In March 2002, members of the Task Force on Student Success and Retention were asked to identify and develop strategies to improve the level of student academic success at Ryerson. To contribute in part to that end, a sub-committee of five task force members was struck in May 2002, charged with reviewing the leading literature in the field. Based on the literature, sub-committee members were asked to come up with recommendations in the following areas: Retention Theory, Social and Academic Integration, Mentoring, and Student Success Programs.

Part One of our report comprises the literature review; Part Two offers a brief overview of Best Practices; Part Three distinguishes between short- and long-term implementation strategies; and Part Four lists Sources Cited.

This Executive Summary covers Part One (Literature Review) only, as the significant aspects of Part Two (Best Practices) are contained herein as recommendations. Parts Three and Four, by virtue of their form and content, defy summarization.

Respectfully submitted by Don Kinder, Maureen Reed, Allan Gillis, Safiah Arooz, Jagg Carr-Locke, June 26, 2002.
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EXECUTIVE SUMMARY

Retention Theory

i) Academic Factors

Recommendations from the literature:
- Admit better students
- Focus on the 1st year
- Test early and often (1st 6 weeks are the most important)
- Make 1st year easier – move hard courses to future years
- Don't allow students to take light load
- Offer remedial courses for calculus

ii) Social Factors

Recommendations from the literature:
- Foster ties to university, other students, professors
- Foster interactions with other students, faculty
- Offer anti-prejudice courses

iii) Institutional Factors

Recommendations from the literature:
- Offer smaller classes in 1st year
- Make faculty advisors available
- Highest levels of administration should offer statements of support
- Offer supplemental instruction courses (weekly group study led by senior students)

iv) Other Factors

Recommendations from the literature:
- Make financial advice available to students
- Reduce amount of part time work students are allowed to take on
- Offer extra help for married students and/or those with family to support

Social Integration

i) Family Support

a) Conflict (Approximately one-third cite family issues for dropping out)

Recommendations from the literature:
- Develop alternatives for students with family support issues. Alternatives might include advertising of planned leaves of absence, increased peer supports (i.e. car pools, student support groups)
- Identify prior to withdrawal students with family issues. This could be done through attendance monitoring. Students with poor attendance are contacted and options are discussed.

  b) Parental Education (First generation students tend to drop out)

Recommendations from the literature:
- Identify through admissions first generation students (ask if they are the first in their family to receive higher education)
- Offer first generation students additional orientation and (if appropriate) invite their parents prior to entry. Such orientation would involve academic skills, information on university (i.e. funding, residence living, social issues, campus activities, the importance of social integration)

  c) Direct Family Support (in the case of female students, a good relationship with parent(s) means they are more likely to support her decision to drop out)

Recommendations from the literature:
- Promote family inclusion in orientation (i.e. parent meet and greet during orientation and when dropping students off at residence).
- Promote family involvement through university open houses, newsletters, homecoming activities, student activities (especially first year activities) and alumni association.
- Promote female education (especially in sciences, computing, mathematics and engineering). This could be done through class visits of women of distinction, mentoring by females within these areas (not necessarily professors), provide female role models. Promote female education in newsletters to parents.

  d) First-Generation Canadian families (less likely to have ties with university, students are more likely to work)

Recommendations from the literature:
- Promote and increase the profile of activities and services for first generation Canadian and foreign students.
- Provide additional cultural education for students to adapt to social issues surrounding Canadian culture and university culture during orientation.
- Provide reduced course load options for ESL students during their first semester and ‘catch up’ courses during the spring.
- Provide, promote and require additional academic skills (esp. writing) workshops for second language students.
- Test writing skills of second language students.

ii) Faculty Support

- Need informal faculty relationships
- Contacts should not be just about work
- Need adequate staff services
Recommendations from the literature:
- Promote the use of faculty mentors and advisors
- Encourage faculty participation in student out-of-class activities
- Encourage faculty attendance at orientation sessions
- Encourage student participation in departmental colloquia

iii) Peer Support

- Ties with other students are important
- Social groups within classes are important

Recommendations from the literature:
- Entering students should be divided into small peer groups while participating in orientation activities. Such groups could be lead by upper year students and be encouraged to re-unite at particular times of the year. Such groups would provide peer support, a wider peer group and information from upper year students on handling university.
- Encourage peer study groups within classes (especially difficult classes). Encourage these study groups to meet to discuss class issues within and outside of the class environment.

iv) Financial Considerations

- Working off campus reduces retention
- Too many working hours reduces retention

Recommendations from the literature:
- Promote work-study programmes for students in financial need (especially on campus work-study programmes)
- Further develop student bursaries within the Ryerson community
- Review the number of practicum hours required by programmes (especially unpaid hours). Practical hours should be below ten hours per week
- Consider student economics for course related materials (books, equipment, etc.)

Academic Integration

i) GPA

- Dropouts not necessarily flunk outs
- Low first term grades is one predictor in student retention

Recommendations from the literature:
- Students should be followed by academic advisors so that high risk students can be identified
- Academic skills should be required for all at risk students (poorly achieving in first semester)
- University 101 courses should be developed, however factors beyond academic skills should be addressed in these classes including student motivation, adjustment and social integration

ii) Preparedness

- Remediation in math necessary
- Students experience syllabus shock
- Not enough info about post-secondary atmosphere

Recommendations from the literature:
- Promote academic skills prior to entry (pre university orientation sessions)
- Prior to orientation inform students of work load issues to aid in university planning
- Have trained faculty visit secondary schools (especially in the Toronto Board) to discuss post secondary requirements
- Train faculty to pass information to secondary students and educators

iii) Other

Recommendations from the literature:
- Give students a structured first year where academic and social preparation is mandatory. Include common courses across disciplines so that students can more easily change programmes.
- Academic services ii) Preparedness are made mandatory by linking them to courses and thus offering skills sessions during lecture time.
- Weekend and distance versions of courses should be developed to aid students with family stress.

Student Mentoring

i) Mentoring is…

- Faculty meeting with students; or
- Senior students meeting with first-year students

ii) Effect of Mentoring on Retention

- Poor effect if mentors are poorly trained
- Mentors must work closely with instructors
- Strong social networks do develop

iii) Recommendations from the literature

- Faculty should participate in counselling high-risk students
- Make senior students available to act as mentors, especially on killer courses


**Student Success Programs**

i) **Definition**

Any effort on the part of the institution to help entering students make the transition from their previous environment to the collegiate environment and to enhance their success in college. The success courses offered are most often academic but also incorporate other components that introduce students to the places, people and resources that comprise a college or university campus and help develop them as learners, leaders and citizens of the academic community.

ii) **Goals**

- The development of academic skills
- The academic and social integration of students
- Helping students achieve a sense of community and encouraging involvement in the total life of the institution

iii) **Types of Programs**

*Extended orientation programs:*
Usually includes an introduction to campus resources, time management, study skills, library skills, career planning, diversity. May be elective or required

*Academic seminars:*
Tend to focus on the higher order academic skills; critical thinking, information literacy, analysis. May include elements from the extended orientation program. Course is usually graded and may be offered for credit.

*Professional/Discipline based programs:*
Program/department specific. Designed to provide an introduction to the academic expectations of the program.

*Summer Orientation Programs:*
For entering students and offered before the start of term. Content ranges from the recreational to the academic.

*Supplementary Instruction Programs:*
Targets programs or courses where attrition rates are high.

iv) **Student Success Courses and Retention Data**

Substantial data collected over the past twenty-five years show that student success courses, when effectively presented, can dramatically improve student performance and persistence.
v) Implementing a Student Success Program

Recommendations from the literature:

1) **Create a program task force or planning committee:**
   - Include representatives from key sectors of the institution
   - The program should be designed by a campus coalition of faculty, academic administrators, academic support professionals, student affairs professionals and students
   - Identify the problems it is designed to improve
   - Write and circulate a proposal.

2) **Find an appropriate home for the program:**
   Establish a freestanding academic department devoted exclusively to the program or affiliate the program with a particular academic or administrative department.

3) **Use alternative models of student success programs:**
   Search for programs at other institutions that share the same issues, problems and goals. Build on them.

4) **Build on in-house success and experience:**
   Use the expertise of people on campus who have initiated successful programs (such as Business 100)

5) **Take a holistic approach:**
   Emphasize holistic student growth and development. Avoid focusing exclusively on academic expertise and specialization. Use a wide variety of resource and people in the planning and implementation of the program.

6) **Be inclusive:**
   All types of students must be accommodated, including transfer students, mature students and others with specific needs.

7) **Include Information Literacy:**
   The Information Literacy Competency Standards for Higher Education should be incorporated into the program. The library should be involved in the planning and teaching of the course.

8) **Front load the program:**
   The first six weeks at an institution is considered a crucial period in determining retention. The program should be offered when student anxiety is at its higher point.

9) **Class size:**
   To ensure substantive interaction between the students themselves and between the instructor and each student success seminars should be of no more than 25 students per class.
10) **Elective versus required courses:**
Arguments exist in favour of both types. The required or "intrusive" course is often used for academic programs that have high attrition rates. However, one of the most successful student success programs offered (University of South Carolina) is elective.

11) **Credit versus non-credit courses:**
The vast majority of institutions in the U.S. offer freshman seminars for academic credit. Students are much more likely to take the seminars seriously if they carry academic credit.

12) **Contact hours:**
In order to ensure the quality and quantity of the information covered, courses should comprise 45-48 contact hours per semester (three semester hours).

13) **Instructors:**
Courses should be taught by full-time faculty or staff with appropriate credentials who possess a commitment to student success and are willing to be part of a unique teaching experience. All instructors should undergo mandatory training.

14) **Assessment and Accountability:**
A commitment to feedback and assessment allows the course to improve and provides evidence necessary for other courses to get started.

**vi) Course content of student success programs**

Recommendations from the literature:
- Teach academic skills (writing, study skills, time management, etc.)
- Incorporate Information Literacy Standards
- Help students develop their educational goals
- Introduce students to campus resources
- Provide an opportunity to compare students’ experiences with other students
- Provide an opportunity for students to interact with faculty
- Help students with transition issues
- Clarify faculty expectations, standards, etc.
- Inform students about university policies
- Provide career planning opportunities
- Enhance self-confidence, self-management
**LITERATURE REVIEW & SUMMARY OF BEST PRACTICES**

Compiled by Don Kinder, Allan Gillis, Maureen Reed, Safia Arooz and Jagg Carr-Locke, June 26, 2002

**Introduction**

The literature on student success and its direct correlate, student retention, is vast, yet reveals a remarkable level of inconsistency in research design and reporting methods. Some studies are characterised by apparent gaps; others by apparent overlap. Terminology varies from study to study, and base lines are often meaningless, lacking in comparative rigour. Yet for all its shortcomings the literature is helpful in revealing a consistent body of strategies with a similarly consistent range of outcomes. These strategies and outcomes form the basis of our literature review and summary of best practices.

As none of us is a scholar in the field of educational research, we needed to quickly familiarise ourselves with the state of the field, an undertaking which encompassed the following: identifying theoretical paradigms if or where they existed; determining the leading theorists and practitioners; endeavouring to sort out which of the pertinent literature and theorists had the greatest relevance to Ryerson.

It bears repeating that the literature employs terminology which is not always precise and is rarely consistent; for example student "persistence" and "retention" appear with approximately equal frequency, yet do not always mean the same thing. We shall maintain precision where precision is possible.

Another issue with ramifications for our findings is that a great deal of the literature comes from the US. That is potentially problematic for our review and summary insofar as many of the US colleges offer two-year programs, culminating in certificates or diplomas which signify successful completion of the given program. Thus for many US institutions, student retention is a challenge that unfolds over just two years, not four.
PART ONE: THE LITERATURE

Retention Theory

Retention theory can be reduced essentially to a discussion of factors that influence student retention positively or negatively. An itemised list of the most prevalent factors influencing retention follows, grouped under the headings Academic, Social, Institutional, and Other. Many of the points are elaborated upon in subsequent sections.

American scholar V. Tinto is one of the more widely cited retention theorists. His model proposes that a student's decision of whether to stay in university or to drop out is a function of many factors, including such pre-entry attributes such as goals and commitments; and, once a student is enrolled, salient attributes expand to include his or her actual institutional experiences, as well as integration into the institution, and adjusted goals and commitments (Szafran, 2001). Institutional experiences include both academic and social interactions, of which more will be said later.

i) Academic Factors

Academic factors affecting retention include:

- High levels of past and current academic performance increase retention (Rudra, 2000);
  attrition rates are highest in the first year. (Matusky, 2001);
- The first 6 weeks of university are critical in determining whether a student stays or leaves. (Retention Task Force Recommendations, 2002);
- The longer a student stays in school, the less likely he or she will leave. (Matusky, 2001);
- Students with higher cumulative GPAs are more likely to return for the second year. (Szafran, 2001);
- Students in more difficult courses are less likely to return for a second year. (Szafran, 2001);
- Heavier course loads usually have a positive effect on academic success. (Szafran, 2001) Szafran's review of research shows that most of the researchers have found a significant positive relation between credit load ("course" load in other contexts) and academic success. Two explanations are offered for this seeming incongruity: 1) credit load represents a student's commitment to academics relative to other time consumers such as work or family; 2) a recommendation that a student take a lighter load may be perceived by the student as a judgement on their ability, hence, they may load up on courses to dispel any such judgement;
- Many students who enroll in calculus courses lack the requisite skills and conceptual understanding to perform adequately in them. (Principal's Task Force, 2002);
- The quality of student effort is the major determinant in the amount of learning and is related to remaining in university. (McLaughlin, 1998).
ii) Social Factors

Social factors affecting retention include:
- Lack of social integration. (Rudra, 2000);
- Perception of prejudice or discrimination negatively affects retention. (Rudra, 2000);
- Students most likely to leave are those who don't feel any ties to the place, the students or the professors. (Retention Task Force Recommendations, 2002);
- Characteristics negatively linked to retention: low socio-economic background, first generation university students, low SAT scores and poor academic preparedness. (Young, 2002; Murphy, 2002);
- Increased levels of student interaction with other students and faculty translate into higher retention levels. The more students see those interactions as positive, and themselves as integrated into the institution and as valued members of it, the higher the retention level. (Tinto, 1998)
- Retention rates are lower for older students, who are more likely to be married and thus have limited social integration with the university. (Tinto, 1998)
- Emotional and social integration are as important as academic adjustment. (Myers, 2002)

iii) Institutional Factors

Institutional factors affecting retention include:
- Large classes have a negative effect on retention. (Rudra, 2000);
- Local students have lower attrition rates than non-residents. (Rudra, 2000).
- Full-time students have a higher chance of success than part-time students equals significant effect on retention. (Rudra, 2000).
- Improving retention can be a logical outcome of efforts to improve educational quality. (Calder, 1996);
- Students who have faculty advisors achieve higher grades, are less likely to drop out, develop more ethical reasoning skills, and have more positive attitudes toward learning and to their institutions. (Principal's Task Force, 2002);
- Essential to a successful retention program are clear and unequivocal statements of support by administrators at the highest levels. (Young, 2002);
- Students who participated in Supplemental Instruction sessions do somewhat better academically than students who did not participate. These extra help sessions took the form of weekly group study sessions led by successful senior students. (Wilhelm, 2002).

iv) Other Factors

Some other factors include:
- Ability to pay for education affects motivation, which then affects the propensity to continue education. (Rudra, 2000);
- Expecting to work while attending school and expecting to apply for financial aid had a negative effect on persistence. (Rudra, 2000);
- Conflict between work commitments and educational obligations is one of the primary reasons for attrition. (Rudra, 2000);
- Working off campus and being married with a family to support are negative effects on retention. (Rudra, 2000).
Academic and Social Integration

Dozens of social integration issues have been identified as predictors of student success, retention and post-secondary adjustment. However, Lips and Kirkpatrick (1995) point out that attrition from post-secondary education is still a source of confusion to most academic institutions. This is likely due to the fact that issues that have been identified as salient to retention tend to interact; furthermore, elements that are identified as predictors for post-secondary success and adjustment are not always the same elements that can reliably predict retention.

In this section, we review literature pertaining to social integration predictors and academic integration predictors. These include family support, faculty support, peer support, student employment and internship, GPA and post-secondary preparation.

i) Social and Academic Integration Defined

In both definitions, student perception is key: Social integration is usually defined as a student’s perception of his or her ties to the post-secondary institution. These perceptions include the extent to which a student is involved in institution-related activities, perception of faculty and staff attitude, perception of institutional sensitivity, and perception of institutional events (Liu and Liu, 2000).

Academic integration is usually defined as the perception of faculty interest, academic resources, and academic preparation (Liu and Liu, 2000).

ii) Social Integration Issues

a) Family Support

A number of retention related issues around family support have been identified. These include family conflict, parental education, direct family support and first generation Canadian families.

Sydow and Sandel (1998) found undergraduate dropouts reported that family issues and conflicts impacted on their decision to leave. Sydow and Sandel showed that between 24 and 32% of students cited family reasons for leaving the institution. These numbers are approximately consistent with those given by Ryerson students, where 36% cited personal reasons for leaving Ryerson between 1999 and 2002 (Office of Student Records).

Thayer (2000) notes that for many undergraduate students, college is their first experience independent of family. Students leave home and subsequently make important decisions without parental guidance. This, Thayer argues, is particularly difficult for "first generation" undergraduates (students whose parents did not attend college). Thayer cites Pascarella (1995), who found that first generation undergraduates are less prepared for the undergraduate setting than their peers. The first generation students have not benefited from parents who could "show them the ropes". Thus, upon entering
university, the first generation student may be less prepared for the academic and social rigor of the university setting. Thayer argues, citing Richards and Skinner (1992), that a first generation student has less information about accessing college, less information about time requirements and less information about college finances. Gillock (1999) and Cuccaro-Alamin and Choy (1998) found that students with college-educated parents were more likely to persist in university than were their first generation counterparts.

At Ryerson, the parents of approximately half the student body have not been educated at the post-secondary level (46% fathers and 52% mothers have less than post-secondary education, Stowe, 1999).

Direct family support for the undergraduate also affects persistence. Just (1999) found that affective attachment to the parent is a significant predictor of adjustment to the college environment. In other words, students who enjoy a good relationship with their parent or parents have a greater likelihood of undergraduate success.

In explaining high female dropouts in their study, Nordquist (1993) found that parents were more likely to support a female child's decision to drop out than a male's. The result is obviously a higher drop out rate for females.

The family has an impact on persistence in first-generation Canadian students. Billson et al (1992) found that first-generation American students were less likely to live on campus, less likely to be involved in campus organisations, less likely to work on campus, received less support for post-secondary study (unless the family was college educated), and had greater employment needs. Billson et al. argued this situation made post-secondary education more difficult for the first-generation American student and could lead to lower retention rates. Torres and Solberg (2001) interviewed first-generation American students of Latin American origin and found that family support for higher education affected the student's self-efficacy (i.e., one's judgement about one's ability to organise thoughts, feelings and actions to produce a desired outcome). High self-efficacy, in turn, was a strong predictor of retention.

At Ryerson, 26% of students have been in Canada for five years or less. (Office of Student Records).

b) Other Issues

Nordquist (1993) and Jaasma and Koper (2001) cite studies that conclude that faculty support and communication is essential for a full education experience at the post-secondary level.

Pascarella and Terenzini (1980, as cited by Jaasma and Koper, 2001) found that students who reported informal faculty relationships showed better integration into the institutional environment and were more likely to persist at college. Jaasma and Koper (2001) suggested that faculty relationships allow for better academics, increase positive attitudes toward the institution and increase the flow of information about higher education. However, Goldsmith and Albrech (1993, as cited by Jaasma and Koper, 2001) found that fifty percent of students in their undergraduate survey reported having two or fewer contacts during the year with institution faculty. Jaasma and Koper (2001) noted
that fifty percent of students in their survey reported that they had never visited a professor outside of class hours. Those who did report that contacts were about course work. Roueche (1993, as cited by Sydow and Sandel, 1998) found, in surveys involving 944 American Colleges, that those students with good faculty relationships are more satisfied with their institution. In addition, Kerks (1995) noted that students who leave often cite lack of faculty attention as a cause of leaving and many of these students state that they would come back under different circumstances.

Saenz et al. report another factor that plays a part in students' social integration, namely the connectivity to campus services and offices. Students who were dissatisfied with the level of staff service in various offices around campus developed negative attitudes towards their University (Saenz et al., 1999).

Thomas (2000) asked students to name other students in their social network and compared these lists to the names of returning students. Overall, Thomas found that students that were named by a broader range of students were more likely to persist at post-secondary education.

In an examination of student social groups Parsons and Weldon (1998) found that student social groups provide students with an environment to vent and empathize with one another. In addition, social groups formed within classes allowed for support with academic issues and had the added benefit of increasing student knowledge of their rights.

Student social groups formed within classes allowed students an atmosphere in which they felt enabled to help one another (i.e. transportation problems, learning styles, life skills such as shopping, cooking, and living on student budget). Skenes (1993, as cited by Kerks, 1995) found that student social interaction had a positive effect on retention.

Cuccaro-Alamin and Choy (1998), citing data from America's National Post-Secondary Student Aid Survey and Beginning Post-Secondary Student Longitudinal Study, found that 72% of students reported being employed on average 31 hrs per week. They found a negative association between the hours worked and school attendance. Furthermore, poor class attendance was negatively associated with student retention. While 80% of students who worked 1-14 hours stayed in school, the same may be said for only 25% of those working more than 34 hours.

At Ryerson 29.2% of students reported receiving student loans to fund their education (Graduating Student Survey, 2000). Many students choose to finance their education through employment during study. Overall, 49.3% of graduating Ryerson students reported that they funded their education through employment (Graduating Student Survey, 2000). In addition, Stowe (2000) found that 61% of Ryerson students reported working an average of 15 hours per week. Half of these students reported that working is essential to their continuing at school.

In a survey of one American college, Sydow and Sandel (1998) found that 60% of students were employed and 33% noted conflicts between work and their post-secondary education. Waggener (1993) determined that students' decisions to return to school are guided in part by employment. Overall, students who work ten or fewer hours per week
during college were more likely to return to school than students employed more than ten hours a week. In addition, Waggener found that students working off campus were less likely to remain in school than were those working on-campus.

Bers and Smith (1991, as cited by Price, 1993) argued that students employed part-time (fewer than 10 hours/week) do persist at post-secondary studies. Roark (1983) also argued that part-time work which is related to the student's program of study can be beneficial to students in clarifying their goals, in translating classroom work into practice, in increasing student involvement on campus and in providing a source of social integration and financial support for students. For the institution, work/study programs can be a source of qualified and cost-effective labour.

iii) Academic Integration Issues

Numerous studies show that high school GPA is a predictor of student retention (Just, 1999; Murtaugh et al, 1999; Sydow and Sandel, 1998). However, Lips and Kirkpatrick (1995) argue that while high school GPA is associated with higher grades at college, GPA from high school alone cannot account for college attrition.

McGrath and Braustien (1997) found that first semester post-secondary GPA is a significant predictor of retention. Yet, Price (1993) points out that student dropouts are not necessarily flunk outs. Price found that 37% of students who left their institution had post-secondary GPAs greater than 2.5. Price argues, as do Noel and Levitz (1992), that while high school and post-secondary GPAs affect persistence, persistence is also affected by a variety of other factors. In addition, Thomas (2000) found that post-secondary GPA is affected by the degree to which the student is connected to the institution (see previous). GPA is also positively related to study skills and can aid in the identification of fragile students (Lammers et al, 2001).

Seon and King (1997) found 70% of post-secondary students needed remediation (50% of those in mathematics). Tinto (1987, as cited by Price 1993) stated that many students upon entering the post-secondary systems encounter "syllabus shock." Students find they are unprepared for the demands and workload expected in the post-secondary system. Kerks (1995) found that students do not receive enough information about the post-secondary atmosphere and become frustrated. These frustrations affect academic success.

Student Mentoring

i) Mentoring Defined

Mentoring has traditionally been utilized in graduate training (Anderson, 1995). Graduate training involves close student/faculty research/academic relationships and faculty to student modeling. Anderson (1995) notes that recently there has been movement towards undergraduate mentoring in order to improve the quality of undergraduate education and to improve undergraduate retention.
Definitions of mentoring vary drastically among different institutes offering such programs. Some programs offer faculty- or staff-based mentoring. This most often involves faculty meeting with students to discuss academic difficulties, learning styles, and institutional requirements. The frequency of such sessions as Jacobi points out (1991; as cited by Anderson, 1995) may vary from once only during the academic year, up to weekly sessions. Some programs offer student mentoring where upper level students meet with first year students to offer both academic and emotional support (see Brotherton, 2001).

ii) The Effect of Mentoring on Retention

Because of the diversity of mentoring programs across institutions, it is difficult to determine mentoring ‘success’. However, some researchers suggest that mentoring has a positive effect on undergraduate GPA; where those mentored achieve a higher GPA than those not mentored (Anderson, 1995; Rudmann, 1992). Further, some studies show improvements to student retention following the implementation of mentoring programs (Brotherton, 2001; Harter et al. 2001; Walleri et al. 1997). However, researchers are quick to point out that mentoring alone might not be responsible for these successes, since most mentoring is offered as part of a package of success strategies (Anderson, 1995). Indeed, some studies indicate that mentoring alone had little impact on GPA (Eno et al., 1998; Walleri et al. 1997). The poor impact on GPA of mentoring/advising programs might be due to poor training of mentors. Jones (1998) found that in one mentoring program 75% of faculty participants felt they required more advising knowledge and training and 53% felt that their advising program did not have a positive effect on retention.

One US study cites a successful mentoring program at Villa Julie College, near Baltimore MD. The program is known as PASS (Partnerships And Student Success), and involves faculty, staff and administrators who serve as volunteer mentors to high-risk students. Participants are required to attend weekly meetings with their mentors who provide academic success skills such as planning, listening and test-taking strategies. The students’ professors provide mentors with periodic reports on their academic progress. Through the efforts of faculty and student services, the program enables students to feel connected to the campus and encourages their involvement in campus life (Mills-Novoa, A. 1999).

The same study reports that students, faculty and staff who participate in mentorship activities appreciate the strong social network that develops. The students feel understood, validated, and supported by the institution as a result. (Mills-Novoa, A. 1999).

Student Success Programs

Student success programs have been part of North American post secondary curricula for more than one hundred years. (Barefoot, 1993). The popularity of the programs has fluctuated over the years, however, and significant development in the area has occurred only since the mid-1970s. Student success programs are now widely recognised as an effective way to address many of the issues and problems of contemporary college life.
and to address a very real concern over high dropout and low graduation rates. (Gardner, 1996).

Recent American survey data from the National Resource Center for the First-Year Experience and Students in Transition (1997) indicates that over 70% of American universities and colleges currently offer some form of student success course geared to easing the transition of students into the university/college environment, and to enhance the likelihood of their retention and academic and social success.

In Canada, 81% of the universities surveyed (N=42) offer a short-term success seminar, with 38% offering a “University 101”-type term course. Of the Canadian community colleges surveyed (N=52), 94% offer a short-term success seminar and 39% offer a University 101 term course. (Gilbert, Chapman, Dietsche, Grayson & Gardner, 1997). Fidler and Hunter (1989) reported that retention is the most widely studied variable in the literature on student success programs. It is evident, from the vast amount of literature currently available, that this is still very much the case.

Upcraft and Farnsworth (1989) define an orientation program as "any effort on the part of the institution to help entering students make the transition from their previous environment to the collegiate environment and to enhance their success in college".

North American survey results from the National Resource Center for the Freshman Year Experience (1993) found that the success courses offered by most institutions are decidedly academic, but also incorporate other components that introduce students to the places, people and resources that comprise a college campus, and help develop them as learners, leaders and citizens of the academic community. (Barefoot, 1993). This holistic approach to orientation is generally what defines the student success course offered today.

Although student success programs can be offered at any level or year, they most often focus on the first-year experience.

In its extensive survey of student success programs across North America, the National Resource Center for the Freshman Year Experience noted that the majority of student success programs are designed with one or more of the following goals: (Barefoot, 1996)

- The development of academic skills;
- The academic and social integration of students;
- Helping students achieve a sense of community and encouraging involvement of students in the total life of the institution.

Listed below are the most common types of student success courses according to the 1994 National Survey of Freshman Seminars (Barefoot, 1996). The categories listed are seldom mutually exclusive and course types are often intentionally linked to create a course relevant to the needs of the institution and its students. (For example, Ryerson’s Business 100 course contains elements from all three types.)

Extended orientation seminars: Taught by student service professionals/counselors, faculty, librarians, administrators, student affairs professionals and upper-level
undergraduate students. Content varies widely, but usually includes an introduction to campus resources, times management, study skills, research/library skills, career planning, diversity, and issues common to student life. May be elective or required, graded or non-graded.

*Academic Seminars with generally uniform academic content across sections:* May be elective or required, inter- or extra-disciplinary, and will sometimes be part of a required general education core. The course often focuses on the "higher order" academic skills such as critical thinking, analysis, and argument and the nature and history of higher education, but may include elements from the extended orientation seminar described above. The course is usually graded. University 101 courses often fall into this category. May be an approved degree credit course.

*Professional or discipline-based seminars:* May be offered in any academic department and are designed to provide an introduction to the academic expectations of the program.

Other types of student success programs include Summer Orientation Sessions for incoming students (usually 1 to 3 days) and Supplemental Instruction Sessions (a "reactive" method that targets courses where, for example, more than 30% of the students have received a grade of D or less).

Several types of research have been conducted on University 101 programs over the past thirty years, including analytical, anecdotal and self-report studies. These studies have produced substantial data that establish links between participation in orientation, and improved rates of retention, graduation and other positive outcomes. Fidler, who studied extensively the flagship University 101 program at the University of South Carolina (see below), has reviewed a number of studies at other institutions and states: "The results ... lend support to the conclusion that, on the whole, freshman seminars are a positive influence on retention." (Fidler & Hunter, 1989). Fox (1993) and Ellis (cited in Barefoot, 1993) have also concluded that student success courses, when effectively presented, can dramatically improve student performance and persistence.

**i) The University of South Carolina**

The longest-established University 101 program is in place at the University of South Carolina (USC), where an elective course was introduced in 1972. It was the first of its kind and serves as the model for most University 101 courses offered today. Extensive assessment of the program has been conducted over the past few decades, by several researchers, with remarkably stable results. (Fidler, 1989) Findings from the studies show that students taking University 101 have achieved significantly higher sophomore (i.e., first to second year) return rates in 15 of the 23 years of research on the course. (Gardner, 1996). (77.2% to 84.9% for participants vs. 72.8% to 80.5% for non-participants.)

Tucker, Walbourne & Wilson (2001) cite another USC University 101 study by Shanley and Witten, reported in the NASPA Journal (Vol. 27, no. 4, 1990). Twenty-seven hundred and seventy-six students were included in this seven-year study (781 who had successfully completed the course and 1,995 who had not completed or registered for it.) The results indicated the following rates for course participants and non-participants: Retention: 69% compared to 51%, Persistence: 59% to 44%, Graduation: 56% to 51%
and Dropouts: 31% to 47%. (It must here be noted that there is great ambiguity surrounding the meanings of some of these terms, for example "retention" versus "persistence". There is no clear delineation across the literature, as noted by the United States Department of Education: "The discussion on retention revealed that retention rates not only vary greatly from campus to campus, but that the very definition of retention changed from campus to campus. This absence of a common definition poses many challenges..." (Brown, 2002).

ii) The University of Prince Edward Island

The best Canadian example comes from the University of Prince Edward Island. A nine-year evaluation of a program offered at UPEI (similar to and modeled on the USC University 101 course) shows significantly higher retention rates for students enrolled in its course versus those not enrolled. Over the nine years an average of 86.0% of participants were retained compared to 60.7% of non-participants. (Gilbert, 1997, p. 84))

iii) The University of Regina

The University of Regina student success course is designed to support the integration of newly admitted students and open admission students. Successful participants in the course achieved a first semester average that was 13.1% higher than students who did not complete the course. Eighty-two percent of the students who were successful in the course registered in the following semester, although here again the data are less than helpful, in that they do not suggest what the number might have been had there been no student success course.

The National Resource Center for the Freshman Year Experience has provided extensive reporting of results for student success courses through its national surveys of freshman seminar programs, which are summarized on its web site (www.sc.edu) and published selectively in the ERIC database. Its 1994 survey of thirty-four colleges and universities provides extensive descriptions of the results of student success courses across North America (Barefoot, 1993).

It is evident from the findings listed in the report that a significant number of institutions experience positive results in terms of student retention, and specifically progression into second year. Even when institutions fail to identify their student success course as a cause of increased retention, they generally report positive student response to the course and its content and feel comfortable in recommending the course to others.

iv) Implementing a Student Success Program: Recommendations and observations from the literature

1) Create a Task Force or Steering Committee

Provide a mechanism to ensure success of the program. "Include representatives from the key people who generated the idea [as well as] from the key sectors of the institution whose support is absolutely necessary for its eventual implementation. The group should also include people who might oppose or be critical of the seminars. If they are included from the very beginning, they can never allege later that they were deliberately excluded, and they may ultimately develop some ownership." (Gardner, 1989)
"Freshman orientation seminars should be designed by a campus coalition comprised of faculty, academic administrators, academic support professionals, students affairs professionals, and students. A course which has had initial input from a variety of campus constituencies has a better chance for broad campus ownership and long-term support."
(Barefoot and Gardner, 1993)

2) **Identify and articulate the institutional problems that the student success course is designed to improve.** (Barefoot and Gardner, 1996)

3) **Find an appropriate home for the program**
Canadian universities that experienced few barriers in developing a program attributed their success to the creation of a "First Year Office"(Gilbert, 1997) Some institutions affiliate the program with a particular academic, administrative or student services department. Others establish a free standing academic department devoted exclusively to the program, as is the case at the University of South Carolina where it reports to the chief academic officer of the university. (Gardner, 1978). Gardner states that free standing model prevents the political problems that can arise when the program is housed in a single academic department. It also provides a place to administratively house the course should it become an approved degree credit.

4) **Find alternative models**
Explore models of student success programs at other institutions to avoid reinventing the wheel (Barefoot & Gardner, 1993)

5) **Build on your current experience and successes** [e.g. Business 100]. (Lowe, 2000)

6) **Take a holistic approach**
"An emphasis on holistic student growth and development in the first year works better than a narrow or exclusive emphasis on technical academic expertise and specialization."
"Programs should be intrusive, intentional, holistic, involving and developmental."(Gilbert, 1997, p. 112)

7) **Inclusiveness**
A student success program should include sections for all types of new students including transfer students, older students and others with specific needs. (Barefoot & Gardner, 1993)

8) **Information Literacy**
"Information literacy is a set of abilities requiring individuals to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information." Although a library/research component is included in most programs, it often takes the form of a short, simple orientation session. Recent research shows definite links between a student’s degree of information literacy and success. (Kelly, 1995) An extended library/research component should be included in all student success courses that incorporates the Association of College and Research Libraries (ACRL) Information Literacy Standards. (An extended library component was included in Ryerson ’s Business 100 course.)
9) **Front-loading the program**

"The student success program should be offered in the first semester of the first year when student anxiety is at its higher point." (Thorpe and Walsh.)

"The first six weeks at an institution is considered a crucial period in determining retention. The student’s integration in the institution’s academic and social environment is especially affected by early experiences." (Ramist, 1981 as cited by Molner, 1996) (ED397721)

"Frontloading of institutional resources is recommended. The benefits of frontloading are longer-term learning outcomes for students, financial stability for institutions, and public accountability." (Gilbert, 1997, p. 112)

10) **Class size**

Freshman orientation seminars should be of no more than 25 students (preferably 15-20 students) to ensure substantive interaction among the students themselves and between the instructor and each student. (Barefoot and Gardner, 1993)

11) **Elective or required?**

*The 2000 National Survey of First-Year Seminar Programming* (National Resource Center for the First-Year Experience and Students in Transition, 2000) reports that 49.5% of institutions offering student success courses (N=749) require the seminar for all first-year students, 30.2% require the course for some students (generally high risk students), and 19.6% offer the course as an elective.

12) **Credit or non-credit?**

Student success courses should carry academic credit that applies toward graduation (Barefoot and Gardner, 1993)

"Activities without academic credit carry less status than activities with academic credit. The vast majority of institutions in the U.S. offer freshman seminars for academic credit, and institutions that start them without academic credit frequently move to the credit model. When faculty see how much effort is required to provide instruction for such courses and how much they ask students to do, they soon realize that if these activities are to be legitimate at all, they must carry academic credit. Students are much more likely to take freshman seminars seriously if they carry academic credit." (Gardner, 1989).

*The 2000 National Survey of First-Year Seminar Programming* (National Resource Center for the First-Year Experience and Students in Transition, 2000) reports that 88.7% of student success courses at 749 institutions offer academic credit toward graduation.

Only three institutions in Canada offer approved degree credit courses: the University of Prince Edward Island ("University 101"), the University of Guelph, ("Introduction to Higher Learning") St. John’s College, the University of Manitoba ("University 099.111") (Gilbert, 1997). Other universities, including the University of Regina and Augustana University College (a small liberal arts college in Camrose, Alberta) provide semester courses developed to cover the same content as the degree credit courses, although their institutions have not approved the course proposals for degree credit. (Gilbert, 1997)
13) **Contact Hours**
"Ideally, such courses should comprise 45-48 contact hours per semester (three semester hours). Restricting a course to 16 contact hours (1 one semester hour) severely restricts the quantity and quality of the information that can be covered." (Barefoot & Gardner, 1993)

14) **Grading**
*The 2000 National Survey of First-Year Seminar Programming* (National Resource Center for the First-Year Experience and Students in Transition, 2000) reports that 80.0% of student success courses offered at 749 institutions are graded by letter and 19.9% are graded pass/fail or are not graded.

15) **Course Instructors**
Instructors should be recruited who are most likely to teach in ways that ensure the objectives of the seminar will be met. All instructors should undergo mandatory training for the courses. Instructors should never be coerced into teaching the course. (Barefoot & Gardner, 1993)

Courses should be taught by full-time faculty or staff with appropriate credentials and who possess a willingness to be part of a unique teaching experience. (Jewler, 1989)

16) **Assessment/Accountability**
"One of the keys to the effectiveness of student success programs is a commitment to follow basic assessment procedures, including pre-establishing course objectives and outcomes, and then measuring progress toward those outcomes. The commitment to feedback and assessment has allowed courses to improve and has provided evidence necessary for other courses to get started." (Barefoot, 1993)

"Develop questionnaire-based studies. Be sure to test for many different results, and not just changes in retention rates." (Von Frank, 1985)

Evaluate the results of the first offering and disseminate them as widely as possible. (Gardner, 1978)

Measurement of the value added by university/college activities provides a way to make sensible resource allocation decisions. (Gilbert, 1997, p. 112)

Ninety-nine Canadian colleges and universities responded to the national survey reported in *From Best Practices to Best Intentions*, (Gilbert, 1997). Sixty percent of them reported encountering obstacles in the implementation of a student success program. The list which follows is in order of the frequency of each factor, but unfortunately the source does not attach percentage values to each factor:

- Financial
- Resistance to change
- Scheduling difficulties
- Workloads
- Space constraints
- Insufficient enrollment in first-year initiatives (voluntary courses)
- Structural issues that fragment service delivery
- Unwillingness to centrally coordinate services
PART TWO: BEST PRACTICES

Best Practices based on Retention Theory

i) Academic Factors

Recommendations from the literature:
- Admit better students (Rudra, 2000)
- Focus on the 1st year (Matusky, 2001)
- Test early and often: 1st 6 weeks are the most important (Retention Task Force recommendations, 2002)
- Make 1st year easier – move hard courses to future years (Szafran, 2001)
- Don't allow students to take light load (Szafran, 2001)
- Offer remedial courses for calculus (Principal’s Task Force, 2002)

ii) Social Factors

Recommendations from the literature:
- Foster ties to university, other students, professors (Rudra, 2000)
- Foster interactions with other students, faculty (Rudra, 2000)
- Offer anti-prejudice courses (Rudra, 2000)

iii) Institutional Factors

Recommendations from the literature:
- Offer smaller classes in 1st year (Rudra, 2000)
- Make faculty advisors available (Principal’s Task Force, 2002)
- Highest levels of administration should offer statements of support (Young, 2002)
- Offer supplemental instruction courses: weekly group study led by senior students (Wilhelm, 2002)

iv) Other Factors

Recommendations from the literature:
- Make financial advice available to students (Rudra, 2000)
- Reduce amount of part time work students are allowed to take on
- Offer extra help for married students and/or those with family to support (Rudra, 2000)

Best Practices based on Academic and Social Integration

- Students should be given a structured freshman year where academic and social preparation is mandatory (Thayer, 2000).
- Advising should be intrusive in the first year (Thayer, 2000).
- Academic services should be made mandatory by linking courses to study skills (i.e. study skills offered during lecture regular lectures so that they become mandatory).
(Thayer, 2000, Seon and King, 1997) and professors should participate in these sessions.

- Peer mentors, advisors and workshops should be mandatory (Thayer, 2000).
- Professors should report on class attendance and contact should be made with missing students (Sydow and Sandel, 1998).
- Faculty should incorporate retention strategies into their plans (Sydow and Sandel, 1998).
- Faculty should be encouraged to see students outside of class time and participate in campus activities (Sydow and Sandel, 1998).
- Faculty advisors should receive training (Sydow and Sandel, 1998).
- Weekend and distance versions of courses should be developed (Sydow and Sandel, 1998).
- Work-study programs should be promoted on campus (Price, 1993).
- Pre-entry counselling should be encouraged (Kerks, 1995).

**Best Practices based on Student Advising and Mentoring**

- Faculty should commit to sessions in counselling high-risk students (Saenz et al 1999).
- Student mentors should be drawn from among senior students to assist newcomers who may be encountering program challenges (such as "killer" courses). This may assist in paving the way to a smoother university life (Mills-Novoa, 1999)

**Best Practices based on Student Success Programs**

A review of the literature on student success programs reveals a comprehensive list of objectives which, in their attainment, result in improved retention rates. These findings have been culled from a wide variety of sources:

- Teaching students relevant academic skills such as writing skills, study skills, time management, discussion techniques, computer literacy. (Upcraft and Farnsworth, 1989, Gardner, 1996)
- Teaching Information Literacy skills in partnership with university librarians. (American College and Research Library Information Literacy Standards) (Kelly, 1995)
- Teaching critical thinking and augmentation skills (Gardner, 1996)
- Encouraging students to examine the purposes of higher education and to develop their educational goals (Upcraft and Farnsworth, 1989)
- Helping students learn about campus facilities, programs and support services (Gardner, 1996)
- Providing students with an opportunity to compare and contrast their experiences with other students. Connecting students to peers and enhance student involvement in campus life (Upcraft and Farnsworth, 1989, Gardner, d1996)
- Providing students with an opportunity to interact closely with at least one member of the faculty or staff (Upcraft and Farnsworth, 1989, Fidler & Hunter 1989) Helping students find a mentor on campus.
- Making students more aware of the issues and problems encountered during the first year of enrollment. Emphasizing the key differences between high school and university. (Gardner, 1996)
- Clarifying faculty expectations, academic standards, student responsibilities (Gardner, 1996)
- Informing students about the university policies that govern campus life (Gardner, 1996)
- Providing career planning activities (Gardner, 1996)
- Enhancing student learning, self-efficacy, self-confidence, self-management, self-discipline (Gardner, 1996).
**PART THREE: SHORT TERM/LONG TERM RECOMMENDATIONS**

**Short Term - Academic**

**Course Load**
- Don’t let students take a light load

**Killer Courses**
- Offer remediation in calculus
- Create senior student mentors

**Preparedness**
- Promote academic skills prior to entry
- Inform students of work load before orientation
- Have trained faculty visit secondary schools to discuss requirements of university
- Train faculty to pass information to high school students

**GPA**
- Academic advisors to follow at-risk students
- Academic skills courses for all at-risk students

**University 101 Content**
- Writing & study skills, time management, etc.
- Information literacy
- Critical thinking
- Develop educational goals
- Introduce students to campus resources
- An opportunity to compare experiences with other students
- Interact with faculty
- Transition issues
- Clarity faculty expectations
- Inform students about university policies
- Provide career planning opportunities
- Enhance self-confidence, self-management
University 101 Administration
   a) Create a program task force or planning committee
   b) Find an appropriate home for the program
   c) Use alternative models of student success programs
   d) Build on in-house success and experience
   e) Take a holistic approach
   f) Be inclusive
   g) Front load the program
   h) Class size no more than 25
   i) Elective or required as appropriate
   j) Credit courses taken more seriously
   k) 45 to 48 contact hours per semester
   l) Instructors should be appropriate and trained
   m) Commitment to feedback and assessment

Short Term – Social

Prejudice
   a) Anti-prejudice courses

Family Support
   a) Develop alternatives for students with family support issues.
   b) Identify, prior to withdrawal, students with family issues.

Parental Education
   a) Identify, through admissions, first generation students
   b) Offer first generation students additional orientation and (if appropriate) invite
      their parents prior to entry.

Direct Family Support
   a) Promote family inclusion in orientation
   b) Promote family involvement
   c) Promote female education (especially in sciences, computing, mathematics and
      engineering).

First-Generation Canadian Families
   a) Promote and increase the profile of activities and services for first generation
      Canadian and foreign students
   b) Provide additional cultural education for students to adapt to social issues
      surrounding Canadian culture and university culture during orientation
   c) Provide reduced course load options for ESL students during their first semester
      and ‘catch up’ courses during the spring
   d) Test writing skills of second language students
Faculty Support
   a) Faculty mentors and advisors
   b) Encourage faculty participation in out of class activities
   c) Encourage faculty attendance at Orientation sessions
   d) Encourage student participation at departmental colloquia

Peer Support
   a) Entering students divided into small peer groups during Orientation. Such groups
      could be lead by senior students and encouraged to re-unite at particular times of
      the year.
   b) Encourage peer study groups within classes. Encourage these study groups to
      meet to discuss class issues within and outside of the class environment.

Short Term – Financial
   a) Promote work-study programmes for students in financial need
   b) More student bursaries
   c) Limit required practicum hours to 10 hours per week
   d) Cut costs of course materials (books, equipment, etc.)

Short Term – Institutional
   a) Statements of support by highest level of administration
   b) Financial advice for students
   c) Extra help for married students
   d) Make academic services mandatory by linking them to courses.
   e) Weekend and distance versions of courses to aid students with family stress

Short Term - First Year
   a) Focus on first year
   b) Test early and often
   c) Make first year easier
   d) Give students a structured first year where academic and social preparation is
      mandatory.
   e) Common courses across disciplines.

Long term – Academic
   a) Get better students

Long term - Social
   b) Foster ties to university, other students, professors
   c) Foster interactions with other students, faculty

Long term - Institutional
   a) Smaller classes in first year
   b) Faculty advisors
   c) Cut down on part time work
PART FOUR: SOURCES CITED

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