemployment levels than the overall unemployment levels prevailing at recessionary times, holding a certificate or diploma would give an extra edge to find employment in these types of occupations.

In essence, if it is relatively easy for students to find employment they are less likely to complete the program, other factors held constant.

In recessionary times we have generally observed that more students are returning to post-secondary institutions. This trend has been reported in the media on various occasions. "Not only have many schools been overwhelmed with new students, but they are welcoming record numbers of returning students as well."[10]

"Administrative records show a significant rise in school, college and university enrolment (and retention) during the recent recession. With reduced or non-existent job opportunities, many job seekers are adopting various educational strategies to improve their employment strategies."[11]

---

[10] The Globe and Mail, October 3, 1992, p. A1.

[11] Canadian Economic Observer, Statistics Canada - Cat. No. 11-010, October 1992.

We make the assumption that the reason for the decision to seek further education is the students' belief that this will give them a competitive edge in the job market. If this is indeed the motivation, it would therefore seem to be reasonable to assume that more students would make an attempt to complete their studies, especially in fields of high unemployment.

Are students more likely to persist in completing their certificates, diplomas or degrees when opportunities for employment are few or are they more likely to switch halfway through a program to get into a field that has more employment potential? These were the questions that were asked and for which we wanted to find some answers.

Employment fluctuates more for some industries than others. For example, employment in health, education and adminstration is more stable; fewer lay-offs as a direct result of a downturn in economic activities, since schools still need teachers and hospitals still need nurses and other health care professionals regardless of the economic conditions. Of course, these sectors are still affected indirectly by the economic activities since an erosion of the tax base generates fewer revenues, and hence, means cut-backs in spending. The effect of these cut-backs are felt now in the Saskatchewan economy. However, manufacturing, construction, mining and processing, new exploration or development are much more directly and immediately affected by a recession. When the demand for products is declining, as is the case in a recession, massive lay-offs in manufacturing plants are a common occurrence and the relative unemployment in these industries is well above the national overall averages at that time.

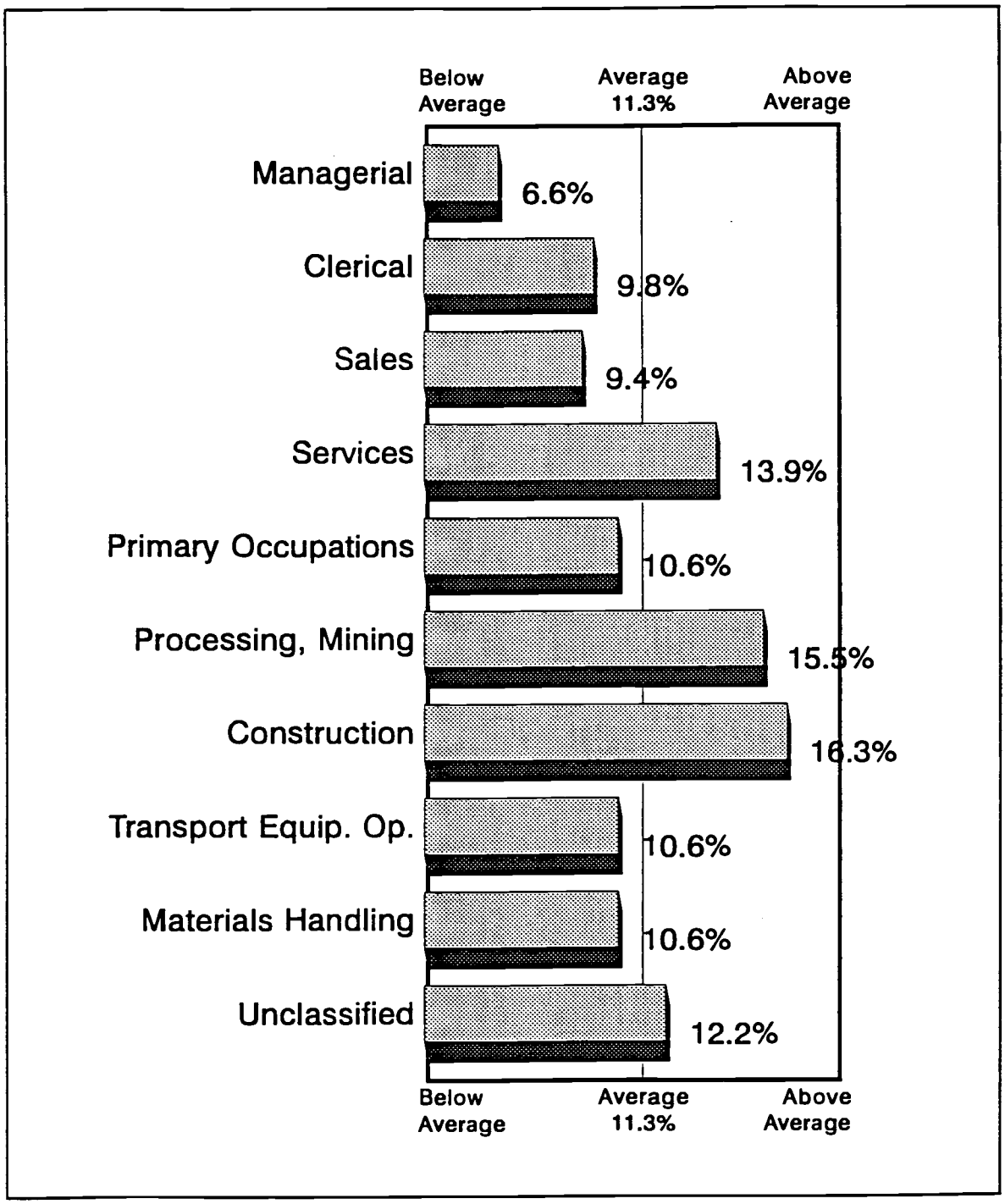
We set out to study relative unemployment rates for specific industries and occupations. Statistics Canada regularly produces unemployment data broken down by various demographic variables as well as by occupations and industries. In an article "Unemployment - Occupation Makes a Difference"[12] occupations are broken down into quartiles depending on their unemployment rates and these are tracked over time to see the rate of growth of employment in a recovery and decrease of employment in recessionary times. (For the breakdown of quartiles refer to Appendix 'D'.)

[12] Dave Gower, "Unemployment - Occupation Makes a Difference" Perspectives, Winter 1991, p. 14-21. Statistics Canada.

4.4.1 Unemployment Rates by Occupations

The Statistics Canada office in Regina provided the following information from their database:

Figure 16 Estimates of Unemployment by Occupation, Canada, July, 1992



Saskatchewan Unemployment rates vary quite significantly from Canada's overall rates. We are not a manufacturing based economy and, therefore, our unemployment rates fluctuate less widely. In addition, Saskatchewan has experienced out-migration of its young unemployed people which understates the true unemployment rates. In August, 1992 unemployment in Canada climbed to 11.4 percent while it was 8 percent in Saskatchewan, with Regina at 8.3 percent and Saskatoon at 11.3 percent[13]. Therefore taking national unemployment rates was not a satisfactory measure of determining what employment opportunities exist for SIAST graduates, and we decided to compare attrition and completion rates to the success that SIAST graduates of the previous year had in terms of finding employment. We capture such information on a regular basis through our annual Graduate Employment Survey, which is conducted about six months after graduation. Total employment rates, as well as training related employment broken down by full- and part- time, are available. Graduates finding employment outside the province are included in these figures. The percentage of those that had to leave the province to find employment has dropped over the years (in tune with a general slow-down of the rate of out-migration).

Table 25
Percent of SIAST Graduates Who Found Employment Outside the Province
(based on the Graduate Employment Survey)

Year of Graduation	% Employment Outside the Province
1988	19%
1989	18%
1990	15%
1991	14%

We took the success rate of our graduates of finding employment as a proxy indicator of the relative competitiveness in the job market. When looked at in this way, we found some overall conclusions.

If it is was relatively easy to find employment (training related or non-training related), students were less likely to complete the program. If certification was a desired requirement for employment, students were more likely to persist in the program in order to get that competitive edge in the job market.

[13] Sask Trends Monitor, September, 1992.

4.4.2 Attrition Rates of SIAST Certificate/Diploma Students by Sector

Table 26
Attrition Rates of SIAST First Year Certificate/Diploma Student (1991-92)

	Completion Rate *	Attrition Rate	Attrition Rate (results of Part II of the Study)	Total Employed 1991 Graduates**	Total Unemployed 1991 Graduates**
All SIAST Totals (includes respondents from all programs surveyed)	60%	24%	15%	78%	13%
SIAST Business Group	46%	39%	23%	76%	17%
SIAST Health Group	76%	18%	7%	85%	12%
SIAST Industrial Group	63%	19%	12%	72%	24%
SIAST Technology Group	50%	24%	24%	80%	14%

* Based on data received from the Registrars.

** Source: Employment Statistics Report, 1991 Graduate Employment Survey, graduates. Includes full and part-time and training related as well as non-training related employment.

Note:

Completion rates plus attrition rates, based on data supplied by the Registrars, do not equal 100 percent. A number of students have not completed the first year of the program. They may have reduced the work load to part-time study or wish to take some time out (leave of absence); they have not stated that they have left the program or "dropped out". At Wascana and Woodland Institutes programs are offered in a competency-based delivery mode, which allows students to progress at their own speed, hence they may not have completed the program in one year.

Also employed and unemployed to not add up to 100 percent since some graduates are not in the labour force (category: unemployed, but not looking for work).

The sectors (eg. business, health, etc.) are composed of the same programs to calculate the attrition rates. They do not necessarily reflect all programs offered by SIAST in that area, only those for which we had sufficiently large response rates per program for Part II of the study were used.

The SIAST Study confirms the findings of other research in this area[14] that students who complete their program are more likely to respond to surveys and female students are more likely to respond to surveys.

Attrition rates are lower for the respondents of Part II of our study (more students had completed the program) compared to the rates calculated from Registrars' records. We also noted that response rates for Part I of the study were significantly higher for Wascana Institute where 68 percent of the students are female.

[14] Cheryl Farabaugh-Dorkins, "Beginning to Understand Why Older Students Drop Out of College: A Path Analytic Test of the Bean/Metzner Model of Non-traditional Student Attrition", The Association for Institutional Research, Number 39, Spring 1991.

We will now examine some of the sectors in detail to test our hypothesis.

Hypothesis: ***Unemployment rates in particular occupations are inversely related to attrition rates in programs preparing for this field.***

A. Health Sector (attrition rate 7 percent)

At first glance this sector does not support the hypothesis. Nursing and other health related occupations have traditionally had a low unemployment rate and low attrition rates. In 1990, when the overall unemployment rate was 8.4 percent (Statistics Canada, Winter 1991 Perspectives p. 15. Labour Force Survey) nursing had a 3.4 percent unemployment rate. However, these figures do not reflect the shift from full-time to part-time employment in the health sector. We have seen an erosion of full-time jobs for SIAST Diploma Nursing graduates over the past years, from a high of 79 percent full-time training related employment for Diploma Nursing graduates in 1987 to a low of 19 percent full-time training related employment for Diploma Nursing graduates in 1991 (Source: SIAST, Graduate Employment Survey). Therefore, a combined full-time and part-time employment of 80 percent as stated in the 1991 Graduate Employment Survey is very misleading of the true job opportunities.

Many occupations in the heath sector are highly regulated with associations licensing the practitioners. The completion of a certificate or diploma is thus a necessary prerequisite for being allowed to practice, hence students are more motivated to complete the program since this will significantly increase their probability to secure employment in a tight job market.

Since it is becoming more difficult to find jobs, students believe that they will gain an extra edge by completing their certificate or diploma, and hence they are more likely to persist in their studies. Attrition rates at SIAST for nursing students and other health related programs are below the average, and we find high completion rates (SIAST-wide) in the health field. The attrition rate for the total health sector is 10.3 percent; this includes the Health Record Technician certificate which has an attrition rate of 28.6 percent (similar to other programs in the business or office education area). If this program is excluded in the calculation, the attrition rate in the health sector drops to 7 percent.

B. Business Sector (attrition rate 23 percent)

Office Education students are not motivated to obtain a certificate or diploma in the same way as students in health related areas. Occupations are less regulated and employers generally place more emphasis on the demonstration of specific skills rather than a certificate or diploma. Hence, students place more emphasis on acquiring the necessary marketable skills rather than ensuring completion of a full certificate or diploma program. Also employment opportunities are not as specialized as for health workers. Many graduates (and indeed leavers of the program as well) find employment in non-training related jobs. In the health sector only 5 percent found employment in non-training related jobs and these are primarily at the assistant level (hence still related to some degree), compared to 12 percent of Office Education students who found jobs in other fields.

C. Industrial Sector (attrition rate 12 percent)

Attrition rates fall between those of the health sector and business education sector. Employment in training related plus non-training related jobs is relatively high (70 percent) with a 52 percent training related employment rate which is mostly full-time.

A specific example is the Graphic Arts program, which has a low completion rate and high employment levels. 75 percent of graduates found full-time training related employment and the other 25 percent did not actively look for work at the time of the survey (not in the labour force). Overall, the less highly regulated the specific occupation is (by associations or apprenticeship boards) in an environment where alternate jobs (not necessarily training related) are easily available, students are less likely to complete their program to receive a certificate or diploma. In effect, when students have reached their goal (a certain minimum level in marketable skills) they become employable and often this is their own personal final goal, not the completion of the program in itself.

D. Technology (attrition rate 24 percent)

Employment for technology students is high (80 percent total employment and 64 percent training related employment for 1991 graduates, again mainly full-time), yet attrition rates according to the results of our study were above SIAST overall rates.

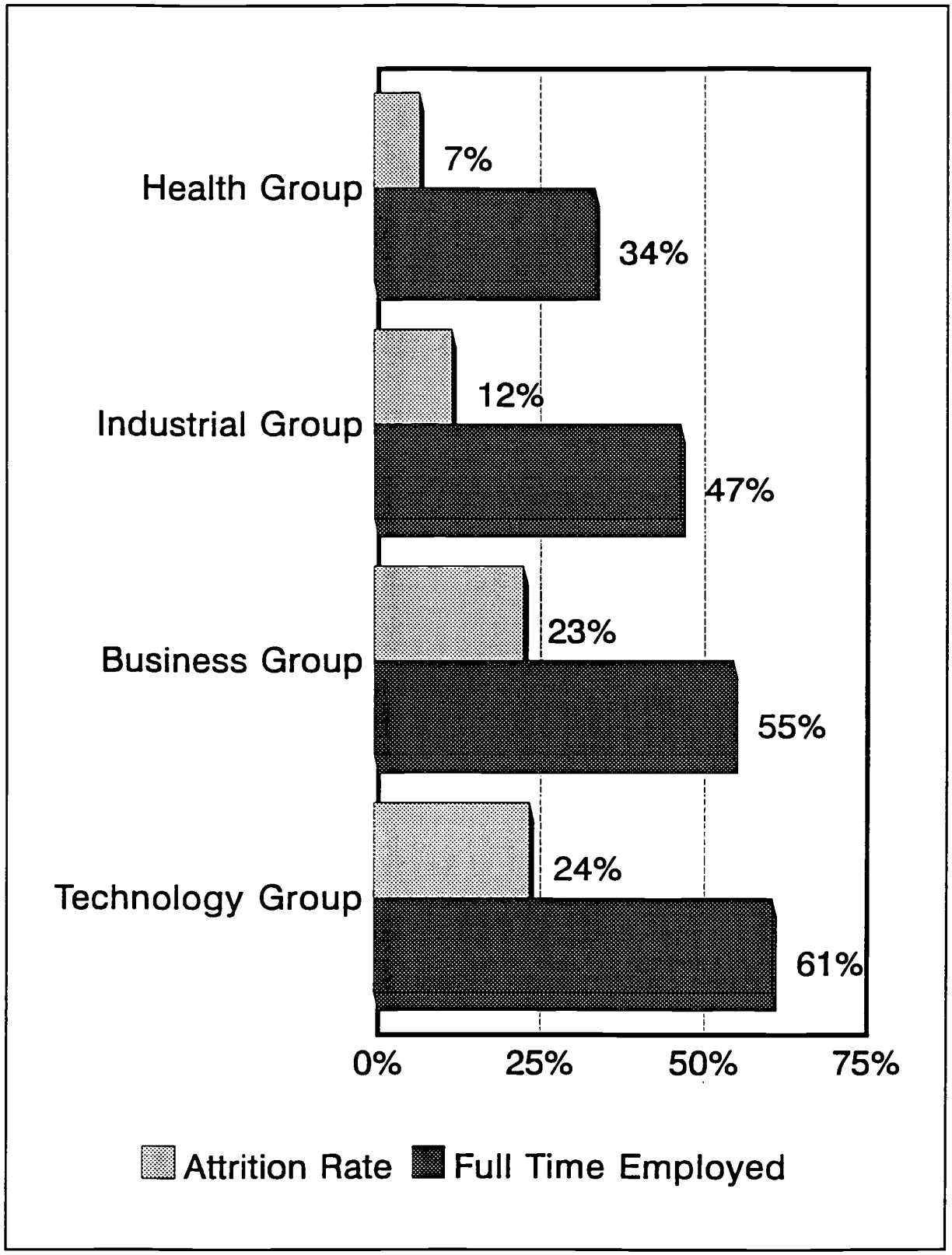
A particular example is the Water Resources program. Water Resources students have a high attrition rate (50 percent of the first year students according to the respondents of Part II of our study), yet the employment rate of graduates in the previous year was 100 percent in training related employment.

Although we could not prove our hypothesis (inverse relationship between attrition rates and unemployment rates) for all specific programs, this relationship does hold true for the broad sectors in general.

At the institutional level there is little we can do to control the fluctuations of economic activities, and hence the resulting changes in job opportunities. However, we can be more aware of these changes and how they affect attrition rates.

The graph on the following page illustrates the relationship between attrition rates and employment rates. Full-time employment of the June, 1991 SIAST graduates are compared to the attrition of the certificate/diploma students who had entered in September, 1991.

Figure 17 Attrition Rates by Sectors



5.0 Limitations

This study was not designed to give us exact statistics of what percentage of students persist or drop out in each program. This type of information should be available from statistical records based on the databases at each Registrar's office. The purpose of the study was to find out what factors affect retention. We were able to identify a number of these factors, but we did not conduct any statistical test to determine the degree of correlation for each factor, since the evidence seems to indicate that it is the sum of these factors rather than each individual factor that impact on retention. For example, just being female actually increases likelihood of retention (according to other studies), but the sum of being female, older, having dependent children, being native and/or disabled decreases the probability of completing the program significantly.

In order to fully understand the labour market impact on retention, a longitudinal study of comparing unemployment rates for different occupations over a number of years would need to be compared to attrition rates over the years. This information is not available. Some data has been collected, but it is not accurate enough to undertake meaningful statistical correlation tests.

6.0 Implications for Action

Students are more likely to persist in programs if they believe that this will give them a competitive edge in the job market. Providing information about job markets and realistic employment prospects must be an ongoing service to students, not only when they first start to think about furthering their education. Students may realize their short term goal of finding employment (without completing the program), but in the long term they benefit from completion by achieving increased marketability, increased flexibility, and an increased income potential throughout their working life. Career counselling should be increased.

Mentoring, peer-counselling and pairing students with employees in their chosen field for occasional contacts may be services that could be encouraged with beneficial results.

We have identified those students that are at higher risk of dropping out and we can now assist these groups with special programs and services.

Non-completers are generally older, female, and have dependent children. The added family responsibilities may mean that programs have to be more flexible to allow for completion at a slower pace over a longer period of time (encourage more part-time study).

Publicizing support services that are available and adapting them to ensure that they are accessible to the high-risk students (eg. provide child care services or flexible hours) may be necessary. It may be that services are geared to traditional-aged students and thus do not accommodate the needs of the older student population with family responsibilities.

Non-completers perceived that sessions to improve study skills, tutorial sessions and more instructor contact had a greater impact on the probability of completing the program. Such services should be offered on an ongoing basis and be readily available. The instructors' teaching load must of course be adjusted if they are expected to hold frequent office hours in addition to teaching.

For certain courses upgrading in specific areas (eg. science) may be necessary before students can take a full load of classes. This may involve suggesting to students to take standardized tests in certain core subjects to establish whether such academic upgrading is necessary in one or two subject areas.

Although other studies found that financial problems were generally not the reason why students drop out (costs and financial aid affect the initial decision to enter a program), we found this to be a major reason for non-completion in our study. Also non-completers are more frequently employed and work more hours in addition to studying. A reduction in the course load (part-time study) would ease the stress of studying and working at the same time.

Any retention program must be longitudinal in character and its success is tied to the implementation and management of such a program.

As we learn more about student persistence and the reasons why students drop out, we can become increasingly effective in dealing with particular reasons and particular subpopulations; however, we must keep in mind that dropout or persistence is to a large degree a reflection of the merits of the educational system in general and how well our institution fits into the overall system of higher education. Since much of the student dropout is actually student transfer among institutions, we also need to consider to what extent we should encourage such movement as a means of fine-tuning the system as a whole. Portability of credits for what has been learned between institutions must become more common place. This will require increased co-operation among the various educational institutions.

7.0 Conclusions

Student persistence is a function of many variables. The varied and changing composition of our student body means that as an institution we must be more aware of the subgroups of the student population most at risk of not completing their programs and provide interesting and flexible programming. If we make the assumption that completing a certificate or diploma brings benefits, such as increased employability and higher potential life time earnings, we have the responsibility to convey this to students and create an environment which is conducive to assist those most at risk. Support services must be accessible to these groups of students and programming itself must allow for greater flexibility. This may involve screening at the admission stage to ensure that students will be provided with the appropriate remedial help in deficient areas. It does not imply simply raising the entrance requirements. Counselling services are an integral part of this process. Increased awareness of market conditions will reduce unrealistic employment expectations and help students establish long term career goals. Education must not be seen as a quick fix, but it is an ongoing process with long term benefits.

8.0 References

Allen, David F. "Attrition at a Commuter Institution: A Path Analytic Validation of Tinto's Theoretical Model of College Withdrawal." 1986. (ERIC Document Reproduction Service No. ED 274929).

Akyeampong, Ernest B. "Discouraged Workers - Where Have They Gone?" Canadian Economic Observer, Statistics Canada, October 1992.

Anderson, Kristine L. "Persistence, Student Background and Integration/Commitment: Variation by Definition of Persistence and Institutional Type." 1987. (ERIC Document Reproduction Service No. ED 292380).

Beard, Ruth M. and Isabel J. Senior. Motivating Students. Boston, MA: Routledge and Kegan Paul, 1980.

Beil, C. and J. H. Shope. "No Exit: Predicting Student Persistence." Paper presented to the Association for Institutional Research, Louisville, Kentucky, May 1990.

Boud, D. J. and E. A. de Rome, (eds.) First Year at University: Proceedings of a Conference Held at the University of New South Wales. Kensington, New South Wales: University of New South Wales, Tertiary Education Research Centre, 1980.

Braxton, John M. and others. "The Influence of Student Problems on Student Withdrawal Decision: Autopsy on 'Autopsy' Studies." Research in Higher Education, 28 (May 1988), 241-253.

Cabrera, Alberto F. and others. "Determinants of Persistence: The Inclusion and Testing of Ability to Pay Factors in Tinto's Model of Student Attrition." Paper presented to the Association for the Study of Higher Education, Portland, Oregon, November 1990.

Cabrera, Alberto F. and others. "The Convergence Between Two Theories of College Persistence." Paper presented to the Association for the Study of Higher Education, Portland, Oregon, November 1990.

Cash, R. William and H. LeVerne Bissel. "Testing Tinto's Model of Attrition on the Church-Related Campus." Paper presented to the Annual Forum of the Association for Institutional Research, Portland, OR, April 28 - May 1, 1985.

Catalano, Joseph T. "National Higher Education Retention Study: Implications for Student Services." Paper presented to the American Association for Counseling and Development, Cincinnati, Ohio, March 1990.

De Rome, E. A. and C. E. Wieneke. Predicting Persistence and Withdrawal: An Analysis of Factors Relating to Students' Choice of Course. Kensington, New South Wales: University of New South Wales, Tertiary Education Research Centre, 1982.

Dietsche, Peter H. J. "Freshman Attrition in a College of Applied Arts and Technology of Ontario." The Canadian Journal of Higher Education, 23 (1990), 65-84.

Duhamel, Ronald J. "French-Language Programs in Manitoba and Saskatchewan: Post-Secondary Education Challenges." Canadian Modern Language Review, 41 (April 1985), 819-826.

Educational Policy Research Center for Higher Education and Society. Recent Developments in Post-Secondary Education, 1970-1975. Washington, D.C.: Froomkin (Joseph) Inc., 1976.

Farabaugh-Dorkins, Cheryl. "Beginning to Understand Why Older Students Drop Out of College: A Path Analytic Test of the Bean/Metzner Model of Non-traditional Student Attrition". The Association for Institutional Research, Number 39, Spring 1991.

Forrester, Glen C. and others. "A Longitudinal Follow-Up Survey of Students from Career/Technical Programs in British Columbia Community Colleges and Institutes." Vancouver, British Columbia: B.C. Research, 1983.

Fox, Richard N. "Application of a Conceptual Model of College Withdrawal to Disadvantaged Students." American Educational Research Journal, 23 (Fall 1986), 415-424.

Getzlaf, Shelly B. and others. "Two Types of Voluntary Undergraduate Attrition: Application of Tinto's Model." Research in Higher Education, 20 (1984), 257-268.

Gower, Dave. "Unemployment - Occupation Makes a Difference" Perspectives, Winter 1991, p. 14-21. Statistics Canada.

Greive, Donald E. A Study of Student Attrition: Part I. Cleveland, Ohio: Cuyahoga Community College (1970).

Hamilton, David J. "Multiple Regression Analysis and Prediction of GPA upon Degree Completion." College Student Journal, 24 (Spring 1990), 91-96.

Handy, Russell Franklin. An Analysis of Academic Improvement in the Basic Studies Program of Miami-Dade Junior College. Coral Gables, Fla.: Miami University, 1965.

Isherwood, Geoffrey B. "College Choice: A Survey of English-Speaking High School Students in Quebec." Canadian Journal of Education, 16 (1991), 72-81.

Iwanicki, Edward F. and Robert K. Gable. 1979-1980 Hartford Project Concern Program. Final Evaluation Report 80-20. Hartford, Conn.: Hartford Public Schools, 1980.

Kember, David. "A Longitudinal-Process Model of Drop-Out from Distance Education." Journal of Higher Education, 60 (May/June 1989), 278-301.

Manski, C.F. & D.A. Wise. College Choice in America. Cambridge Harvard University Press (1983).

McLeod, John. "First Year University Student Survey, 1981." Saskatoon, Saskatchewan: University of Saskatchewan, 1981. (ERIC Document Reproduction Service No. ED 216576).

Metzner, Barbara & John P. Bean. "The Estimation of a Conceptual Model for Non-traditional Under-Graduate Student Attrition." Research in Higher Education. Vol. 27 (1) (1987), 15 - 38.

Miller, Robert J. "Persistence in Higher Education: A Review of the Literature for Continuing Educators." The Journal of Continuing Higher Education, 39 (Winter 1991), 19-22.

Park, K. H. and P. M. Kerr. "Determinants of Academic Performance: A Multinominal Logit Approach." Journal of Economic Education, 21 (Spring 1990), 101-111.

Pascarella, Ernest T. "A Multi-Institutional, Path Analytic Validation of Tinto's Model of College Withdrawal." American Educational Research Journal, 20 (Spring 1983), 87-102.

Pascarella, Ernest T. "Predicting Voluntary Freshman Year Persistence/Withdrawal Behavior in a Residential University: A Path Analytic Validation of Tinto's Model." Journal of Educational Psychology, 75 (April 1983), 215-226.

Pascarella, Ernest T. "Validation of a Theoretical Model of College Dropouts." 1982. (ERIC Document Reproduction Service No. ED 221130).

Pascarella, Ernest T. and others. "A Test and Reconceptualization of a Theoretical Model of College Withdrawal in a Commuter Institution Setting." American Educational Research Journal, 20 (1983), 87-102.

Paulson, Karen. "Old Issue, New Twist: High School Course Patterns and College Success as a Function of Ethnicity and Gender." Paper presented to the Association for Institutional Research, Louisville, Kentucky, (May 1990).

Pavel, D. Michael and Mark Reiser. "Using National Data Bases to examine Minority Student Success in Higher Education." New Directions for Institutional Research, 69 (Spring 1991), 5-19.

Poorman, Margaret J. and Randall C. Fleckenstein. Identification of Competencies and Implementation of Pilot Programs to Realize Goals in Vocational Education, 1975-1978. Final Report. Cedar Rapids, Iowa: Kirkwood Community College, 1978.

Porter, Oscar F. "Undergraduate Completion and Persistence at Four-Year Colleges and Universities. Completers, Persisters, Stopouts, and Dropouts." Paper presented to the American Educational Research Association, Boston, (April 1990).

Rendon, Laura I. "The Three R's for Hispanics in Higher Education: Retention, Recruitment, and Research." Paper presented to the College Recruitment Association for Hispanics, Lansing, MI, (June 30, 1981).

St. John, Edward P. "Price Response in Persistence Decisions: An Analysis of the High School and Beyond Senior Cohort." Research in Higher Education, 31 (August 1990), 387-403.

Sarick, Lila. "Universities urged to focus on teaching: Excess of grant-chasing slashes into quality of instruction, study finds." The Globe and Mail (Toronto, Ontario), 3 June 1991: A6.

Stage, Frances K. "Introduction to LISREL: A Demonstration Using Students' Commitment to an Institution." Paper presented to the Annual Meeting of the Association for the Study of Higher Education, San Diego, CA, February 14-17, 1987.

Stage, Frances K. "Reciprocal Causation and Mixed Effects within the Tinto Model of College Student Withdrawal." (1987) (ERIC Document Reproduction Service No. ED 292403).

Stage, Frances K. and Richard C. Richardson, Jr. "Motivational Orientation within the Tinto Model of College Withdrawal." Paper presented to the Annual Meeting of the ssociation for the Study of Higher Education, Chicago, IL, March 15-17, 1985.

Stoll, R. & E. Scarff. Student Attrition From Post-Secondary Programs at the Ontario Colelges of Applied Arts and Technology. Toronto, Ontario: Ministry of Colleges and Universities, Special Projects Office.

Sweet, Robert. "Student Dropout in Distance Education: An Application of Tinto's Model." Distance Education, 7 (September 1986), 201-213.

Swift, John Stewart, Jr. "Retention of Adult College Students." National Academic Advising Association (NACADA) Journal, 7 (Fall 1987), 7-19.

Taube, S. R. and P. M. Taube. "Pre- and Post-Enrollment Factors Associated with Achievement in Technical Postsecondary Schools." Community/Junior College Quarterly of Research and Practice, 14 (April-June 1990), 93-99.

Terenzini, Patrick T. and others. "A Path Analytic Validation of Tinto's Theory of College Student Attrition." 1983. (ERIC Document Reproduction Service No. ED 231276).

Terenzini, Patrick T. and others. "A Replication of a Path Analytic Validation of Tinto's Theory of College Student Attrition." Review of Higher Education, 8 (Summer 1985), 319-340.

Tinto, Vincent. "Dropout from Higher Education: A Theoretical Synthesis of Recent Research." Review of Educational Research, 45 (Winter 1975), 89-125.

Tinto, Vincent. Leaving College: Rethinking the Causes and Cures of Student Attrition. Chicago: The University of Chicago Press, 1987.

Tinto, Vincent. "Limits of Theory and Practice in Student Attrition." Journal of Higher Education, 53 (November/December 1982), 687-700.

Tinto, Vincent. "Retention: An Admission Concern." College and University, 61 (Summer 1986), 290-293.

Tinto, Vincent. "Stages of Student Departure: Reflections on the Longitudinal Character of Student Leaving." Journal of Higher Education, 59 (July/August 1988), 438-455.

Vaala, Leslie D. "The Best Place To Be: New Perspectives On Attending a Two-Year College After a Four-Year University." Paper presented to the Annual Conference of the Society for the Study of Higher Education, Kingston, Ontario, June 2-4, 1991.

Voorhees, R.A. "Towards Building Models of Community College Persistence: A Logit Analysis." Research in Higher Education. Vol. 26. (1987) 115-129.

Walleri, R. Dan and Marcia Peglow-Hoch. "Case Studies of Non-Traditional High Risk Students: Does Social and Academic Integration Apply?" 1988. (ERIC Document Reproduction Service No. ED 298861).

Webb, Mel. "A Theoretical Model of Community College Student Degree Persistence." Community College Review, 16 (Spring 1989), 42-49.

Weidman, John C. and Richard N. White. "Postsecondary 'High-Tech' Training for Women on Welfare." Journal of Higher Education, 56 (September/October 1985), 555-568.

Young, John W. "Are Validity Coefficients Understated Due to Correctable Defects in the GPA?" Research in Higher Education, 31 (August 1990), 319-325.

Appendix 'A'

Sectors

Business Sector

Business I (Palliser)
Business Administration: Manager and Accountant (Woodland)
Business Computer Programmer (Woodland)
Office Education (Wascana)
Office Education (Palliser)
Office Technology (Woodland)

Health Sector

Dental Assistant (Wascana)
Diploma Nursing I (Kelsey, Wascana)
Emergency Medical Technician (Wascana)
Nursing Assistant (Wascana)
Psychiatric Nursing (Wascana)

Technology Sector

Architectural Engineering (Palliser)
Civil Engineering (Palliser)
Computer Engineering (Palliser)
Computer Aided Drafting (Palliser)
Electrical Engineering (Palliser)
Electronics Engineering (Palliser)
Instrumentation Engineering (Palliser)
Surveying Engineering (Palliser)
Water Resources Engineering (Palliser)

Industrial Sector

Auto Body Repair (Kelsey, Palliser, Wascana)
Automotive Service Technician (Kelsey)
Building Construction (Palliser)
Building Systems Technician (Wascana)
Drafting Technician (Wascana)
Driver Training (Woodland)
Electrician: Pre-Apprenticeship (Palliser, Woodland)
Electronic Communications Technician (Wascana)
Electronics Service Technician (Palliser, Woodland)
Graphic Arts Production (Wascana)
Heavy Equipment Mechanic (Kelsey)
Heavy Equipment Operator (Woodland)
Industrial Mechanics (Kelsey)
Machine Shop (Kelsey)
Machine Shop Practice (Wascana)
Major Appliance Servicing (Wascana)
Masonry (Palliser)
MVMR (Palliser, Wascana)
Outdoor Power Equipment Technician (Woodland)
Parts Management Technician (Kelsey)
Power Engineering (Kelsey)
Professional Cooking (Palliser)
Refrigeration and Air Conditioning (Kelsey)
Truck & Transport Mechanical Repair (Woodland)
Welding (Kelsey, Palliser, Wascana, Woodland)

Appendix 'B'

Questionnaire - Part I

Questionnaire - Part II

SIAST
SASKATCHEWAN INSTITUTE OF APPLIED SCIENCE AND TECHNOLOGY

Student Retention Study

1. Please indicate the program in which you are enrolled. _____

2. What is your career goal? _____
(Type of work or name of occupation)

3. How sure are you of your choice of career goal?

☐ very sure ☐ fairly sure ☐ not sure

4. How important to you are the following factors in determining your career choice.

	very important	somewhat important	not important
a. salary	3	2	1
b. job availability	3	2	1
c. location of available jobs	3	2	1
d. job prestige or status	3	2	1
e. working conditions	3	2	1
f. personal interest/aptitude	3	2	1

5. During the next 5 - 10 years, what is the highest level of education you plan to achieve?

☐ finish some classes only (no certificate or diploma)
☐ obtain a one year certificate
☐ obtain a two year diploma
☐ obtain a four year university degree
☐ undertake graduate or professional study beyond 4-year degree

6. Do you believe that a person's prospects of finding employment are increased by having a certificate or diploma compared to a person without such qualifications?

☐ yes ☐ no

7. Do you believe that you will be able to earn a higher income with a certificate or diploma than without such qualifications?

☐ yes ☐ no

8. If you were offered a job right now that requires your skills and which pays the going wage rate, would you take the job now or finish off the program in which you are enrolled?

☐ I would definitely take the job right now
☐ I would not take the job, but finish my program first.
☐ I don't know. Whether or not I would take the job now would depend on the state of the economy, what the future job prospects might be, etc.
☐ Other (please specify)

9. In deciding to enroll at SIAST, how important were each of the following reasons?

(circle the appropriate number for each reason)	very important	somewhat important	not important	not applicable
a. to acquire skills in the field of my choice	3	2	1	0
b. to acquire skills needed for employment	3	2	1	0
c. to acquire additional skills to change careers	3	2	1	0
d. to be able to earn more money	3	2	1	0
e. to qualify for promotion	3	2	1	0
f. to obtain a certificate or diploma	3	2	1	0
g. for personal interest/enjoyment	3	2	1	0
h. to be able to transfer to a university later	3	2	1	0

10. What was your main activity prior to attending SIAST (as of March 1991)?

- ☐ a. was working full time (more than 30 hours per week)
- ☐ b. was unemployed but looking for work
- ☐ c. was working part time
- ☐ d. was not employed, but not looking for work

11. If you answered 'd' above, please specify reason(s).

- ☐ completing high school
- ☐ enrolled at University
- ☐ enrolled at other institution/training institution
- ☐ medical
- ☐ family reasons
- ☐ travelling
- ☐ other

12. Before entering SIAST had you ever withdrawn from school or another educational institution or had you transferred from another post secondary educational institution? (Check all that apply)

- ☐ took leave of absence
- ☐ transferred before completing my program
- ☐ withdrew from educational institution

13. If you marked one of the above, how important were each of the reasons listed below in your decision to take leave of absence, withdraw or transfer? (If more than one were marked, refer to the most recent situation)

	very important	somewhat important	not important	not applicable
a. changed my career plans	3	2	1	0
b. wanted practical experience	3	2	1	0
c. didn't feel I "fit in"	3	2	1	0
d. had a good job offer	3	2	1	0
e. wanted to be closer to home	3	2	1	0
f. had financial problems	3	2	1	0
g. family responsibilities	3	2	1	0
h. found course work too difficult	3	2	1	0
i. was asked to discontinue	3	2	1	0

14. How important were the following factors in choosing SIAST? (If you did not know this about SIAST before entering, indicate "Not Applicable")

	very important	somewhat important	not important	not applicable
a. quality of programs offered	3	2	1	0
b. warm and friendly atmosphere	3	2	1	0
c. convenient campus location	3	2	1	0
d. quality of instructors	3	2	1	0
e. cost of tuition and books	3	2	1	0
f. only institution that offers the program that I wanted	3	2	1	0

15. Please rate your satisfaction with your SIAST campus for each of the factors below. (Indicate "Not Applicable" if you have not used the service or if it is not available)

	very satisfied	somewhat satisfied	not satisfied	not applicable
a. library facilities	3	2	1	0
b. accessibility to instructors	3	2	1	0
c. vocational and career counselling	3	2	1	0
d. personal counselling	3	2	1	0
e. computer facilities	3	2	1	0
f. financial aid	3	2	1	0
g. campus health services	3	2	1	0
h. class size	3	2	1	0
i. campus social life	3	2	1	0
j. orientation sessions for new students	3	2	1	0
k. tutorial help	3	2	1	0
l. availability of scholarships	3	2	1	0
m. extra curricular activities	3	2	1	0
n. overall experience	3	2	1	0

16. In your experience at SIAST during the current school year, how often have you done each of the following:

	very often	often	occasionally	never
a. Read or asked about a club, student organization or student government activity	4	3	2	1
b. Attended a program or event put on by a student group	4	3	2	1
c. Worked on a student committee	4	3	2	1
d. Discussed policies and issues related to campus activities	4	3	2	1
e. Participated in on campus sports or recreational activities	4	3	2	1
f. Met with a group of students for discussions	4	3	2	1
g. Made friends with students in your program area at SIAST	4	3	2	1
h. Made friends with students who are taking different programs	4	3	2	1

17. Since starting your program at SIAST, who provided assistance to you in the following areas? (check as many as apply)

	instructors	counsellors	deans	family/friends	other students	others
a. advice and guidance about program	☐	☐	☐	☐	☐	☐
b. emotional support and encouragement	☐	☐	☐	☐	☐	☐
c. tutorial assistance	☐	☐	☐	☐	☐	☐
d. help with improving study skills	☐	☐	☐	☐	☐	☐
e. intellectual challenge and stimulation	☐	☐	☐	☐	☐	☐
f. a role model to follow	☐	☐	☐	☐	☐	☐
g. finding your way around the campus	☐	☐	☐	☐	☐	☐

18. To what extent would the following factors have an impact on whether you will complete your program?

	great impact	some impact	no impact
a. sessions in improving study skills	3	2	1
b. scheduled office hours for instructors	3	2	1
c. financial aid counselling services	3	2	1
d. tutorial sessions	3	2	1
e. childcare facilities	3	2	1
f. overall Saskatchewan unemployment rates	3	2	1

19. How old will you be on December 31 of this year?

☐ 20 or younger ☐ 21 - 24 ☐ 25 - 29 ☐ 30 - 34 ☐ 35 - 44 ☐ 45 or older

20. In what year did you graduate from high school?

☐ 1991
☐ 1990
☐ 1989 or earlier
☐ did not graduate but passed G.E.D. test
☐ never completed high school

21. Which one of the following best describes your high school grades?

☐ excellent (above 80%) ☐ good (65 - 79%) ☐ average (50 - 64%) ☐ below average

22. Have you ever attended University?

☐ yes ☐ no If yes, did you complete a degree? ☐ yes ☐ no

23. Have you completed an Adult Basic Education (ABE) program?

☐ yes (what year?) _____ (where?)SIAST (name of campus)_____
Regional College (name)_____
Other: _____

☐ no

24. Did you have to move from your home address to attend this campus?

☐ yes (indicate nearest town/city) _____
☐ no

25. Are you ☐ single (including divorced, separated, widowed)
☐ married (including common law)

26. Do you have any dependent children living with you?

☐ yes (how many?) _____ ☐ no

27. Are you ☐ male ☐ female

28. Are you of Aboriginal ancestry?

☐ yes ☐ Status/Treaty Indian ☐ Non Status Indian ☐ Metis ☐ Other
☐ no

29. Are you disabled?

☐ yes (specify eg. visually impaired) _____
☐ no

30. How many hours per week are you employed while enrolled at SIAST?

☐ None ☐ 1-10 ☐ 11-15 ☐ 16-20 ☐ 21-30 ☐ 31 or more

31. What would help you the most to ensure that you complete the program in which you have been enrolled?

32. Once you have completed your certificate/diploma, would you like to stay in contact with the Institute via the Alumni Association?

☐ yes
☐ no

33. Where can we contact you in June 1992 for Part 2 of the survey?

☐ same address ☐ other (please supply address) _____

Thank you very much for completing this questionnaire. Please return it in the postage paid envelope provided.

SIAST
SASKATCHEWAN INSTITUTE OF APPLIED SCIENCE AND TECHNOLOGY

Student Retention Study

Part II - June 1992

1. Please indicate the program in which you were enroled as of September 30, 1991.

_____

2. Have you completed the program?

- ☐ Yes, I completed the program and graduated.
- ☐ Yes, I completed the first year of the program and will take the second year.
- ☐ No, I did not complete the program: (check one below)
  - ☐ a) I took a leave of absence for _____ months.
  - ☐ b) I transferred to another institution (specify): _____.
  - ☐ c) I withdrew from the program in _____ (month).

3. If you **did not complete** your Certificate program or the first year of a Diploma program, how important were each of the reasons listed below in your decision to withdraw. (circle the appropriate number for each reason)

	very important	somewhat important	not important	not applicable
a. changed my career plan	3	2	1	0
b. wanted practical experience	3	2	1	0
c. felt "I did not fit in"	3	2	1	0
d. had a job offer	3	2	1	0
e. wanted to be closer to home	3	2	1	0
f. had financial problems	3	2	1	0
g. family responsibilities	3	2	1	0
h. found course work too difficult	3	2	1	0
i. was asked to discontinue	3	2	1	0
j. other (please specify)	3	2	1	0

4. Are you considering taking further education? (check only one)

- ☐ No.
- ☐ Yes, I want to finish my program at SIAST
- ☐ Yes, I am planning to go to University.
- ☐ Yes, I plan to _____.

5. How would you rate your overall experience at SIAST?

- ☐ very satisfied.
- ☐ satisfied.
- ☐ not satisfied.

6. Please comment on your overall experience at SIAST; what you liked or what needs improvement.

Thank you very much for completing this questionnaire.
Please return it in the postage paid envelope provided.

Appendix 'C'

Response Summary by Program

SIAST RETENTION STUDY RESPONSE SUMMARY

Kelsey Campus: 0001–1079	PART I							PART II					
	Questionnaires Sent	Rec'd	Resp Rt	91/92 Enrol	Rec'd to Enrol Rt	Compl./ Grads.	Attrit Rt	Questionnaires Sent	Rec'd	Resp Rt	Non Compl	Non Compl to Enrol Rt	Non Compl to Rec'd Rt
Animal Health Technology	31	15	48.4%	29	51.7%	20	31.0%	15	10	66.7%	3	10.3%	30.0%
Biological Sciences Technology	23	9	39.1%	25	36.0%	15	40.0%	9	3	33.3%	0	0.0%	0.0%
Certified Combined Technician	31	17	54.8%	31	54.8%	22	29.0%	17	11	64.7%	1	3.2%	9.1%
Chemical Technician	27	10	37.0%	28	35.7%	18	42.9%	10	6	60.0%	0	0.0%	0.0%
Medical Laboratory Technology	69	35	50.7%	74	47.3%	44	40.5%	35	18	45.7%	2	2.7%	12.5%
Medical Radiation Technology	21	11	52.4%	21	52.4%	21	0.0%	11	7	63.6%	0	0.0%	0.0%
LABORATORY GROUP TOTAL	202	97	48.0%	208	46.6%	138	33.7%	97	53	54.6%	6	2.9%	11.3%
Diploma Nursing	145	91	62.8%	161	56.5%	148	8.3%	91	46	50.5%	4	2.5%	8.7%
ECD Certificate	22	17	77.3%	23	73.9%	19	17.4%	17	5	29.4%	0	0.0%	0.0%
Food Services Administration	28	17	60.7%	29	58.6%	24	17.2%	17	11	64.7%	3	10.3%	27.3%
Hotel and Restaurant Administrator	31	11	35.5%	32	34.4%	23	28.1%	11	4	36.4%	0	0.0%	0.0%
Library Technician	28	21	75.0%	31	67.7%	18	48.4%	21	15	71.4%	1	3.2%	6.7%
Professinal Cooking	25	12	48.0%	25	48.0%	18	36.0%	12	6	50.0%	0	0.0%	0.0%
Recreation and Leisure	35	30	85.7%	38	78.9%	38	0.0%	30	13	43.3%	0	0.0%	0.0%
Rehabilitation Worker Certificate	26	26	100.0%	26	100.0%	16	38.5%	26	13	50.0%	2	7.7%	15.4%
Rehabilitation Worker Diploma	16	7	38.9%	16	38.9%	17	5.6%	7	8	114.3%	0	0.0%	0.0%
Retail Meatcutting	14	6	42.9%	15	40.0%	10	33.3%	6	2	33.3%	0	0.0%	0.0%
Youth Care Worker	13	5	38.5%	15	33.3%	6	60.0%	5	1	20.0%	0	0.0%	0.0%
CAD CAM I	30	14	46.7%	29	48.3%	28	3.4%	14	9	64.3%	1	3.4%	11.1%
Industrial Electronics Certificate	42	17	40.5%	50	34.0%	18	64.0%	17	8	47.1%	2	4.0%	25.0%
Mechanical Engineering Technology	44	22	50.0%	41	53.7%	30	26.8%	22	11	50.0%	4	9.8%	36.4%
Microcomputer Management	27	18	66.7%	28	64.3%	19	32.1%	18	7	38.9%	0	0.0%	0.0%
Agricultural Machinery Technician	31	12	38.7%	34	35.3%	30	11.8%	12	5	41.7%	1	2.9%	20.0%
Auto Body Repair	28	21	80.8%	27	77.8%	15	44.4%	21	6	28.6%	1	3.7%	16.7%
Heavy Equipment Mechanic	51	25	49.0%	52	48.1%	41	21.2%	25	8	32.0%	0	0.0%	0.0%
Industrial Mechanics	14	11	78.6%	14	78.8%	12	14.3%	11	3	27.3%	0	0.0%	0.0%
Machine Shop (Intake 1)	12	8	66.7%	12	66.7%	11	8.3%	8	3	37.5%	0	0.0%	0.0%
MVMR (Automotive Service Technician)	51	20	39.2%	52	38.5%	33	38.5%	20	13	65.0%	0	0.0%	0.0%
Parts Management Technician	38	17	47.2%	38	47.2%	32	11.1%	17	8	47.1%	0	0.0%	0.0%
Power Engineering	38	15	41.7%	41	38.8%	23	43.9%	15	5	33.3%	2	4.9%	40.0%
Refrigeration and Air Conditioning	14	5	35.7%	14	35.7%	10	28.6%	5	3	60.0%	0	0.0%	0.0%
Welding	41	23	56.1%	46	50.0%	26	39.1%	23	9	39.1%	1	2.2%	11.1%
INDUSTRIAL GROUP TOTAL	281	145	51.6%	294	49.3%	205	30.3%	145	58	40.0%	4	1.4%	6.9%
KELSEY CAMPUS TOTAL	1042	568	54.5%	1097	51.8%	799	27.2%	568	275	48.4%	28	2.6%	10.2%

Palliser Campus: 2001–2704	PART I							PART II					
	Questionnaires Sent	Rec'd	Resp Rt	91/92 Enrol	Rec'd to Enrol Rt	Compl./ Grads.	Attrit Rt	Questionnaires Sent	Rec'd	Resp Rt	Non Compl	Non Compl to Enrol Rt	Non Compl to Rec'd Rt
Auto Body Repair	20	10	50.0%	20	50.0%	17	15.0%	10	8	80.0%	0	0.0%	0.0%
Building Construction	13	8	61.5%	13	61.5%	9	30.8%	8	2	25.0%	0	0.0%	0.0%
Professional Cooking	33	14	42.4%	37	37.8%	28	24.3%	14	6	42.9%	0	0.0%	0.0%
Pre–Apprenticeship Electrician	11	8	72.7%	24	33.3%	21	12.5%	8	3	37.5%	0	0.0%	0.0%
Masonry	8	5	62.5%	8	62.5%	5	37.5%	5	3	60.0%	0	0.0%	0.0%
MVMR	38	12	31.6%	38	31.6%	22	42.1%	12	8	50.0%	0	0.0%	0.0%
Radio/TV Electronics	39	18	46.7%	42	45.2%	34	19.0%	19	13	86.4%	0	0.0%	0.0%
Welding	18	6	33.3%	21	28.6%	18	14.3%	6	0	0.0%	0	0.0%	0.0%
INDUSTRIAL GROUP TOTAL	180	82	45.6%	203	40.4%	154	24.1%	82	41	50.0%	0	0.0%	0.0%
Architectural Engineering Technology	30	13	43.3%	30	43.3%	24	20.0%	13	4	30.8%	1	3.3%	25.0%
Civil Engineering Technology	30	17	56.7%	31	54.8%	25	19.4%	17	6	35.3%	0	0.0%	0.0%
Computer Engineering Technology	29	11	37.9%	30	36.7%	15	50.0%	11	4	36.4%	1	3.3%	25.0%
Computer Aided Drafting Technology	20	12	60.0%	22	54.5%	19	13.6%	12	4	33.3%	1	4.5%	25.0%
Electrical Engineering Technology	26	23	82.1%	30	76.7%	19	36.7%	23	7	30.4%	1	3.3%	14.3%
Electronics Engineering Technology	30	11	36.7%	30	36.7%	8	73.3%	11	7	63.6%	2	6.7%	28.6%
Instrumentation Engineering Technology	29	10	34.5%	30	33.3%	4	86.7%	10	3	30.0%	0	0.0%	0.0%
Surveying Engineering Technology	18	5	31.3%	17	29.4%	4	76.5%	5	4	80.0%	2	11.8%	50.0%
Water Resources Engineering Technology	29	13	44.8%	30	43.3%	7	76.7%	13	6	46.2%	3	10.0%	50.0%
TECHNOLOGY GROUP TOTAL	241	115	47.7%	250	46.0%	125	50.0%	115	45	39.1%	11	4.4%	24.4%
Office Education	34	16	47.1%	35	45.7%	28	20.0%	16	9	56.3%	2	5.7%	22.2%
Business I	249	115	46.2%	265	43.4%	231	12.8%	115	80	69.6%	9	3.4%	11.3%
BUSINESS GROUP TOTAL	283	131	46.3%	300	43.7%	259	13.7%	131	89	67.9%	11	3.7%	12.4%
PALLISER CAMPUS TOTAL	704	328	46.6%	753	43.8%	538	28.6%	328	175	53.4%	22	2.9%	12.8%

SIAST RETENTION STUDY RESPONSE SUMMARY

Wascana Campus: 3001–3742	PART I							PART II					
	Questionnaires Sent	Rec'd	Resp Rt	91/92 Enrol	Rec'd to Enrol Rt	Compl./ Grads.	Attrit Rt	Questionnaires Sent	Rec'd	Resp Rt	Non Compl	Non Compl to Enrol Rt	Non Compl to Rec'd Rt
Dental Assistant	60	44	73.3%	61	72.1%	56	8.2%	44	17	38.6%	0	0.0%	0.0%
Diploma Nursing Year I	139	99	71.2%	155	63.9%	135	12.9%	99	50	50.5%	3	1.9%	8.0%
Nursing Assistant	57	39	68.4%	71	54.9%	48	32.4%	39	19	48.7%	2	2.8%	10.5%
Psychiatric Nursing Year I	78	54	69.2%	84	64.3%	65	22.6%	54	28	48.1%	3	3.6%	11.5%
Emergency Medical Technician	62	50	80.6%	211	23.7%	119	43.6%	50	20	40.0%	0	0.0%	0.0%
HEALTH GROUP TOTAL	396	286	72.2%	582	49.1%	423	27.3%	286	132	46.2%	8	1.4%	6.1%
Health Record Technology I	11	14	127.3%	18	77.8%	12	33.3%	14	7	50.0%	2	11.1%	28.6%
Office Education	164	87	53.0%	281	31.0%	98	65.1%	87	31	35.6%	11	3.9%	35.5%
Auto Body Repair	17	9	52.9%	37	24.3%	27	27.0%	9	5	55.6%	0	0.0%	0.0%
Building Systems Technician	12	7	58.3%	22	31.8%	15	31.8%	7	3	42.9%	1	4.5%	33.3%
Drafting Technician	20	5	25.0%	20	25.0%	16	10.0%	5	1	20.0%	1	5.0%	100.0%
Electronic Communications Tech	13	8	61.5%	21	38.1%	13	38.1%	8	3	37.5%	1	4.8%	33.3%
Graphic Arts Production	22	14	63.6%	36	38.9%	8	77.8%	14	5	35.7%	1	2.8%	20.0%
Major Appliance Servicing	8	6	75.0%	15	40.0%	12	20.0%	6	4	66.7%	0	0.0%	0.0%
Machine Shop Practice	15	8	53.3%	18	44.4%	15	16.7%	8	5	62.5%	1	5.6%	20.0%
Motor Vehicle Mechanical Repair	18	5	31.3%	28	17.9%	14	50.0%	5	2	40.0%	1	3.6%	50.0%
Welding	18	10	55.6%	35	28.6%	20	42.9%	10	3	30.0%	1	2.9%	33.3%
INDUSTRIAL GROUP TOTAL	141	72	51.1%	232	31.0%	142	38.8%	72	31	43.1%	7	3.0%	22.6%
WASCANA CAMPUS TOTAL	712	459	64.5%	1113	41.2%	675	39.4%	459	201	43.8%	28	2.5%	13.9%

Woodland Campus: 4001–4298	PART I							PART II					
	Questionnaires Sent	Rec'd	Resp Rt	91/92 Enrol	Rec'd to Enrol Rt	Compl./ Grads.	Attrit Rt	Questionnaires Sent	Rec'd	Resp Rt	Non Compl	Non Compl to Enrol Rt	Non Compl to Rec'd Rt
Office Technology	35	20	57.1%	170	11.8%	54	68.2%	20	7	35.0%	7	4.1%	100.0%
Business Computer Programmer	10	6	60.0%	51	11.8%	9	82.4%	8	1	16.7%	1	2.0%	100.0%
Bus Admin: Manager and Accountant	40	14	35.0%	153	9.2%	22	85.6%	14	2	14.3%	0	0.0%	0.0%
BUSINESS GROUP TOTAL	85	40	47.1%	374	10.7%	85	77.3%	40	10	25.0%	8	2.1%	80.0%
Corrections Worker	34	20	58.8%	76	26.3%	36	52.6%	20	9	45.0%	5	6.6%	55.6%
Early Childhood Development Worker	19	9	47.4%	83	10.8%	31	62.7%	9	4	44.4%	3	3.6%	75.0%
Integrated Resource Management	23	11	47.8%	68	16.2%	28	58.8%	11	6	54.5%	1	1.5%	16.7%
Electrician (Pre–Apprenticeship)	1	0	0.0%	28	0.0%	10	61.5%	0	0	0.0%	0	0.0%	0.0%
Heavy Equipment Operator	9	8	88.9%	48	16.7%	21	58.3%	8	2	25.0%	0	0.0%	0.0%
Radio/TV Repair Technician	5	3	60.0%	24	12.5%	7	70.8%	3	3	100.0%	3	12.5%	100.0%
Outdoor Power Equipment Technician	8	4	50.0%	41	9.8%	7	82.9%	4	3	75.0%	1	2.4%	33.3%
Driver Training	14	9	64.3%	39	23.1%	37	5.1%	9	3	33.3%	0	0.0%	0.0%
Truck & Transport Mech Repair Technician	12	5	41.7%	36	13.9%	19	47.2%	5	2	40.0%	0	0.0%	0.0%
Welder	13	3	23.1%	44	6.8%	18	59.1%	3	3	100.0%	2	4.5%	66.7%
INDUSTRIAL GROUP TOTAL	82	32	51.6%	258	12.4%	119	53.9%	32	16	50.0%	8	2.3%	37.5%
WOODLAND CAMPUS TOTAL	223	112	50.2%	859	13.0%	289	65.2%	112	45	40.2%	23	2.7%	51.1%

SIAST CAMPUS TOTAL	2881	1467	54.7%	3822	38.4%	2311	39.5%	1467	698	47.4%	101	2.8%	14.5%
SIAST INDUSTRIAL GROUP TOTAL Kelsey, Palliser, Wascana, Woodland	664	331	49.8%	987	33.5%	620	37.2%	331	148	44.1%	17	1.7%	11.6%
SIAST BUSINESS GROUP TOTAL Palliser, Wascana, Woodland	532	258	48.5%	955	27.0%	442	53.7%	258	130	50.4%	30	3.1%	23.1%
SIAST HEALTH GROUP TOTAL Kelsey (Dip. Nurs.), Wascana	541	377	69.7%	743	50.7%	569	23.4%	377	178	47.2%	12	1.6%	6.7%

Appendix 'D'

Annual Average Unemployment Rate (1989),
Occupations Ranked by Quartiles

Table 1
Annual average unemployment rates, by quartiles of occupations ranked by 1989 rate

	1985	1986	1987	1988	1989	1990
Total	10.5	9.5	8.8	7.8	7.5	8.1
Quartile 1	4.3	4.0	3.8	3.3	3.2	3.4
Farming	..	..	..	..	..	..
Health diagnosing/treating	..	..	..	..	..	..
Nursing	4.0	3.6	3.0	3.0	2.5	2.4
Architecture/engineering	5.1	4.7	3.9	3.1	..	3.4
Mathematics and related	4.3	4.9	3.7	..	..	3.2
Social sciences	3.9	2.7	3.9	3.0	3.1	3.0
Management related	4.8	4.2	4.5	3.8	3.4	3.7
Other medical	4.0	4.1	3.6	3.7	3.5	2.8
Architecture/engineering support	8.8	8.8	5.8	5.2	3.7	5.3
Other sales	4.9	4.4	3.9	4.0	3.7	4.5
Equipment operating	5.5	5.3	6.0	..	..	5.8
Management	4.6	4.5	4.4	3.8	4.0	3.9
Quartile 2	7.7	7.0	6.6	5.8	5.6	6.0
Teaching	4.7	4.5	4.6	3.9	4.0	3.7
Electrical construction	7.9	8.4	7.3	6.4	4.4	6.3
Other fabricating	8.3	7.5	7.1	5.1	4.8	5.7
Natural sciences	6.1	7.3	7.2	7.1	..	6.1
Air/rail/water transportation	8.1	9.3	8.6	6.7	5.6	6.5
Office machine operating	8.1	7.1	6.5	6.2	6.3	7.6
Protective service	8.6	7.8	8.4	6.2	6.4	6.4
Bookkeeping	9.0	7.6	7.0	6.8	6.5	6.6
Electrical fabricating	7.6	7.3	6.1	5.9	6.5	7.8
Stenography/typing	8.2	7.2	6.7	6.3	6.6	6.4
Quartile 3	9.9	9.2	8.2	7.5	7.2	8.1
Commodity sales	8.6	8.1	7.4	7.0	6.6	7.0
Metal fabricating	8.3	9.2	8.3	6.2	6.9	1.3
Filing/mailing/reception	8.9	7.7	7.5	7.9	7.0	8.5
Social work	10.2	10.5	8.7	8.2	7.1	6.5
Arts and writing	10.0	9.0	6.4	8.2	7.1	6.8
Machining	11.3	10.5	9.9	7.5	7.2	10.4
Printing	10.9	8.5	7.4	5.7	7.3	8.3
Other clerical	9.0	9.8	8.3	7.0	7.3	7.4
Other processing	10.9	10.0	8.1	7.0	7.4	9.1
Personal service	10.6	10.3	9.8	8.7	7.7	8.3
Wood product fabricating	14.5	10.5	9.3	9.8	7.9	11.4
Material recording	10.3	8.5	8.2	7.9	7.9	8.0
Bus/truck/taxi driving	11.3	10.7	8.9	8.3	8.1	8.5
Quartile 4*	19.2	17.4	16.5	14.4	14.0	15.1
Mechanics	13.2	11.0	11.5	9.4	8.7	11.8
Textile fabricating	14.5	11.3	11.7	10.2	8.7	14.5
Accommodation	10.4	9.5	8.6	7.7	9.3	7.8
Food preparation	15.2	13.4	13.1	10.9	11.0	11.0
Material handling	15.2	13.7	13.1	11.2	11.2	13.6
Other service	14.6	13.9	12.9	11.4	11.3	11.3
Sports/recreation	14.7	13.4	13.0	11.3	11.7	12.1
Food processing	15.0	13.9	13.2	10.7	12.1	12.6
Other construction	21.6	18.8	15.8	13.9	13.8	16.8
Excavating/grading/paving	18.1	17.4	16.7	15.2	14.9	16.4
Farm labouring	17.2	16.5	16.0	16.0	15.7	14.0
Other primary	21.2	20.2	19.5	17.3	16.4	17.8

Source: Labour Force Survey
* *Includes people with no occupation because they have not had a job in the past five years.*

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

ERIC

JC 960 535

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: SIAST Retention Study: Factors Affecting Retention of First-Year Certificate + Diploma Students	
Author(s): Gerlinde Sarkar	
Corporate Source: SIAST	Publication Date: Feb / 1993

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following two options and sign at the bottom of the page.

☑

Check here
For Level 1 Release:
Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical) *and* paper copy.

The sample sticker shown below will be affixed to all **Level 1** documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 1

The sample sticker shown below will be affixed to all **Level 2** documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2

☑

Check here
For Level 2 Release:
Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical), but *not* in paper copy.

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at **Level 1**.

"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries."

Sign here→ please

Signature: Gerlinde Sarkar	Printed Name/Position/Title:	
Organization/Address:	Telephone:	FAX:
	E-Mail Address:	Date: Aug 13/96

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address: N/A
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address: N/A

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

Rika Nakazawa
Aquisitions Coordinator
ERIC Clearinghouse for Community Colleges
3051 Moore Hall
Box 951521
Los Angeles, CA 90095-1521

(F /96)

Association of Canadian Community Colleges Annual Conf.
Toronto, Ontario, May 26-28, 1996