

Factors Affecting Success in Community Based Literacy Programs

Final Report

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Support

This project is supported by a grant to Laubach Literacy Ontario (LLO) from the National Literacy Secretariat, Human Resources and Skills Development Canada and the Literacy and Basic Skills branch of the Ministry of Training, Colleges and Universities. LLO would like to thank all of the community-based literacy agencies that participated in this phase.

About Laubach Literacy Ontario

Laubach Literacy Ontario (LLO) is a non-profit provincial network of affiliated community-based literacy programs, funded by the Government of Ontario through the Ministry of Training, Colleges and Universities. LLO supports its member agencies in the achievement of higher levels of literacy throughout the province.

Community-based agencies recruit, support, and train volunteer tutors to work with adult students in one-on-one and small group situations. LLO works with other provincial and national organizations to understand and advocate for adults with literacy needs.

About the National Literacy Secretariat

The National Literacy Secretariat (NLS) works to promote literacy as an essential component of a learning society and to make Canada's social, economic, and political life more accessible to people with weak literacy skills. It works in partnership with the provinces and territories, other government departments, business and labour, the voluntary sector and non-governmental organizations to build capacity for literacy opportunities across Canada.

About the Ministry of Training, Colleges and Universities

The Ministry of Training, Colleges and Universities promotes literacy in Ontario by encouraging and supporting research and development initiatives in literacy, as well as ensuring that those agencies offering the LBS Program have the support necessary to provide quality literacy services.



Acknowledgments

This project would not have been possible without the advice, comments, and encouragement of several individuals who have been actively involved during several stages of the work. They include Stephanie Brennan, Bev Clarke, Robyn Cook-Ritchie, Christine Dean, Lana Faessler, and Hayley Mundy. Their support is gratefully acknowledged.

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Background

One-on-one or small group: Which delivery method more effectively improves the literacy skills of adults? This simple question sparked the interest of several stakeholders and started a consultation process that ended in a proposal for a collaborative research project aimed at better understanding factors that affect success in community-based literacy programs.

In the summer of 2002, representatives from Laubach Literacy Ontario, Laubach Literacy of Canada, the University of Windsor, and the Learning Disabilities Association of Ontario gathered in Windsor, Ontario to consider common province-wide interests, concerns, and issues related to community-based literacy programs. From these discussions, a research priority was identified and a direction for the present project emerged. It became clear that adults seeking literacy training formed a diverse group of individuals. It seemed reasonable that an individual's characteristics or life circumstances might affect his or her success in a literacy program. Factors such as the availability of transportation, the support of a significant other, or a person's level of physical health might influence ability or motivation to participate in a training program and, in turn, its outcome. Then again, certain training approaches might work well for some students and not so well, or not at all, for others. Therefore, a different question was needed to examine the predictors of success: That is, what works for whom? This new question became the focus of the project.

In order to consider the issue of "what works for whom?" it was necessary to ask three questions:

1. "What are the demographic characteristics of individuals who attend community-based literacy programs in Ontario?"
2. "What are the characteristics of community-based literacy programs?"
3. "What is the relationship between student and program characteristics to outcome?"

Answers to these questions were expected to provide community-based literacy programs with a better understanding of student and program characteristics that relate to successful outcomes and potentially guide the development of best practices.

The Factors Affecting Success Study

The FAS project was intended to take place over two years. The first year (Phase 1) of the project started with a review of the literature related to the research questions (see Appendix A). This information would provide the foundation for the current study. Also, Phase 1 was to see the development of tools and procedures for data collection, such as a process for recruiting participants, the adoption of survey forms suited to the goals of the project, the development of mechanisms for confidential reporting of data, and the development of a method for tracking participants. Ethics approval for conducting research with human participants, data collection, data analysis, and the reporting of the research findings were expected to occur during the second year (Phase 2) of the project.

However, several methodological issues unforeseen at the beginning of the project had to be considered, extending some of the Phase 1 activities into the second year. It was clear from the literature review that the existing studies were inadequate for establishing what might eventually be considered best practices in adult literacy; that is, determining what works for whom. The emphasis on student vulnerabilities and the general lack of information concerning outcomes were major shortcomings of the literature. This situation required that much work be done to develop methods for gathering information that reflected this new direction. For example, there did not exist in the literature survey forms that could be adopted to collect data to meet the goals of this project. As such, it was necessary to develop data collection forms “from scratch” that reflected the variables of interest.

Whereas it was recognized that there might be risk factors identified that related to outcome, this project placed a greater emphasis on identifying the strengths that students and programs bring to literacy training. To this end, three data gathering forms were created: an Initial Interview Form that focused on student characteristics, goals, and demographic information at or near the time they entered a community literacy program; a Program Practices Form that focused on the characteristics of the literacy program, its staff & volunteers, and the community in which it resides; and an Exit Interview Form that focused on the experiences and outcomes of the student.

Each item in each of the three survey forms was considered carefully with respect to the perspectives and feelings of the potential participants, as well as its relevance to the project goals. Because the quality of the findings would be limited by the quality of the information gathered, this “up front” effort was necessary, especially with an exploratory study of this nature where there was no previous research against which to judge the suitability of the methods to be used.

In order to meet ethical standards for conducting research with human participants, several procedures were required. Before the project could proceed with data collection, the entire research protocol, including the consent to participate forms, the data collection forms, and a description of the research methodology, was submitted to the University of Windsor's Research Ethics Board (REB) for review and approval. This process provided an independent evaluation of the project's merits and ensured that researchers consider the rights and safety of the participants. All university-based research conducted in Canada is expected to adhere to the policies described in the *Tri-council Policy Statement: Ethical Conduct for Research Involving Humans*.¹ Ethics approval was granted in October 2004, which only left six months for data collection. Consequently, a third year (Final Phase) was implemented in order to extend the opportunity for data collection, an important strategy for increasing the number of participants who would enter and then exit naturally from the program during the study period.

The "*Factors Affecting Success Interview Manual*" was developed to standardize the administration of the interviews and the data collection. A copy was provided to each participating agency.

The above procedures were designed to make the goals and procedures of the project clear to those who chose to participate, to optimize the value of the data collected, and to ensure as much as possible that the participants and the information they provided were treated respectfully and confidentially.

Methods

Community based literacy agencies from across the Province of Ontario that provided adult literacy training were invited to participate in the project. Recruitment of agencies began in November 2004 and continued until February 2006. Only after an agency consented to participate, did student recruitment begin. Students were recruited only from agencies that consented to participate in the project.

In order to encourage participation and to help off-set the cost of time involved in conducting the interviews, each site received \$20 for each Initial Interview Form returned and \$10 for each Exit Interview Form returned. If a student agreed to participate, the student had the option to refrain from answering any questions he or she chose, and could at any time request that his or her data be removed from the data set.

¹ *The Tri-Council Policy Statement* describes the standards and procedures for governing research involving human subjects. It involves the policies of the former Medical Research Council (now known as the Canadian Institutes of Health Research or CIHR), the Natural Sciences and Engineering Research Council (SSERC), and the Social Sciences and Humanities Research Council (SSHRC). The document is available online at <http://pre.ethics.gc.ca/>.

It was intended that all of the information gathered would be treated confidentially. In order to ensure that the sites and students could not be linked to the data they provided, Sound Data Solutions (SDS), an independent data management company, was contracted to receive the questionnaires and code the data in electronic form. Either during or soon after the agency survey and student interview surveys (initial and exit) were conducted, the survey forms were mailed directly from the participating agency to SDS. Following the completion of data collection, the complete data set devoid of any identifying information was forwarded to Dr. Casey at the University of Windsor for statistical analysis.

Data Analyses

Descriptive statistics were based on frequency counts and arithmetic (mean) averages of the data gathered from the three survey forms. In some instances, variables (survey items) were recoded or grouped to form new variables for analysis (e.g., certain outcome measures described in this report). When tests of statistical significance (inferential statistics) were appropriate, chi-square tests (frequency data) or t-tests (means) were used. A finding was considered significant if the comparison or relationship met the $p < .05$ level, the conventional level for significance used in the social sciences.

Which variables were subjected to analysis depended on the goals of the project and the sample available for analysis. In some instances, tests of statistical significance were not appropriate because the sample size for analysis of a particular variable was too small. For example, when examining factors associated with success (beginning on page 44), only students who completed their program during the course of this project were included for further analysis. They represented “natural exits” from a program as compared to those who completed an exit interview because the project was coming to a close, but who were going to continue their involvement in their literacy program, presumably because they had not yet achieved their goal(s). Furthermore, students could choose not to answer any question, which would result in a reduced sample size for the survey item of interest. Finally, when items were separated into categories, the number of responses for any item was further reduced. For example, let us say we were interested in knowing whether there was a relationship between a student’s entry LBS reading level (i.e., level at intake) and their perceived achievement of their independence goal. In the current project, there were only 36 students who indicated a goal related to independence and who had an LBS level recorded at intake. The analysis (chi-square test) would involve determining the distribution of students who did and did not achieve their goal (two categories) among the five possible LBS levels (a total of 10 “cells” or groupings). In this case, because the distribution of students was so small in some of the groupings (cells), a statistical analysis, at least in the way described, was not appropriate. For this reason, many variables could not be examined.

Program Practices (Agency) Survey

Participants

There were 22 sites that participated in the project, representing 13 of the 16 regional networks (81%). Ten of the agencies (45%) served an urban area and the remainder (55%) served a combination of urban and rural areas. Together, the 22 sites submitted 257 Initial Interview Forms and 257 final Exit Interview Forms. The number of initial interviews by site ranged from two to 54 (mean = 13.9, SD = 8.4). Just over half of the exit interviews (51.4%) were project initiated, and, as such, represent artificial 'terminations' from the literacy program.

Most sites received funding from the Ministry of Training Colleges and Universities (MTCU) (91%) and student fees (55%). Many also obtained funding from fundraising activities (36%) and from volunteers' membership fees (32%). Few sites received funding from the National Literacy Secretariat (14%) and the United Way (5%)

Most of the agencies were considered to be independent in the community (68%). One was part of an educational institution, one was part of a family literacy initiative and none reported being part of a correctional facility, a public library, or a workplace. Just over a third of the programs (36%) were affiliated with a provincial literacy organization (i.e., Laubach Literacy Ontario, Community Literacy Ontario, Ontario Literacy Coalition) and 23% were affiliated with a national literacy organization.

Board of Directors

All agencies had a Board of Directors (BOD). Most recruited from both their literacy organization and their community (64%), whereas one recruited from their literacy organization only and seven recruited from the community only. Half had student representation on their BOD. All but one had a job description for its board members, and 20 of the 22 agencies reported having bylaws that related to the make-up of the board. Seventeen of the 22 agencies had board members who were involved in orientation to literacy issues when taking office; five indicated that their board members were not involved in orientation. On average, members received 3.6 hours in orientation, ranging from one to 14 hours. As part of their orientation, members received information regarding the program in general (15 of 17 agencies), the roles and responsibilities of a BOD (16 of 17 agencies), the philosophy and goals of the program (16 of 17 agencies), and principles of adult literacy education (12 of 17 agencies). Twelve of 15 agencies provided information in all four areas.

Promotion of Services and Flexibility in Meeting Community and Student Needs

Most agencies used a variety of means to promote their services. These included: newsletters (77%); personal contacts (100%); presentations or speeches to community organizations (86%); brochures, posters, and flyers (100%), and various forms of media, such as Public Service Announcements, newspaper articles, radio, local cable (96%). Other means were also used. These included fundraising events (23%), internet (14%), and direct mailings (5%).

In general, agencies demonstrated flexibility in meeting the needs of their students and community. The majority responded affirmatively when asked the following about their program:

1. surveys the community to find out the needs of learners (64%)
2. allows learners' needs to direct program planning (100%)
3. uses plain language (100%)
4. anticipates barrier to participation and completion (100%)
5. gives support to learners to overcome barriers to participation and completion (96%)
6. is physically accessible (100%)
7. is known to learners (100%)
8. offers instruction at convenient times and days for learners and potential learners (100%)
9. is flexible enough to accommodate a variety of learning differences (100%)
10. is flexible enough to accommodate a variety of goals (100%)
11. helps learners access other learning opportunities (100%)
12. makes referrals to other agencies and organizations (100%)
13. receives referrals from other agencies and organizations (100%)

All 22 programs endorsed either 12 or all 13 items of the above items.

A large majority of agencies were involved in activities designed to gather information in order to evaluate their literacy program.

- surveys and receives feedback from staff/volunteers about learner-tutor matching (86%)

- surveys and receives feedback from staff/volunteers about learner progress (100%)
- surveys and receives feedback from staff/volunteers about professional development needs (96%)
- surveys and receives feedback from staff/volunteers about concerns (96%)
- annually reviews staff goals and achievements (86%)
- annually evaluates personnel, including volunteers (68%)
- publicizes learner and program accomplishments (77%)
- collects testimonials from learners who have gone on to achieve personal success (73%)
- follows up with learners after they have left the program (100%)
- records volunteer participation (100%)

Initial Intake and Assessment Practices

All agencies reported holding a confidential one-to-one interview with students in order to identify and support the students' goals. Most often, this occurred at the initial intake interview (21/22). Many programs (59%) reported holding confidential interviews with the student every three months in order to clarify their goals. Most agencies encouraged the student to take an active part in the assessment process by:

- encouraging students to take part in assessment decisions (96%)
- explaining assessment tools and processes to the student (100%)
- assisting students in collecting work to document effort, progress, and achievement (91%)
- keeping student's work in an assessment portfolio (82%)
- conducting follow-up assessment (82%)

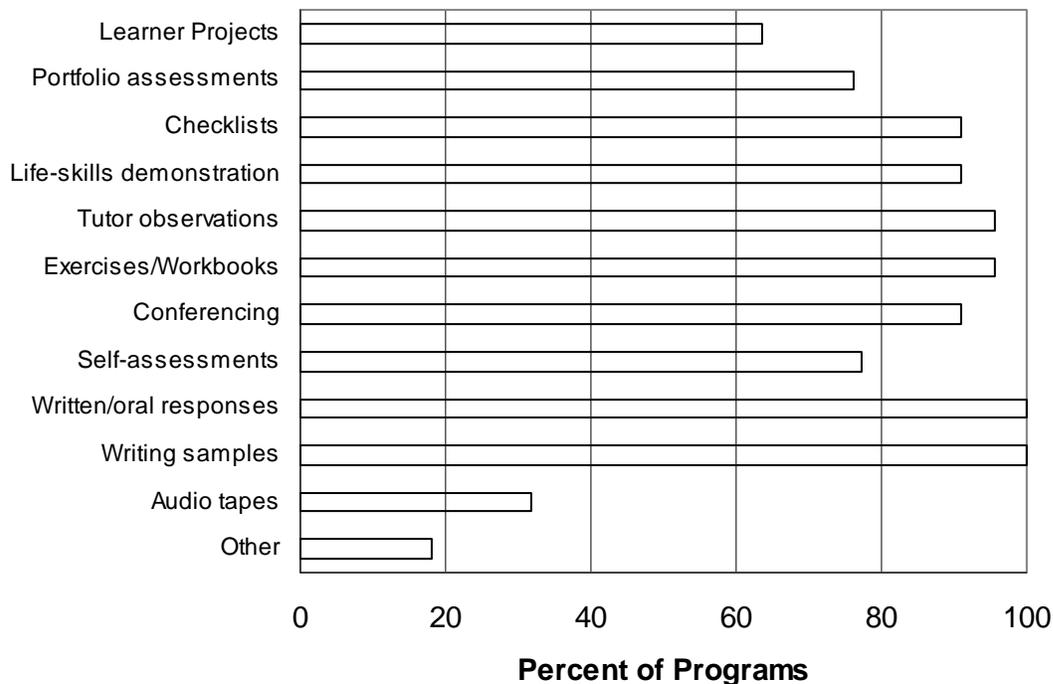
During the initial intake and assessment, agencies reported using a variety of assessment tools. The four main tools reported were the Laubach diagnostic/placement tools (including those associated with Laubach Way to Reading, Challenger, Voyager, Patterns in Spelling and Breakthrough to Math), Common Assessment of Basic Skills (CABS), Canadian Adult Reading Assessment (CARA), and Communication and Math Employment Readiness (CAMERA).

- Laubach Diagnostic/ Placement Tools (14%)
- CABS Common Assessment of Basic Skills (32%)
- CARA Canadian Adult Reading Assessment (14%)
- CAMERA Communication and Math Employment Readiness (9%)

Several agencies reported using a writing sample for assessment purposes. Examples of writing samples considered include the personal information form completed by the students, free form writing, and writing in response to a specific topic. Common assessment tools were developed within some local regions. As well, materials which were not part of the common assessment tools noted above, but which were related specifically to the student’s goals, were often employed.

Typically, many methods were used to measure student progress. All programs indicated that they recorded changes in student behaviour and attitude, encouraged their students to record their new uses of literacy skills, and gave feedback of assessed progress. Most (59%) encouraged the students to record their own changes in behaviour and attitude. Other methods used are illustrated below.

Measures of Learner Progress



Seventy-three percent of the programs completed ongoing assessments after three months of involvement, and this assessment was usually done by the instructor (73% of programs).

Most programs encouraged students to take an active role in their learning and literacy organization. All programs encouraged life long learning. Most programs encouraged the students to take part in designing their own learning (96%), involved students in program development (82%) and evaluation (82%). All programs indicated that they used a variety of instructional approaches to accommodate individual learning needs or styles.

Instructional Delivery

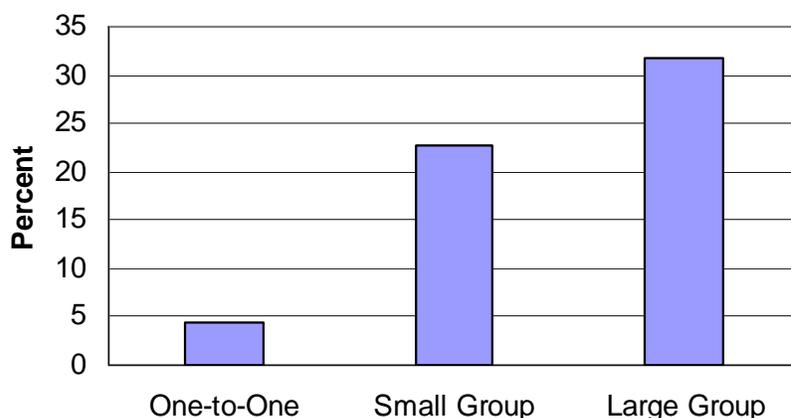
Twenty-three percent of programs (5/22) had four paid instructors, with 73% having three or fewer. Four programs had no paid instructor (18%). Overall, there was an average of 2.8 paid instructors and 37.5 volunteer tutors per site.

Fifty-five percent of agencies (12/22) required their paid instructors to participate in training prior to instructing: 4/12 involved 5-10 hours, 3/12 involved 11-15 hours, 4/12 involved 16-20 hours, and 1/12 involved over 20 hours. Eighty-two percent of agencies (18/22) required their volunteer tutors to participate in training prior to tutoring: 5/18 involved 5 – 10 hours, 7/18 involved 11 – 15 hours, and 6/18 involved 16 – 20 hours. Over half the agencies (59%) required their instructors to participate in ongoing professional development, whereas approximately one-third (41%) required their volunteers to participate in ongoing professional development.

The agencies included a variety of topic areas in their professional development, including initial training in the use of tutoring materials (91%), adult learning principles (91%), setting goals and designing lessons (96%), assessing learning and progress (82%), learning disabilities (86%), spelling (86%), and numeracy (77%). Fewer programs included training in basic computer skills (59%). Most practitioners obtained their professional development through their local network (96%), their own organization (86%), or a provincial organization (82%).

Of the various modes of instructional delivery, 19 agencies (86%) included one-to-one, 17 included groups of two to five students (77%), and 14 included groups of six or more students (64%). The larger the ratio of practitioner to student, the greater the percentage of program delivery by paid instructors (see chart below).

Program Delivery by Paid Instructors According to Class Size



Just over half (55%) of the agencies offered both one-to-one and small group instruction based on individual client need. In some agencies, students progressed from one-to-one to small group. In others, the two modes of instruction were offered simultaneously, either separately or with individualized instruction within the small group setting. Four agencies primarily utilized large group instruction with one of the four also offering one-to-one tutoring as an option. Because programming is tailored to meet individual need, in most agencies there was not a single set practice; instead, it varied from client to client. The individual student's needs, which determine the instructional focus, can range from the type and level of instruction required (literacy, numeracy, computers, specific work related skills) to a time requirement for involvement within a literacy program (Ontario Works, Workplace Safety and Insurance Board or WSIB).

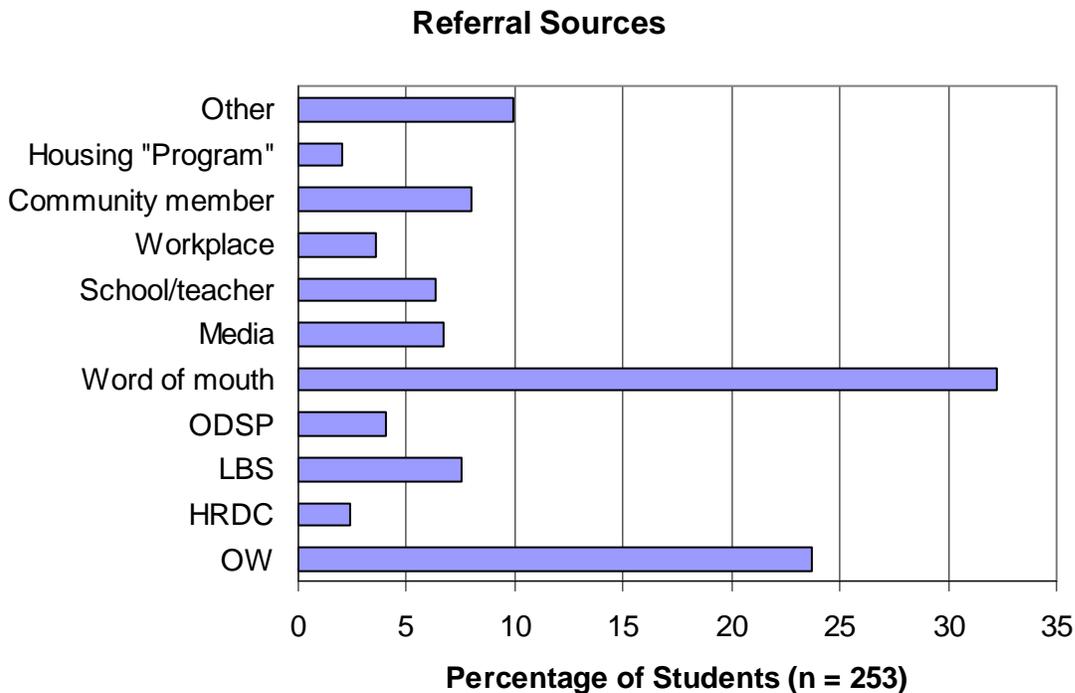
In general, most agencies made available many opportunities for students to apply their newly learned literacy skills. All agencies provided students with a wide variety of materials that are relevant and interesting; accommodated different learning styles, needs, and interests; and actively promoted lifelong learning. All programs respected the diverse experiences, backgrounds, and goals of students. In addition, most agencies provided students with computer-assisted learning (96%), encouraged practitioners to help students review goals continually and to revise them as necessary (96%); and implemented measures that supported the development of transferable skills (91%).

Initial Interview Survey

Basic Information

Data based on the Initial Interview Form was obtained from 257 students. The average age of the group was 36.2 years. Students ranged in age from 15 to 77 years, with approximately half of the sample between 25 and 46 years. Males and females were similarly represented (52% and 48%, respectively). The vast majority of students reported English as their first language (77%). Four percent reported that their first language was Native and 3% percent reported French. Just over half the students were single (54%). Eighteen percent of students were married and 12% had a partner. Fifteen percent were either separated or divorced.

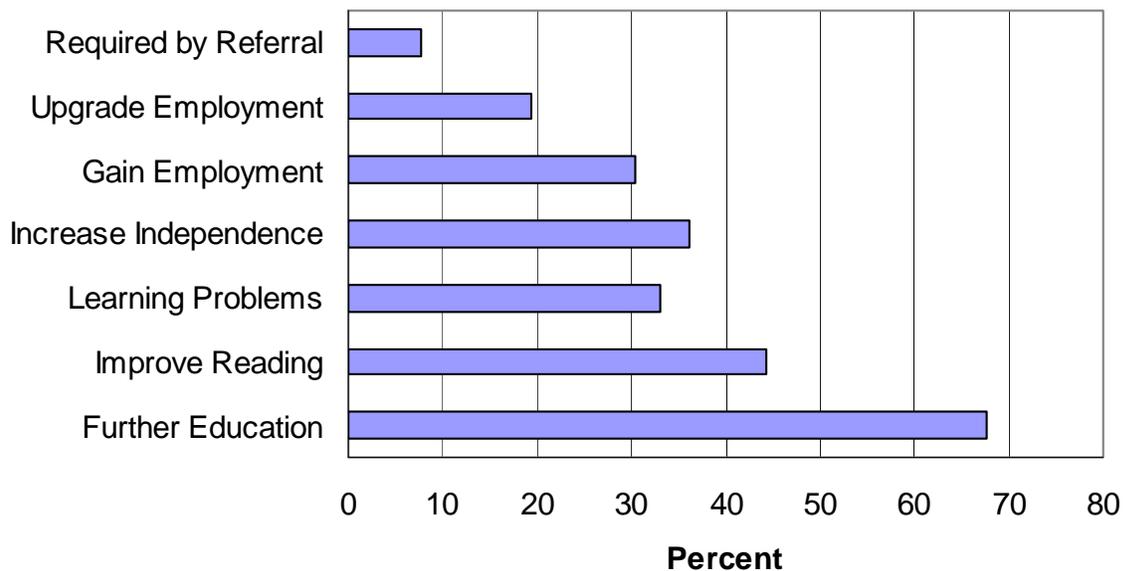
Many students came to a literacy program through self-referral. Approximately one-quarter of the students were referred from Ontario Works, with approximately 80% of these students being required to attend in order to receive their monthly allowance.



Many reasons were cited by students for attending a literacy program. Many students wished to further their education (68%). Approximately one third of students indicated that they attended due to learning problems. Forty-four percent indicated that they wanted to improve their reading skills independent of any functional benefits, whereas

36% wanted to improve their reading skills in order to increase their independence in everyday activities that related to reading, such as reading labels, road signs, and learning to drive. Almost a third hoped to gain employment and approximately 20% sought literacy support in the hope of upgrading their employment. A small proportion indicated that they were required to attend by the referral source. Three students were attending due to what was considered a crisis. One student was unable to do his/her previous job due to accidental injury, and one was attending because of a panic disorder.

Reason for Attending a Literacy Program



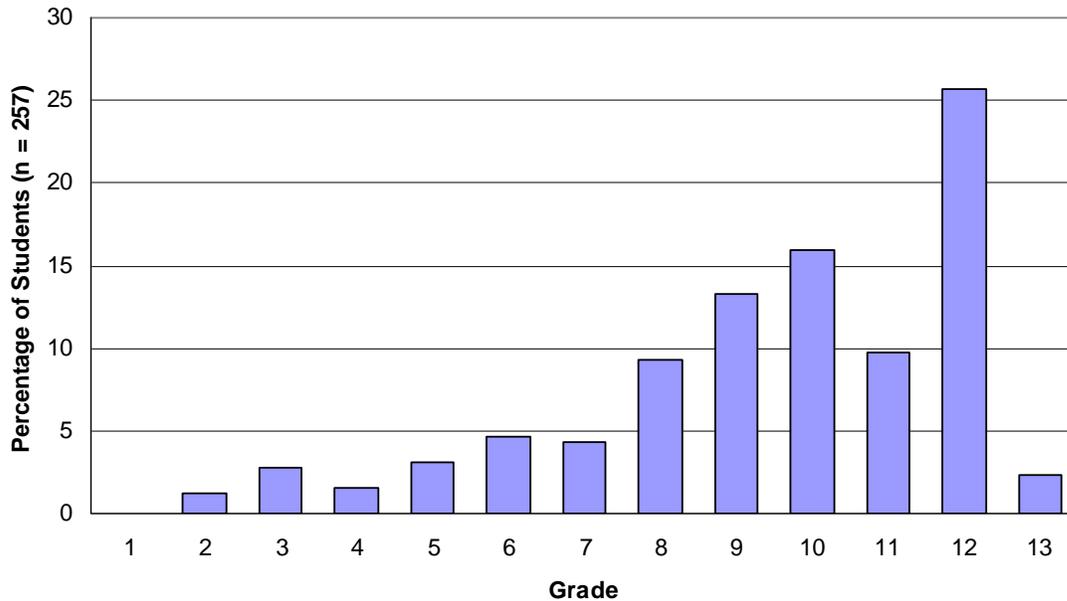
Education

Just over three-quarters of the sample was educated in Canada (78.5%). Of those that were not (54), the largest group was educated in Jamaica (11), followed by Mexico and Trinidad (4 each).

Just fewer than half the sample completed Grade 9 or less (43%). Just over a quarter of the sample achieved a Grade 12 diploma or OAC. Of the reasons cited for leaving school prematurely, seeking employment to support oneself or family was the most common (16%). Eleven percent of the sample indicated that they had quit because they were failing in school and 10% left because they were not encouraged to attend. Seven percent left to care for a family member and 8.9% left for financial reasons. Less common reasons for leaving prematurely included social difficulties (6.2%), pregnancy

(4.7%), illness (4%), bullying (5%), expulsion (4%), and lack of transportation (1.9%). Twenty-nine students (11.3%) indicated that they had skipped a grade and 94 students (66.6%) indicated that they had repeated a grade.

Last Grade Completed

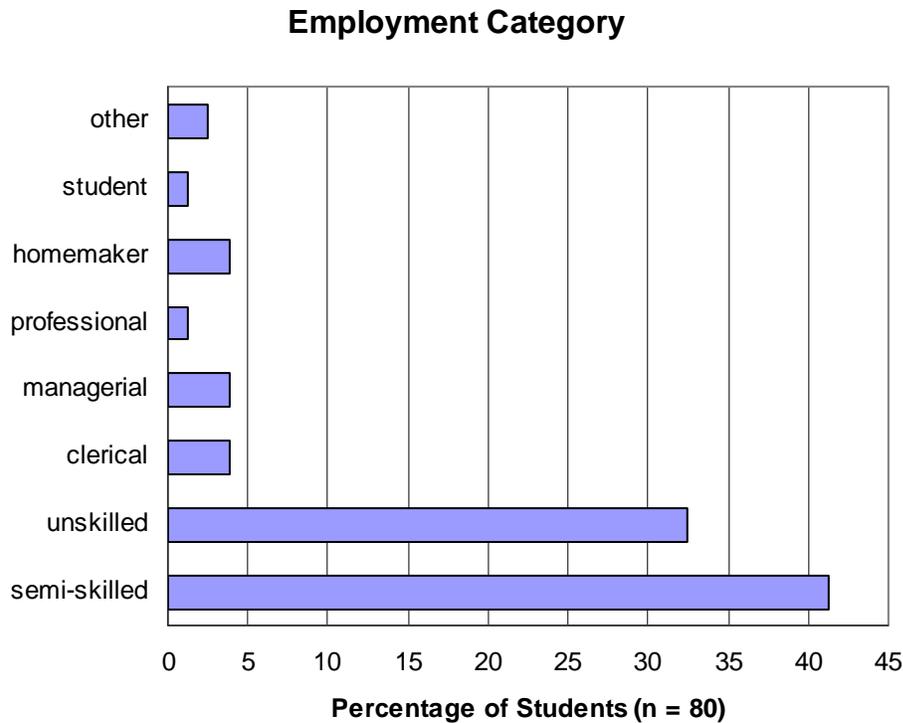


In general, students were stronger in elementary school subjects that placed less emphasis on the “3Rs.” Approximately a third or more of the sample indicated ease with physical education (54%), art (43%), math (39%), reading (32%), and/or music (32%), whereas approximately a third or more of the sample indicated difficulty with reading (52.5%), writing (51%), math (49%), grammar (40%), and/or science (33.5%).

A large minority of students received some special education help in school (45%) and 15% received some form of support outside of school, such as tutoring or after-school programming. Few attended college or university (15%), and nearly half the sample of students (45%) considered themselves to have a learning disability. One-third of the entire sample indicated that they had received such a diagnosis, although the majority of the students either did not indicate who made the diagnosis or they did not know.

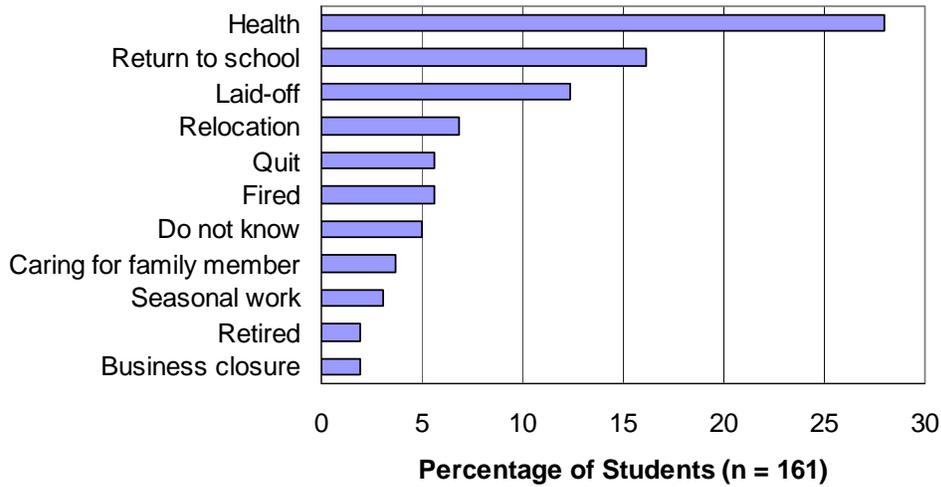
Employment

Nearly one-third (31%) of the students were employed at the time the initial interview was completed. Of those employed, most were involved in semi-skilled (33/80) or unskilled work (23/80). The mean average number of hours worked per week was 32.4, with a range of 2 to 140 hours per week. The average length of time with the current employer was almost 4 years (44 months).



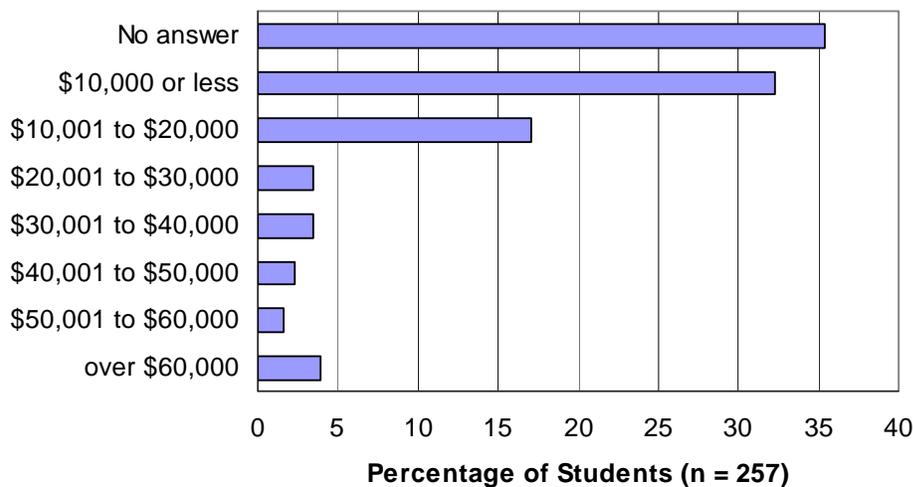
Thirty-six participants who were unemployed at the time of the initial interview had been employed at some point in the previous 12 months. Several reasons for current unemployment were given, although most indicated that they were not working for health reasons, lay-off, or a return to school.

Reason for Unemployment



Fifty-nine percent of the students considered themselves to be the primary wage earner in the family. The most common sources of income were wages and salaries (41%), Ontario Works (32%), the Ontario Disabilities Support Program (27%), and the National Child Benefit (12%). Six percent received income from self-employment, 7% from CPP, 4% from employment insurance or strike pay, 4% from family members, 4% from Old age security, 4% from RRSP, and guaranteed income supplement, and 3% from WSIB. The majority of the participants had a family income that was \$20,000 or less. Twenty-nine percent did not indicate their family income.

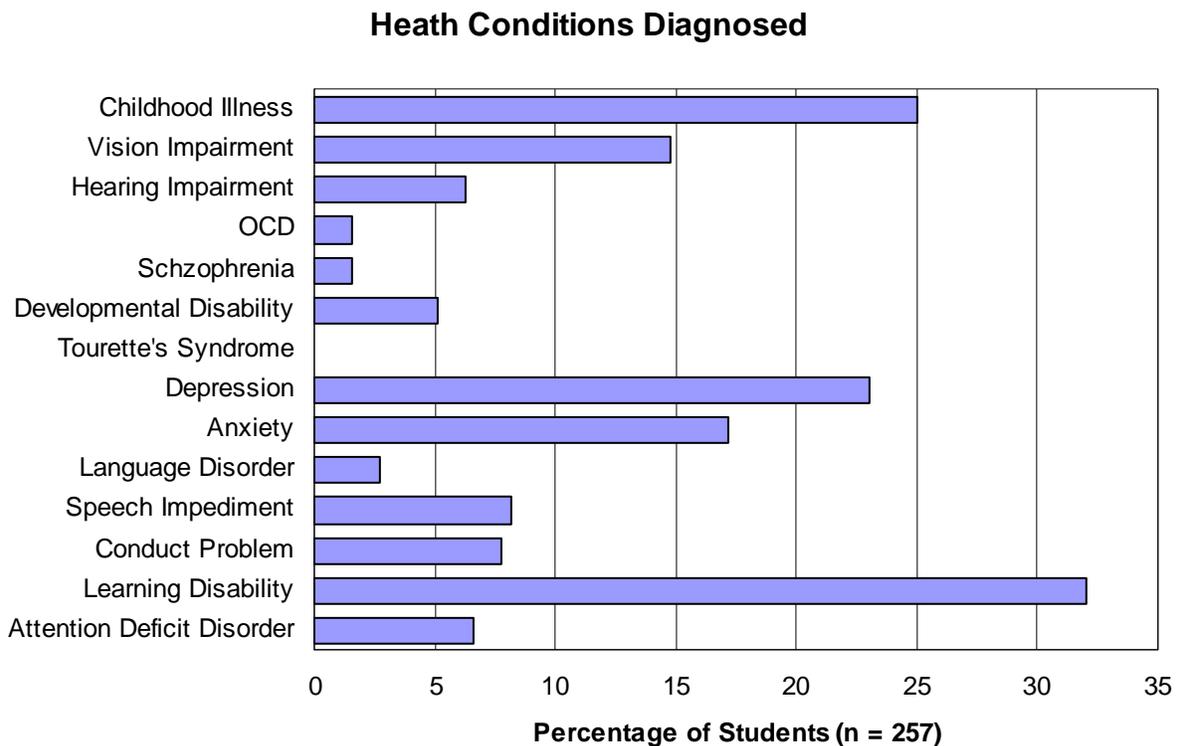
Total Family Income



Health

Most participants considered themselves to be in good, very good, or excellent general physical health (77%). Most had not been a hospital patient in the previous 12 months (86%). Forty percent were on medication. Among the more common reasons were high blood pressure, depression, anxiety, and asthma.

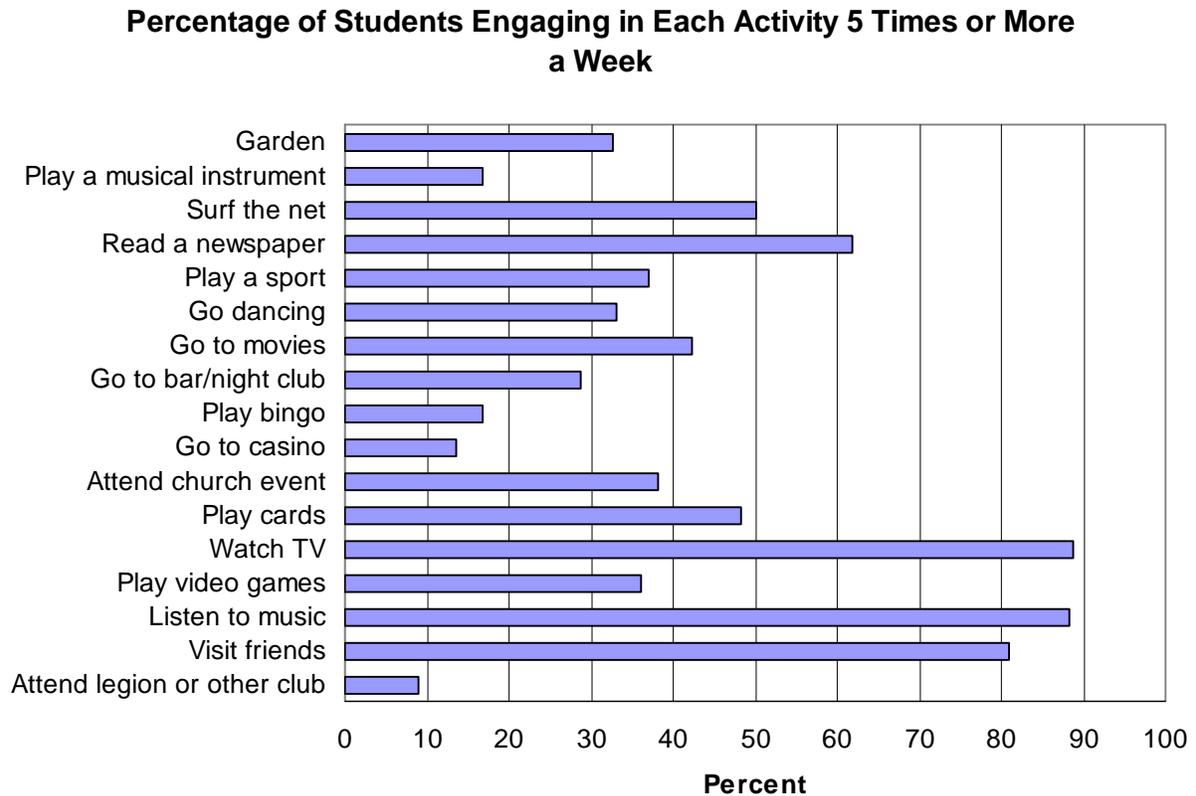
About one-third indicated that they had been diagnosed with a learning disability (LD), the most common diagnosis among the conditions surveyed. Other common conditions diagnosed at some point in life included childhood illnesses, depression, vision impairment, and anxiety. Less common were conditions such as Obsessive Compulsive Disorder (OCD), schizophrenia, and Language Disorder. No one indicated a diagnosis of Tourette's syndrome.



In terms of treatment or counselling, the rates were greatest for career counselling (23%), depression (23%), nervousness/anxiety (14%), anger management (13%), marriage or family counselling (9%) and parenting skills (9%).

Social and Leisure

Students took part in a variety of social and leisure activities. The chart below indicates the percentage of students that participated at least five times in the past year in the activities surveyed.



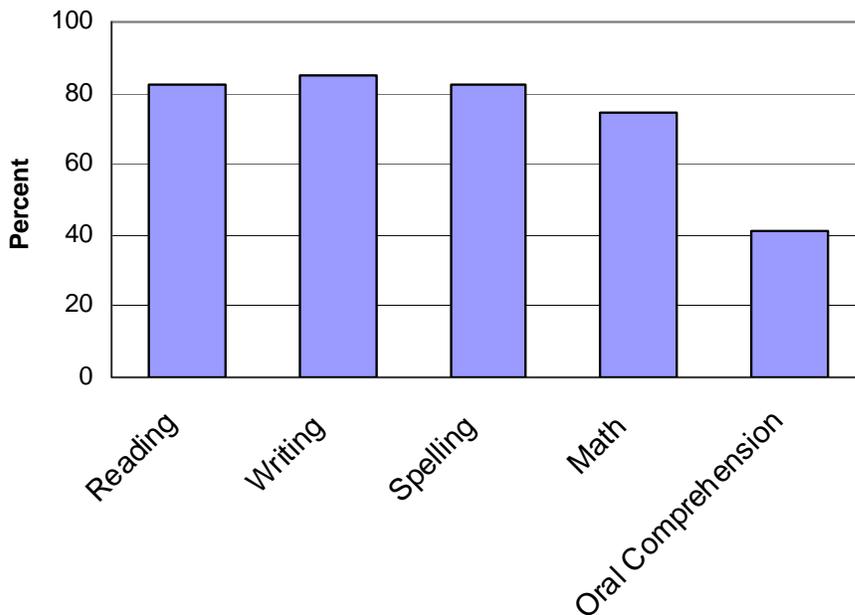
Most of the students considered themselves good at cooking (63%), and many thought they were good at home repair (35%), crafts (25%), sewing (24%), and woodworking (26%).

The most common means by which students usually got around town were walking (53%) or taking a bus (45%). A little over a third of the group indicated that they usually get around by driving a car (36%), with fewer usually riding with others (27%) or riding a bike (20%). Approximately 9% indicated that they usually took a taxi.

Learning Goals and Options

A large percentage of students wanted to increase their skills in all traditional academic areas, the so-called “3Rs.” Fewer wished to target their oral comprehension skills. The percentages were as follows:

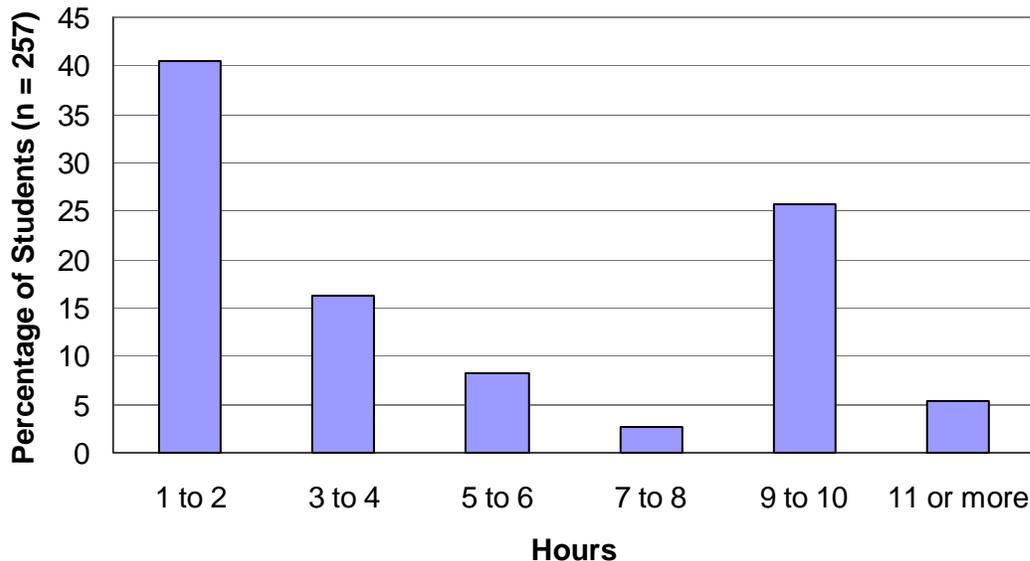
Specific Academic Skills Targeted for Improvement



Students were asked to indicate which type of instruction they would prefer: one-to-one, small group (two to five students), or large group (six or more students). They could choose more than one type. On entering the literacy program, most students indicated a preference for one-to-one tutoring (69%). Thirty-seven percent indicated a preference for a small group format and 16% indicated a preference for a large group format. For the vast majority (80%), it did not matter if the tutor was a male or female, whereas three percent of the students preferred a male and 17% preferred a female. For most (63%), it did not matter if the tutor was a smoker or nonsmoker, although a fairly large minority indicated a preference for a nonsmoker (31%). Daytime hours, especially in the morning (47%), were preferred for tutoring sessions, with evenings (17%) and weekends (4%) being less popular preferences.

There were two peaks (a bimodal distribution) with respect to the number of tutoring hours expected per week. A large minority expected to receive 9-10 hours per week, whereas another large minority expected to receive between 1-2 hours per week.

Expected Number of Hours a Week of Tutoring

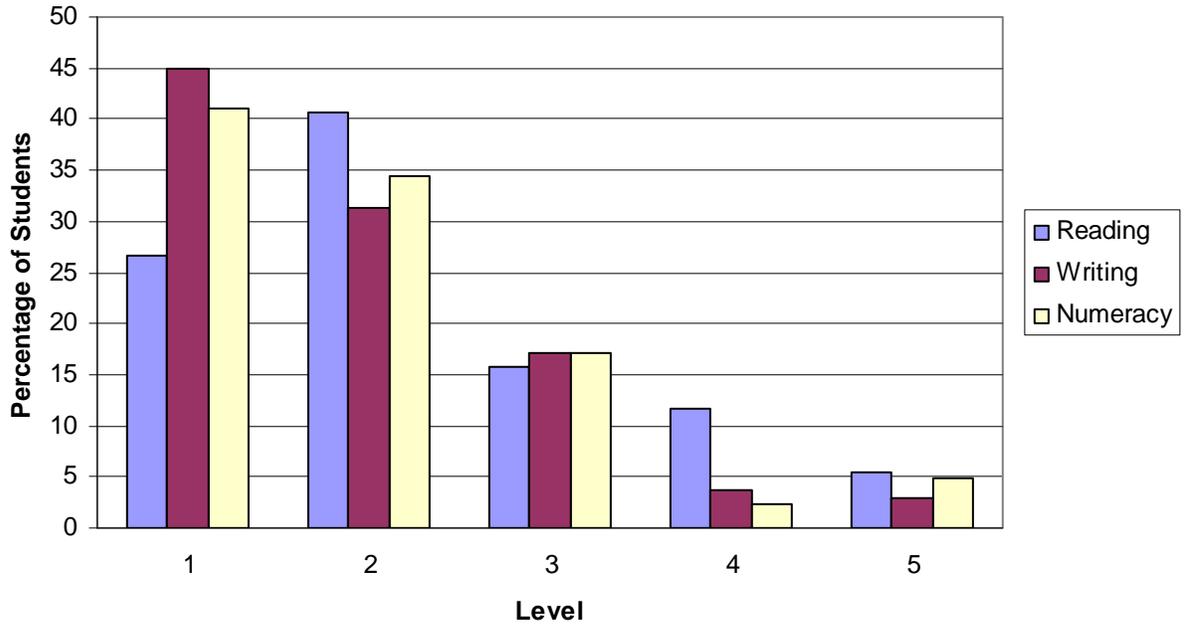


Forty-one percent required transportation and 9% required childcare in order to attend tutoring. Other needs included care for a parent (1 student), sufficient time (2 students), a phone for arranging a ride (1 student), and money (3 students).

Literacy Levels

The reading, writing, and numeracy skill levels for most students were assessed on entry to the literacy program. Of the 257 students in the sample, the numbers by skill area were: Reading, 241; Writing, 245; and Numeracy, 209. Sixty-seven to 76% of students were achieving at a level 1 or 2 at the time of entry, depending on the skill area assessed. On average, skill levels were as follows: Reading, 2.29; Writing, 1.88; and Numeracy, 1.95. The graph below depicts the percentage of students at each skill level for each area assessed.

LBS Skill Levels

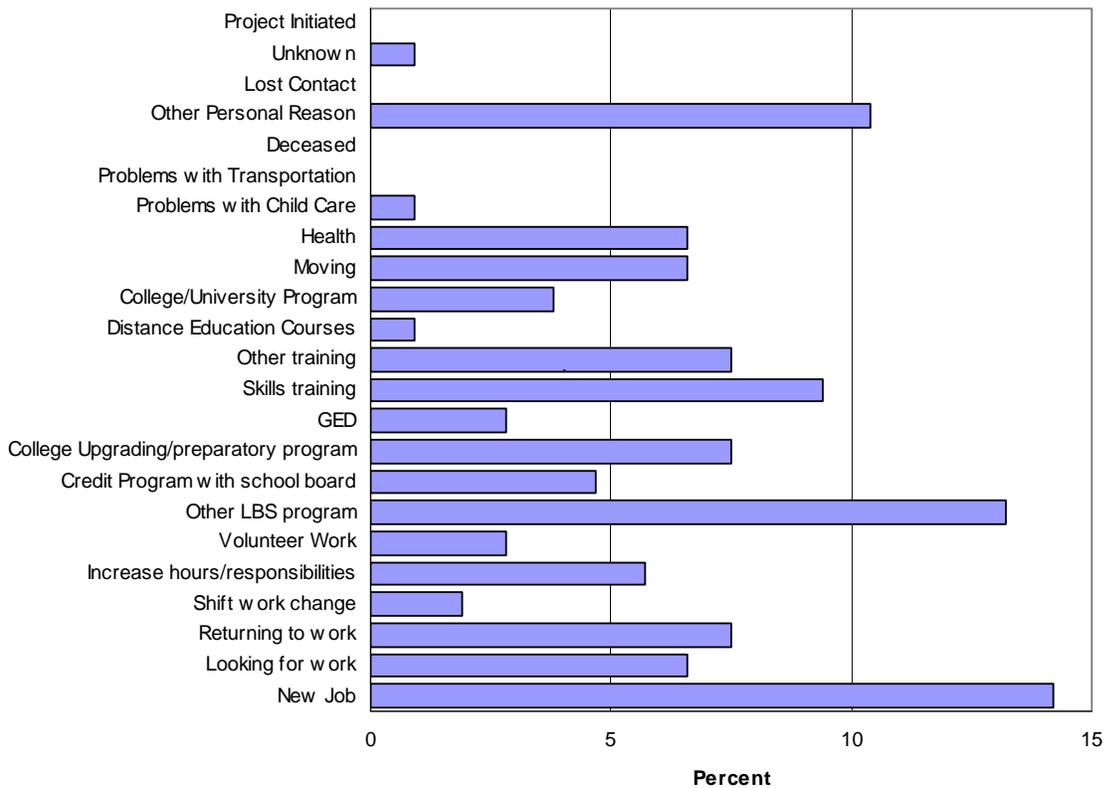


Exit Interview Survey

Of the 257 exit interviews collected, 132 were projected initiated exits; that is, the students were continuing their involvement with their literacy program but were asked to complete an exit interview for the sake of the data collection. It is reasonable to assume that the data from the artificial exits would not accurately reflect the effectiveness of the literacy programs because the students had not yet completed their programs. Of the remaining 125, 18 participants ceased contact and one participant was deceased. For 82 of the remaining 106 students, it was their first time in a literacy program. The following descriptive statistics are based on the data obtained from the 106 natural exit interviews.

The average length of time in a program was 8.0 months (SD = 8.3), with a range of 11 days to 58 months. Twenty-two percent of the students left the literacy program because they either returned to a former job or found new work. In addition, many students left for other training or education reasons. The figure below illustrates the percentage of students that left for the various reasons indicated on the Exit Interview Form.

Reasons for Leaving Program Among Natural Exits (n = 106)



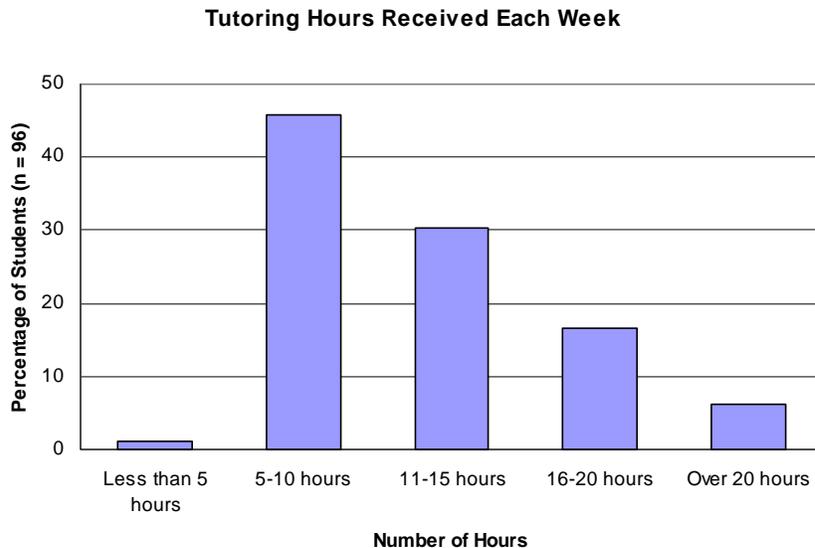
Ninety-three percent of the sample indicated that the person closest to them knew that the student was involved in a literacy program and most felt that the person’s support was helpful in their achieving success in the program. Asked how helpful the person’s support was in helping the student achieve success, over half of the sample endorsed the highest rating (on a scale from 1 to 10). Eighty-two percent endorsed the highest four ratings (i.e., 7 to 10), whereas only 3% endorsed the lowest four ratings (i.e., 1 to 4).

Instruction and Materials

The vast majority of students indicated that they received training in literacy (reading, writing, spelling, and grammar; 75%). A somewhat smaller proportion (58%) received training in numeracy, and about 45% received training in basic computer skills.

Forty-three percent of students had literacy programs that involved one-to-one tutoring. Duration ranged from one to 70 months, with a mean average of 8.6 months. All but three felt encouraged and supported by their tutor(s). Of the students who received one-to-one instruction, 67% had one tutor, 14.5% had two tutors, almost 13% had three tutors, and 1 student each reported having 4, 5, and 8 tutors.

Seventy percent of students were involved in group or classroom instruction. The duration ranged from zero to 28 months, with a mean average of 8.6 months. Of those that replied to this item (n=67), all but one felt encouraged and supported by their instructors. Most students (76%) received between five and 15 hours of instruction a week (see figure below). Eighty percent received homework, whereas 20% did not. Number of hours of homework a week ranged from 0 to 25, with a mean average of 4.8 hours.

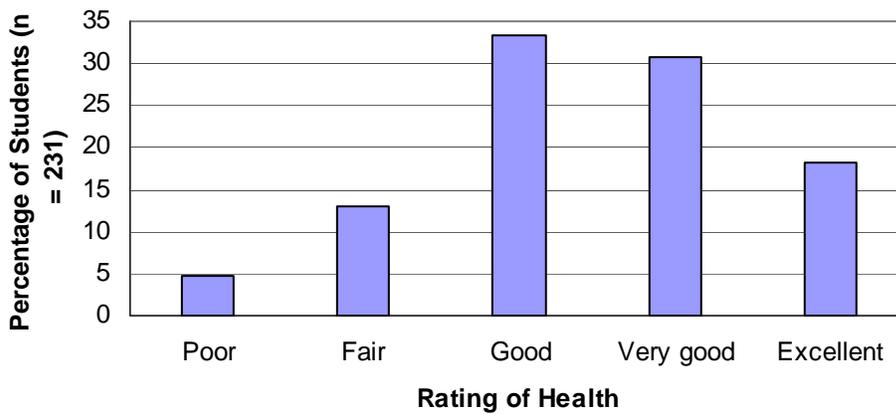


Most students thought that the literacy program had enough books and resource material available for use (81% of students), whereas only one student thought it was inadequate. All students who responded indicated that the materials were suitable for their needs and learning goals.

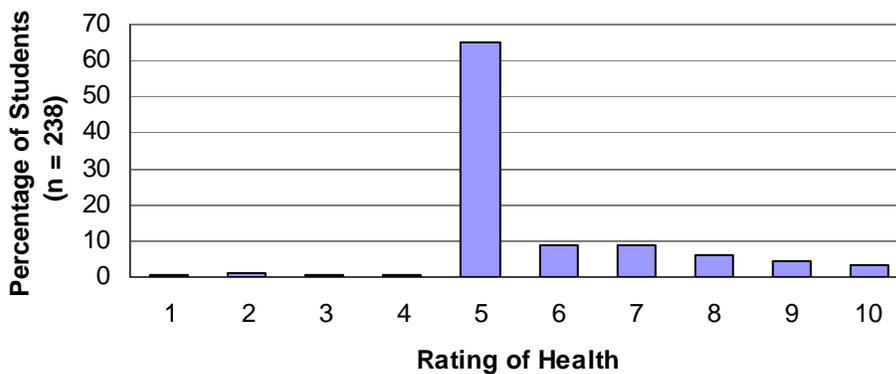
Health

The vast majority of students rated their health as at least good (85%). Sixty-five percent thought that their health did not change over the course of their literacy training (a rating of 5), whereas some 31% thought their health had improved.

Rating of Overall Health at Time of Exit



Rating of Health Change at Exit From Literacy Program



Future Plans

Some 77% of students planned to take more courses or training in the future. Eighty-three percent indicated that they had been supported by the literacy program in terms of being given information about future courses, making choices about future courses, or being given options about future courses. Only five students indicated that they had not been given such support.

In response to questions regarding the types of courses they planned to take in the future, they indicated the following:

Item	Percent
More literacy/numeracy courses	39
High School credit courses	18
Apprenticeship or trades training	17
Correspondence or distance education courses	7
Don't know	4
English as a Second Language	0.8
Other	11

When asked about employment plans, students indicated the following:

Item	Percent
Seek a job	33
Remain at my current job	14
Not sure	12
Change to part-time work to take further training or schooling	10
Seek a different job	4
Start my own business	4
Quit my job to return to school or get further training	4
Change my occupation	3
Quit my job to remain at home full-time	0
Other	5

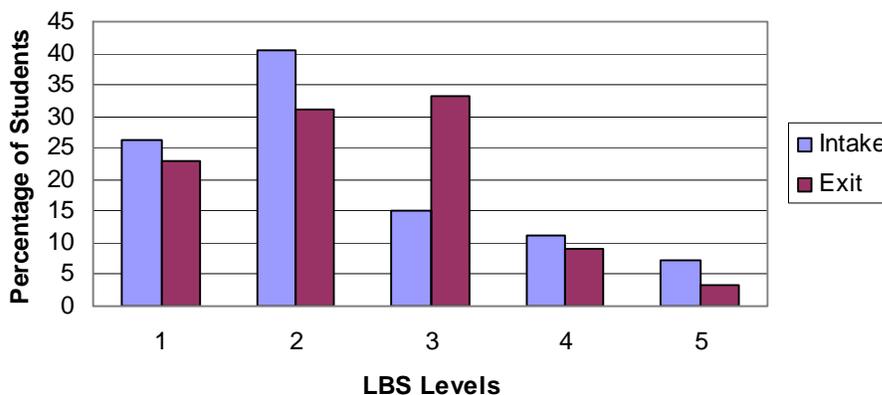
Indicators of Success

For the purpose of evaluating student progress, only data from the sample of 106 students who exited naturally from an LBS program were considered. Indicators of student success were classified into two general categories: objective and subjective. Objective indicators pertained to the students' performance in the measured literacy areas of reading, writing, and numeracy.

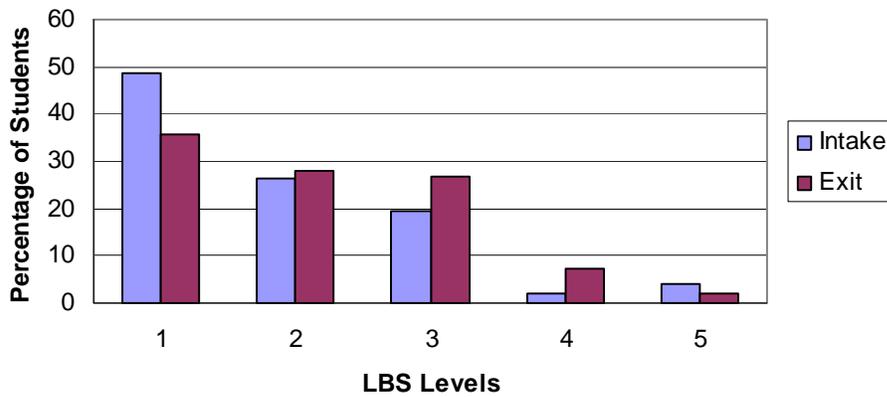
Objective Indicators of Success

One indicator of progress was to compare their LBS levels in reading, writing, and numeracy when they entered a literacy program to their levels when they exited from the program. Three methods were used to compare intake with exit skill levels. One was to compare distribution of students across the three skill areas; that is, comparing the number of students at each level at intake to the number of students at each level at the time they finished the program. Of the 106 exit surveys, the number of students for which measured levels were available at both intake and follow up was as follows: Reading, 87 students (or 82% of the 106); Writing, 93 (or 88% of the 106); and Numeracy, 90 (or 85% of the 106). Sixty-seven to 79% of students were achieving at a level 1 or 2 at the time of entry into a program, depending on the skill area assessed. When exiting the program, 54% to 70% were achieving at level 1 or 2. Averaged across the three skill areas, 17% of the students were at level 3 at intake, whereas 29% were at level 3 at exit. These figures are based on all participants completing the surveys at each point in time for which data were available and do not take into consideration their personal literacy goals (e.g., improve reading skills). The three graphs below depict the percentage of students at each skill level for each area assessed at the initial interview and at the exit interview.

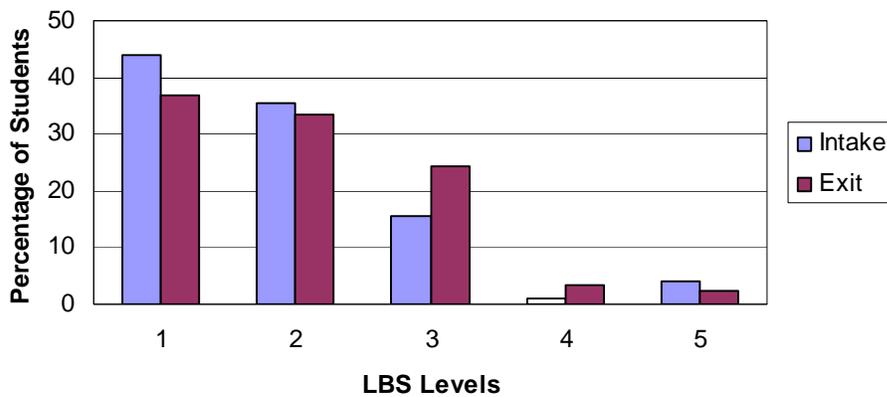
Change in Reading Level



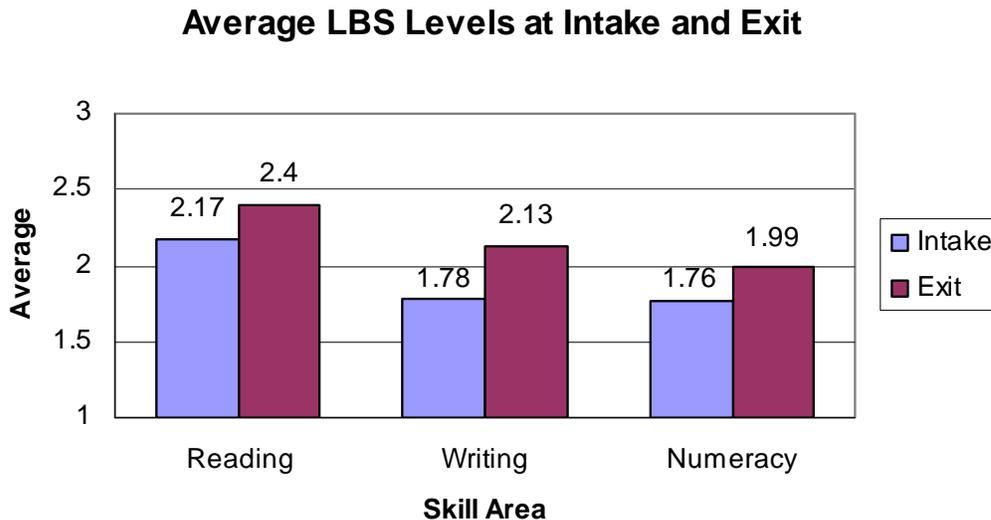
Change in Writing Level



Change in Numeracy Level



A second method was to compare the average skill level (numerical mean) in each area at intake and exit. These data are illustrated in the figure below. Although the average gain in each skill area was small, each change was statistically significant.



A third objective indicator of a student's progress was defined as the number of students who made positive movement from one skill level to a higher skill level, regardless of the number of levels gained. Students were categorized as either having made improvement or not. In order to be categorized as improved, a student had to make a net improvement of at least one LBS level after collapsing across all three skill areas measured (i.e., reading, writing, or numeracy). Examples of improvement would be if a student moved up one level in reading, but made no change in either writing or numeracy or if a student moved up one level in reading and writing, but down one level in numeracy. No improvement was defined as no net improvement or a net decline. By this definition, 45 of 95 students (47.4%) were categorized as improved and 50 of 95 (52.6%) were categorized as not improved. Analyses examining the predictors of success were based on the categorization of success. These analyses and accompanying interpretations are presented in the section, *Factors Associated with Success*.

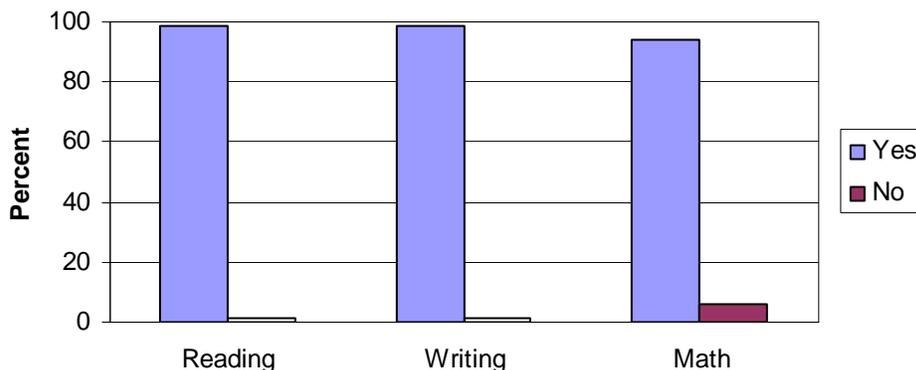
Gaining employment could also be considered an indicator of success. Twenty three of the 106 students (22%) discontinued their involvement with a literacy program because they found a new job or returned to a former one.

Subjective Indicators of Success

Self-Assessment of Skill Improvement

Subjective data pertaining to success were obtained from the Exit Interview Form. Virtually all students, 97%, indicated that attending their program was a good use of their time. Only three students indicated the program was not. In general, a considerable majority of participants indicated that from their point of view their skills in reading, writing, and math had improved as a result of their involvement in literacy training.

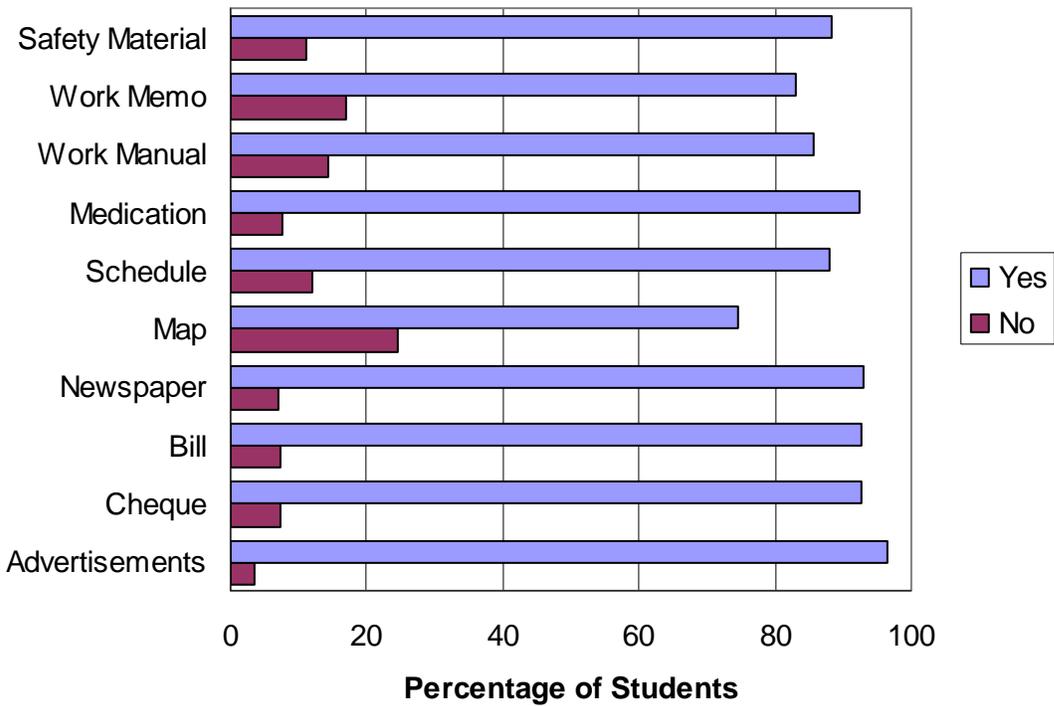
Self-Assessment of Skill Improvement in Reading, Writing, and Math



Most, usually 80% or more, thought that they improved in a variety of functional reading and writing activities, such as reading safety materials, medication labels, and newspapers, as well as filling in a form and writing cheques and notes. Similarly, almost all students reported improvement in areas pertaining to other personal and adaptive skill areas.

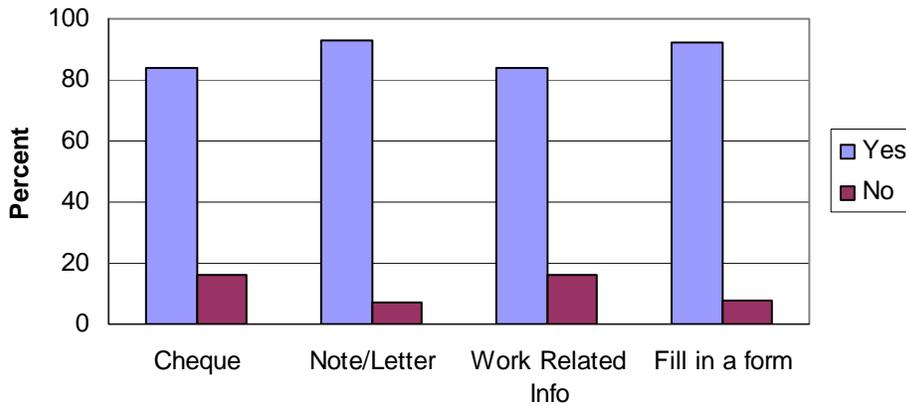
When considering specific activities related to reading, many students thought that improvements were made. In all but one area (reading maps), improvements were reported by over 80% of the students. These figures are illustrated in the graph below.

Improvement in Reading Activities



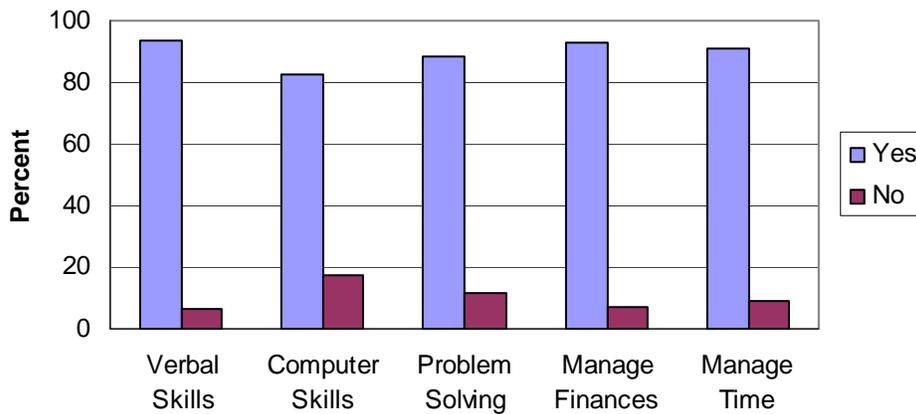
When considering specific activities related to writing, again, over 80% of the students thought that they had made improvements in all areas sampled. Their responses are illustrated below.

Writing Activities

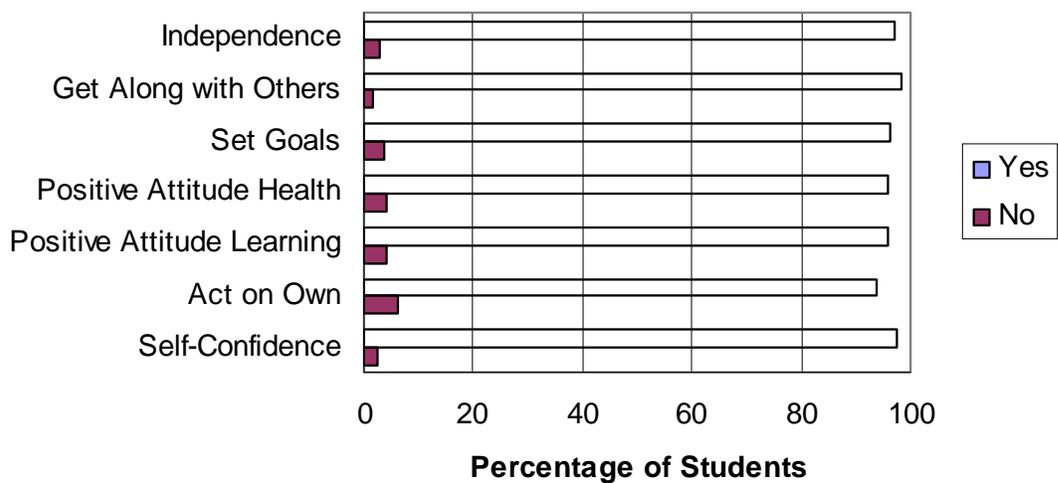


Improvements in other skill areas were also reported, as well as in personal and adaptive skill areas. In addition, students reported a more positive attitude toward their learning and health. Data related to these concerns are illustrated in the two graphs that follow.

Other Skill Areas



Personal and Adaptive Skills



Self-Assessment of the Attainment of Learning Goals

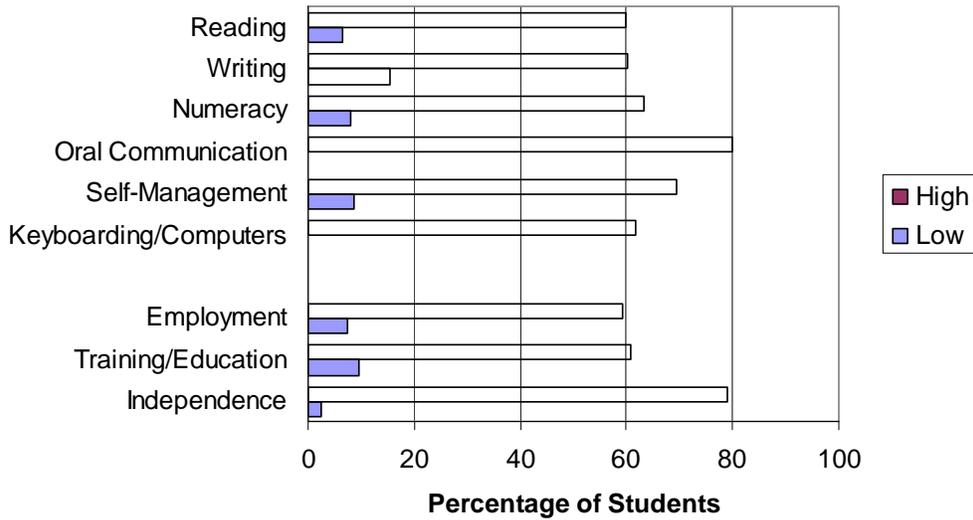
Another important indicator of success was the extent to which a student considered that he or she has attained their own program goals. In the Exit Interview, each student together with the interviewer was to review the student's learning goals recorded in the intake interview. The student and the interviewer were then asked to list up to five of these goals at exit. Then, on a scale from 1 to 10, the student was asked to rate the extent to which they had attained each goal.

Eighty-seven percent of students took part in planning their learning goals, whereas only 5% indicated that they did not. About one-half of the students indicated that their learning goals changed from the ones they had initially identified when they started the program, whereas 44% indicated that they did not. The majority of students had at least three defined goals, whereas 21% also listed a fourth goal and 16% also listed a fifth goal. Many specific goals were identified by students, which are listed in Appendix C.

The student's goals were organized into functional areas to facilitate interpretation. Each goal was put into both a learning outcome goal group (Reading, Writing, Numeracy, Oral Communication, Self-Management and Self-Direction, or Keyboarding and Computer Skills based on *Working with Learning Outcomes: Validation Draft*) and an adaptive goal group (employment, training and education, or independence based on the Information Management System). All students with similar goals were then combined to give an average attainment rank for each goal area. If a student had more than one goal pertaining to a similar category (e.g., two goals related to reading), their ranking for each of their goals were averaged in order to create their reading goal rank.

The distribution of ratings depicted in the graph below indicates that for all goal areas the majority of the students rated their attainment in the 7 to 10 range (labeled High Attainment), whereas few rated their attainment in the 1 to 4 range (labeled Low Attainment).

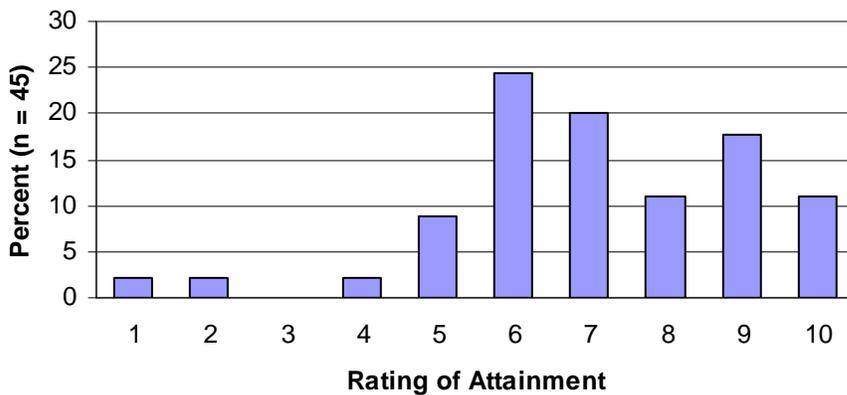
High and Low Goal Attainment Ratings



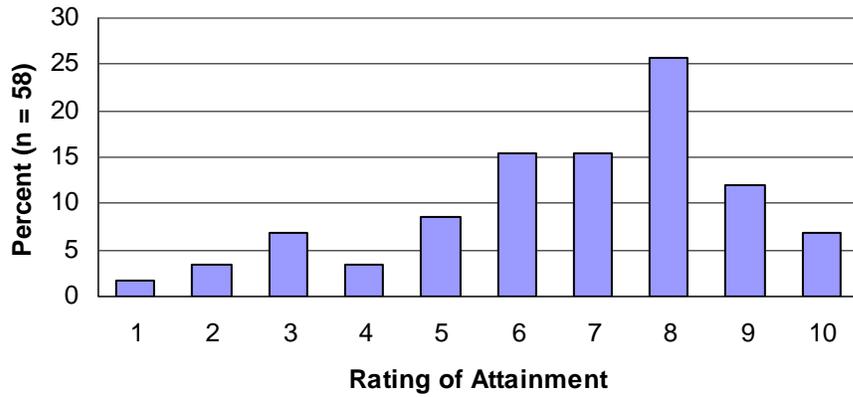
Note: Learning goals = Reading, Writing, Numeracy, Oral Communication, Self-Management, and Keyboarding and Computer Skills. Adaptive goals = Employment, Training and Education, and Independence.

Their ratings of their goal attainment for each of the learning and personal self-management areas are illustrated in the graphs that follow.

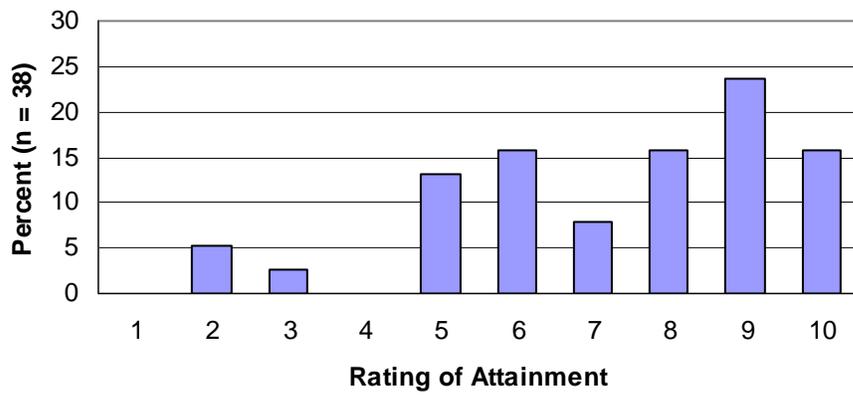
Reading Goal



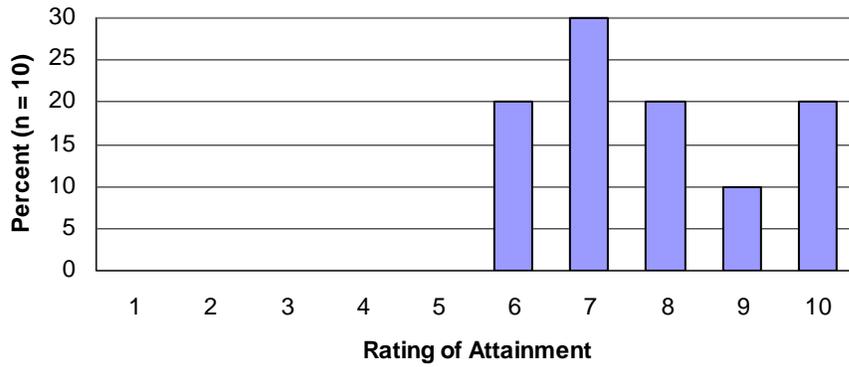
Writing Goal



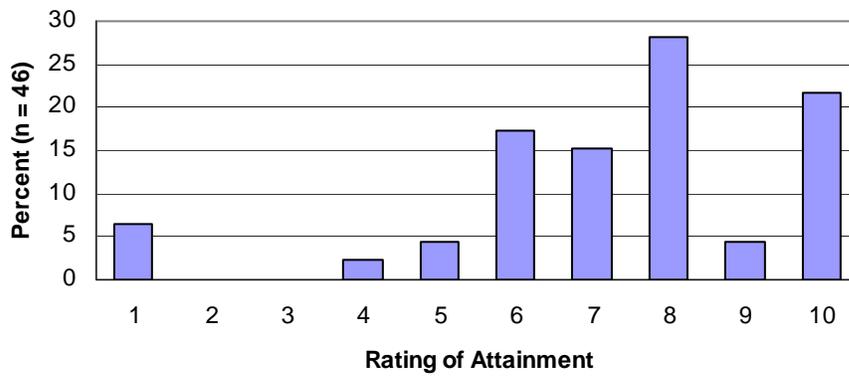
Numeracy Goal



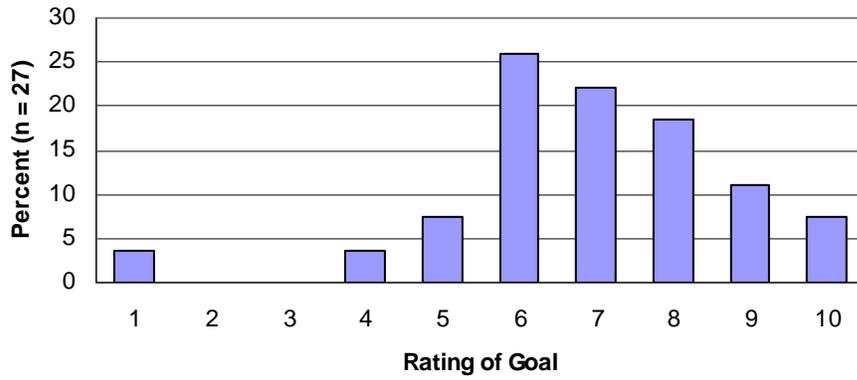
Oral Communication Goal



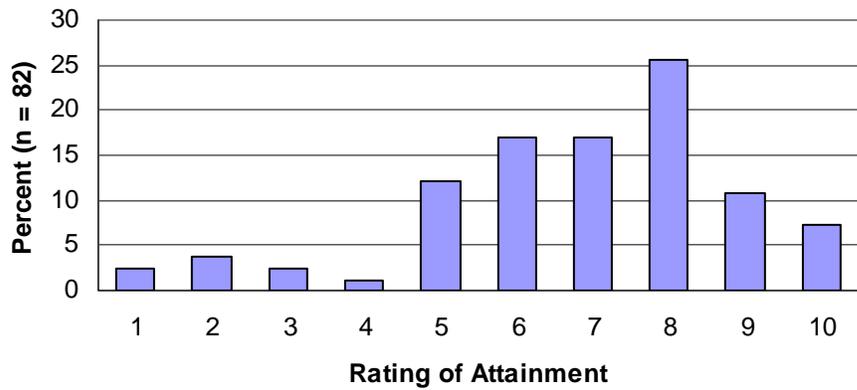
Self-Management Goal



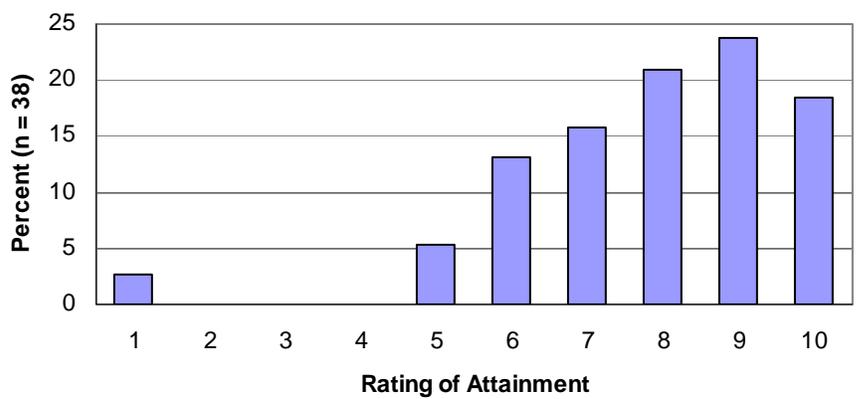
Employment Goal



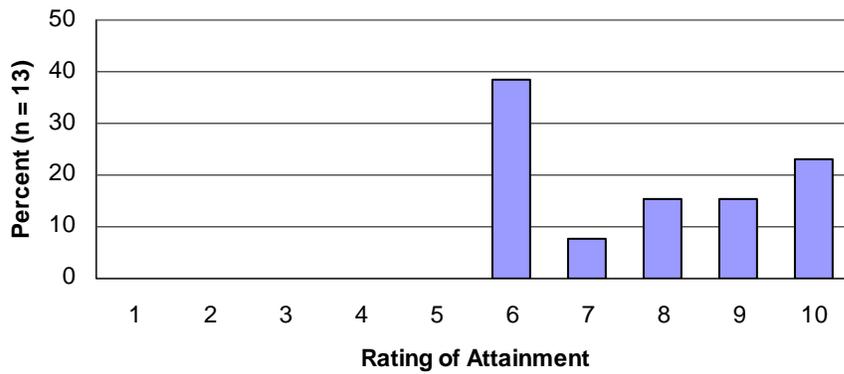
Education/Training Goal



Independence Goal



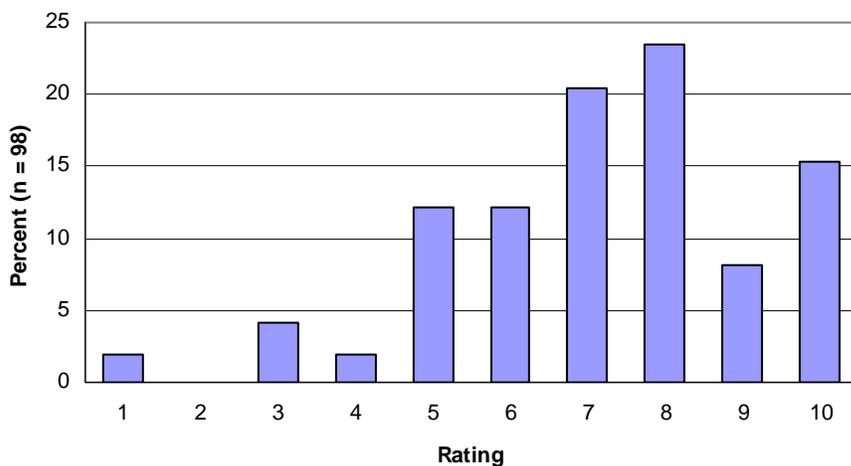
Keyboarding and Computer Skills Goal



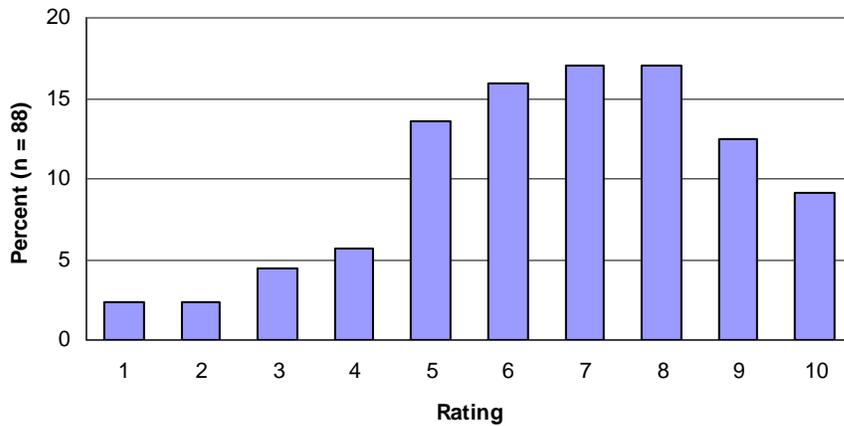
Confidence in Literacy Skills

Increased confidence in literacy areas can also be considered a subjective indicator of success. Many felt confident about completing reading and writing tasks encountered in daily life and in the work place. On a scale from 1-10, with 10 representing the highest degree of confidence, 67% of students rated their confidence in completing daily living tasks in the 7 to 10 range. Fifty-six percent rated their confidence in completing work place tasks in the 7 to 10 range. The percentage of students at each rating level for daily life and workplace tasks are illustrated in the two graphs below.

Confidence in Completing Reading and Writing Tasks Encountered in Daily Life

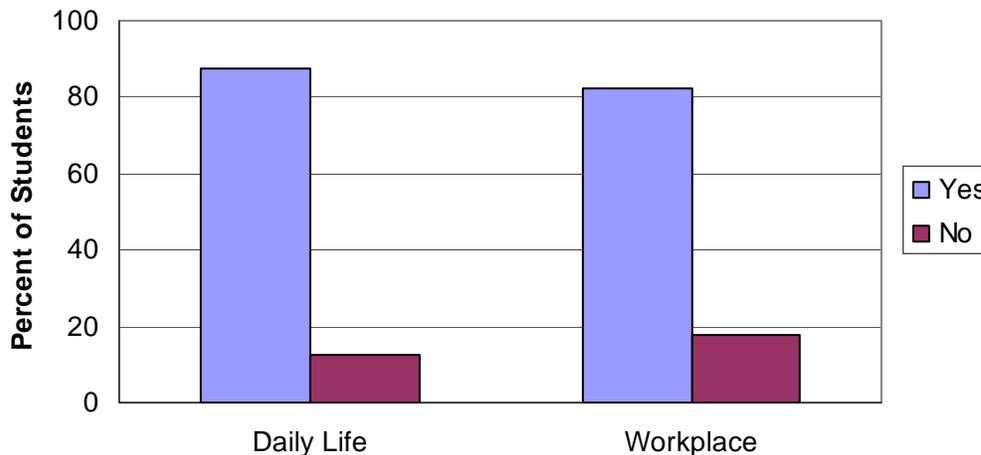


Confidence in Completing Reading and Writing Tasks Encountered in the Workplace



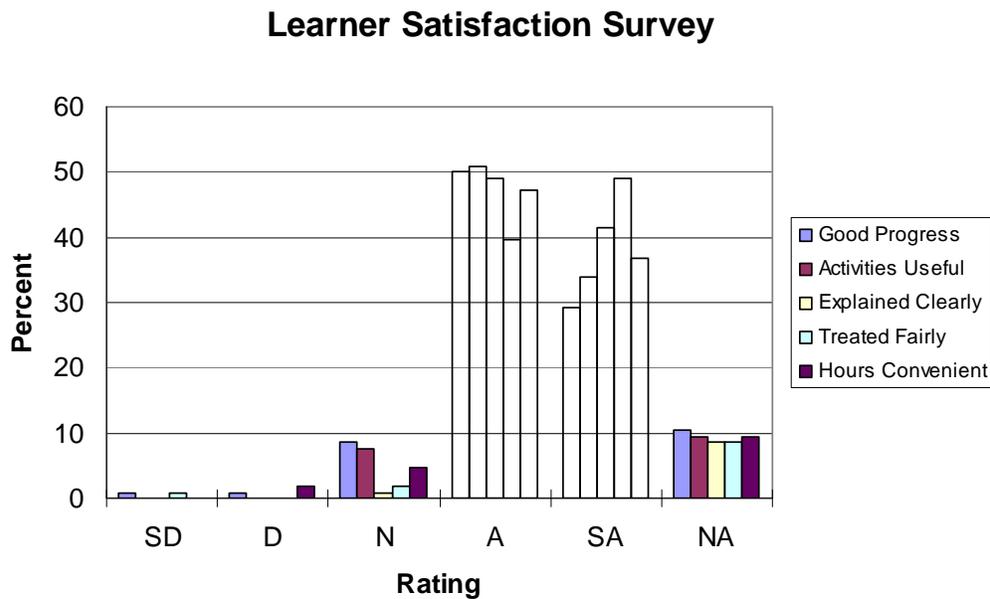
In addition, the vast majority of the students thought that their confidence in completing reading and writing tasks in daily life and in the workplace was higher than when they began the program. Eighty-eight percent thought that their confidence in completing reading and writing tasks in daily life was higher than when they began the program. Eighty-two percent thought their confidence was higher with regard to reading and writing tasks in the workplace. This is illustrated below.

Increased Confidence in Reading and Writing Tasks by Environment at Exit from Literacy Program



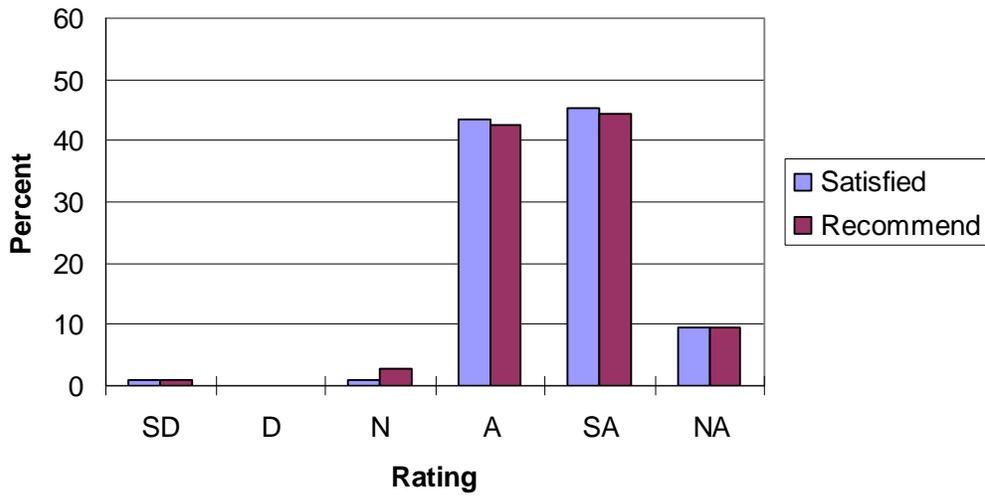
Learner Satisfaction Survey (MTCU)

In general, students responded positively on the variables of the Learning Satisfaction Survey (LSS). Most felt that they were treated fairly, that the hours were convenient for them, that the program was explained clearly to them, that they made good progress, and that the learning activities were useful in helping them achieve their goals. The vast majority either agreed or strongly agreed that they were satisfied with the program and would recommend their particular agency to others. The figures below illustrate the students' responses for each of the LSS items.



Note: SD = Strongly Disagree; D = Disagree; N = Neither Agree or Disagree; A = Agree; SA = Strongly Agree; NA = No Answer

Learner Satisfaction Survey (continued)



Note: SD = Strongly Disagree; D = Disagree; N = Neither Agree or Disagree;
A = Agree; SA = Strongly Agree; NA = No Answer

Factors Associated with Success Indicators

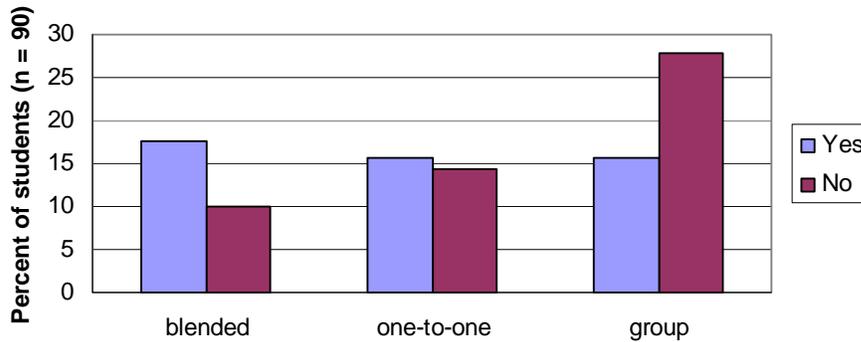
Program Characteristics

The fundamental question that prompted the initiation of this project was whether class size had an impact on literacy training success, with a focus on one-to-one versus group instruction. The possibility that other agency factors might affect student outcome was also considered. As a result, a more comprehensive survey of agency characteristics was undertaken. The findings from this survey, which addressed agency characteristics and program practices, indicated greater similarities than differences among the 22 sites that participated in the project. For example, all agencies had a Board of Directors, most used similar methods for promoting their services, and most acknowledged flexibility in meeting the needs of their students in the community at large. Similarities were also seen in the initial intake procedures, assessment practices, and means by which to evaluate student progress. Most encouraged students to take an active role in their learning. This was done by several means, which included defining their own learning goals, as well as involving students in program development and program evaluation. Because of the similarities in these agency characteristics, it would be difficult to determine the degree to which any one affected student outcome. In effect, there was insufficient variability to test whether the characteristic has an impact.

Individual versus Group Instruction

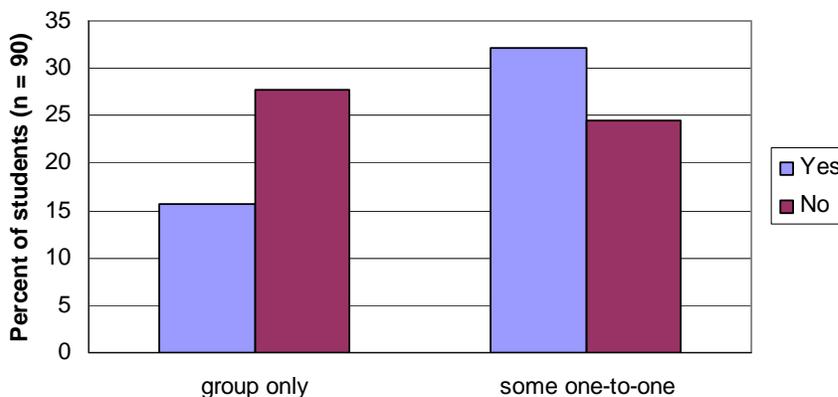
However, programs did vary in the extent to which they involved one-to-one and group instruction. Twenty-seven students received one-to-one instruction only, 39 students received group instruction only, and 24 students received both one-to-one and group instruction (blended instruction). There was no significant relationship between class format and improvement when the three formats were compared to one another. However, from the figure below it is appears that receiving group instruction (only) had the least benefit on literacy improvement. Twenty-eight percent of the entire sample of 90 students showed no improvement with group instruction only. Considered a different way, 64% of all students who received group instruction only showed no improvement, whereas 36% who received group instruction only showed improvement. In contrast, approximately 50% of the students who received one-to-one instruction only improved and approximately 50% made no improvement. Of those who received blended instruction, 62% made improvement and 38% made no improvement.

Net Improvement in Literacy Skills by Class Format

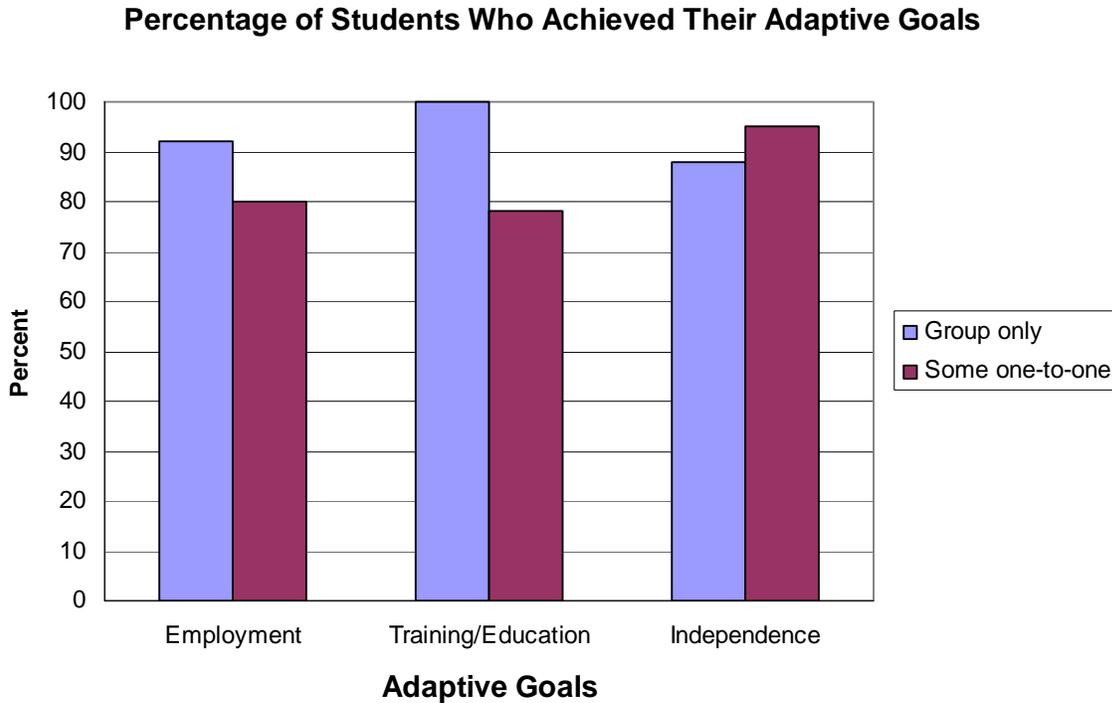


The trend evident in the distribution of improvement by class format suggested that at least some one-to-one instruction might be important to student outcome. To examine this possibility, a second analysis was conducted comparing students who received group instruction only to those who received at least some one-to-one instruction. For this analysis, the one-to-one only group and the blended group were combined and then compared to the group that received group only instruction. This analysis was statistically significant. It indicated that a higher percentage of students made a net gain in their LBS skills than did not if they received at least some one-to-one instruction, whereas for those students who received group instruction only, more did not make a net gain than did. It is possible that this pattern reflects, at least to some extent, the benefits of matching the delivery of literacy training with a student's individual needs. However, this pattern might be due to some other factor given that virtually all agencies indicated that they provided programs that were tailored to the needs of the individual student.

Net Improvement in LBS Skills: Group Only Versus some one-to-one



To determine whether class format affected attainment of goals related to employment, training/education, and independence, these adaptive goals were recoded such that if a student ranked their attainment between 1 and 5 (on a scale of 10) they were classified as not having attained their goal and if they ranked their attainment between 6 and 10 they were classified as having attained their goal. Not surprisingly, there was no significant relationship between class format and adaptive goal attainment because the majority of students were considered to have attained their goal. This is illustrated in the figure below.

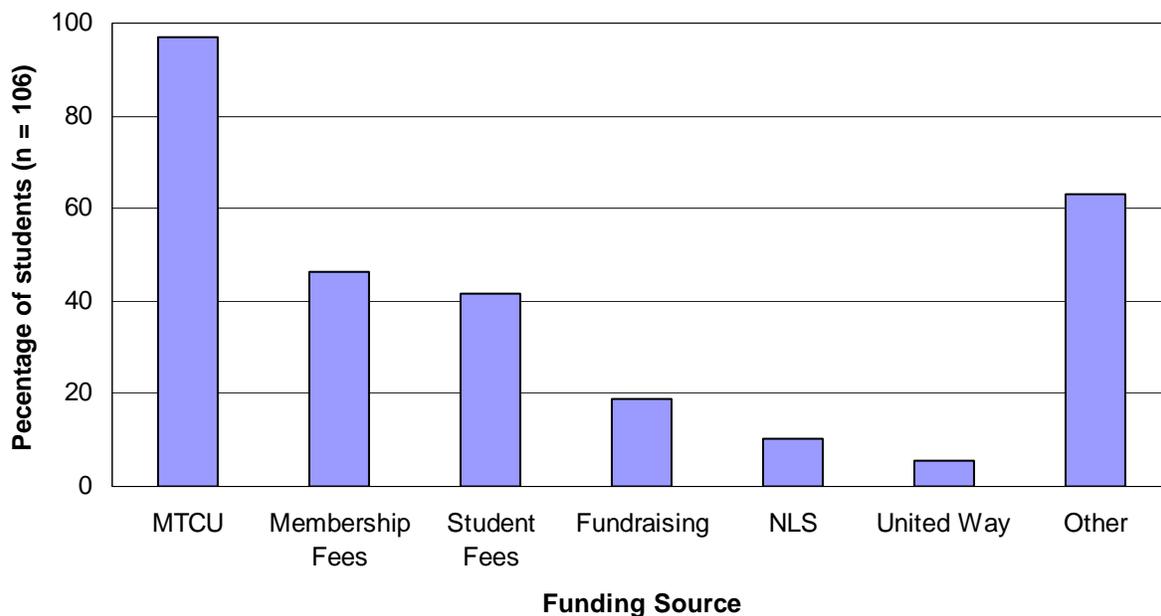


Agency Profile

Sources of Funding. Almost all programs from which students exited naturally received funding from the Ministry of Training, Colleges, and Universities (97.2%).

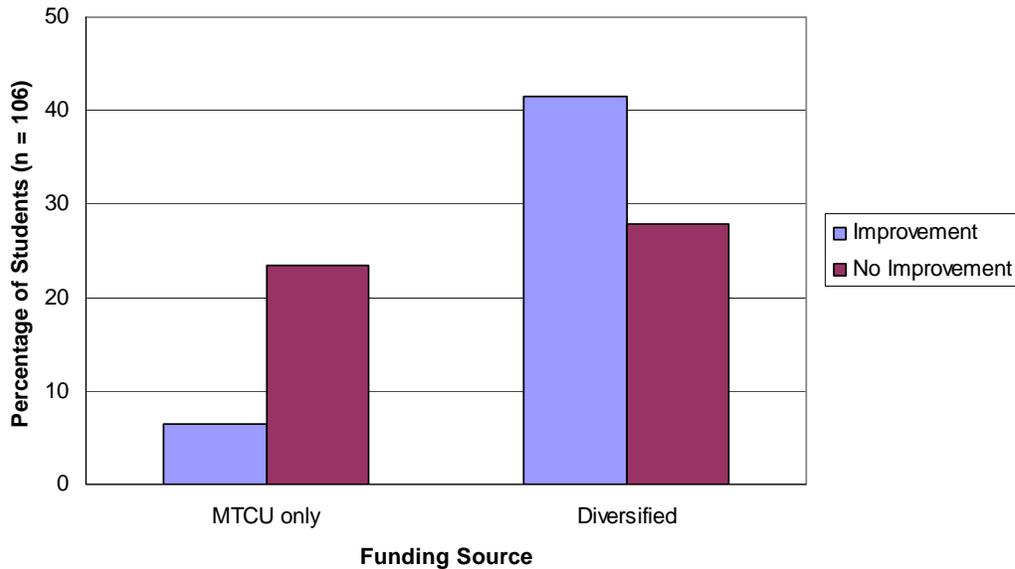
Approximately 70% of the programs also received funding from other sources, whereas MTCU was the only source of funding for 30% of programs. Other major sources of funding derived from membership fees from volunteers and student fees. Less common sources of funding were fundraising activities, the National Literacy Secretariat, and the United Way. Examples of “other” sources included bingos, the Trillium Foundation, and donations.

Funding Sources for Programs of Students Exiting Naturally from an LBS Program



When the students were grouped according to whether the program received its funding from MTCU only or had a diversified base of funding, a significant difference was obtained in regards to net improvement in LBS level. That is, a greater percentage of students coming from programs with diversified funding made net improvements compared to students who came from programs that were funded by MTCU only. Of all the students who came from programs that were funded by MTCU only, a greater percentage showed no net improvement. These comparisons are illustrated in the figure below.

Net Improvement in LBS Skill Level by Funding Source



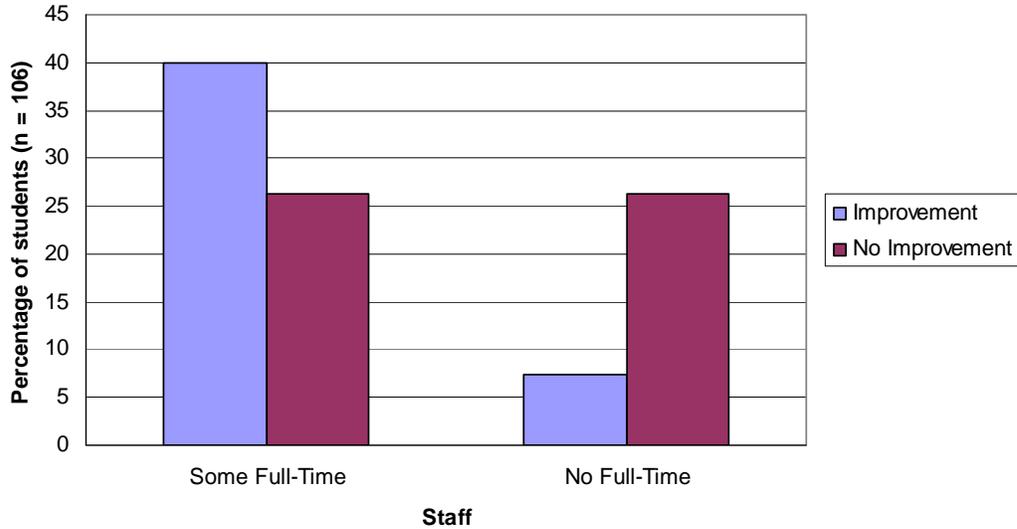
Agency Activities and Staffing. In general, the more active an agency was outside of direct service delivery the more successful were the students. The outcome for students was better if their literacy agency was affiliated with one or more literacy organizations.

Student success was also related to agency staffing. Sixty-six percent of the students came from programs that had at least one full-time staff member; the other programs had no full-time staff (34% of programs). Of the programs that had one or more full-time staff, the vast majority of them had between one and five full-time staff. All programs except one had part-time staff, and all but three programs reported having volunteers. Students coming from programs that did not have any full-time staff did not do as well as students who came from programs that had one or more full-time staff.

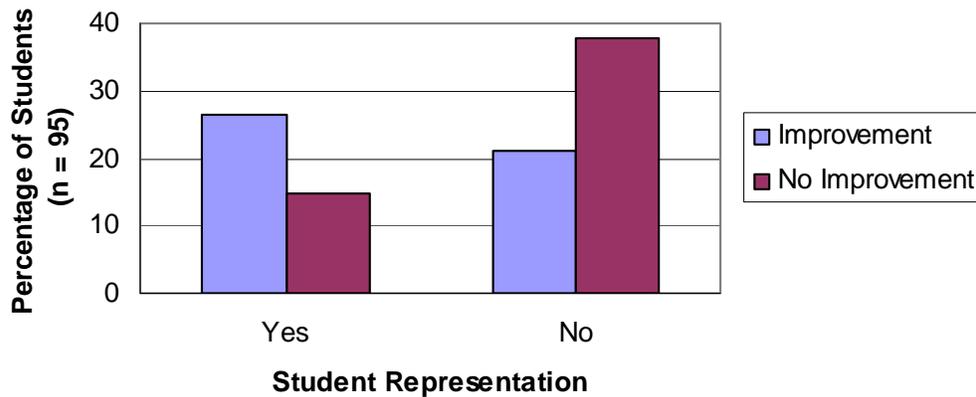
Also relevant to improvement was whether or not members of the agency's Board of Directors were involved in orientation to literacy issues when taking office. A majority of the programs (66%) involved their members in orientation. Of these programs, almost all (more than 90%) provided an overview of the program and information regarding the roles and responsibilities of a Board of Directors, the philosophy and goals of the program, and principles of adult literacy education. Over thirty-five percent of students who came from programs that provided orientation to their Board members made a net improvement in LBS level, whereas only 11% of students from programs that did not provide orientation made such an improvement. More students made improvement

than not if Board members were oriented. In contrast, programs that did not provide Board members with orientation saw fewer of their students make improvement. Student representation on the Board was also associated with improvement. The findings regarding agency staffing, Board orientation, and student representation on the Board of Directors are illustrated in the two graphs below.

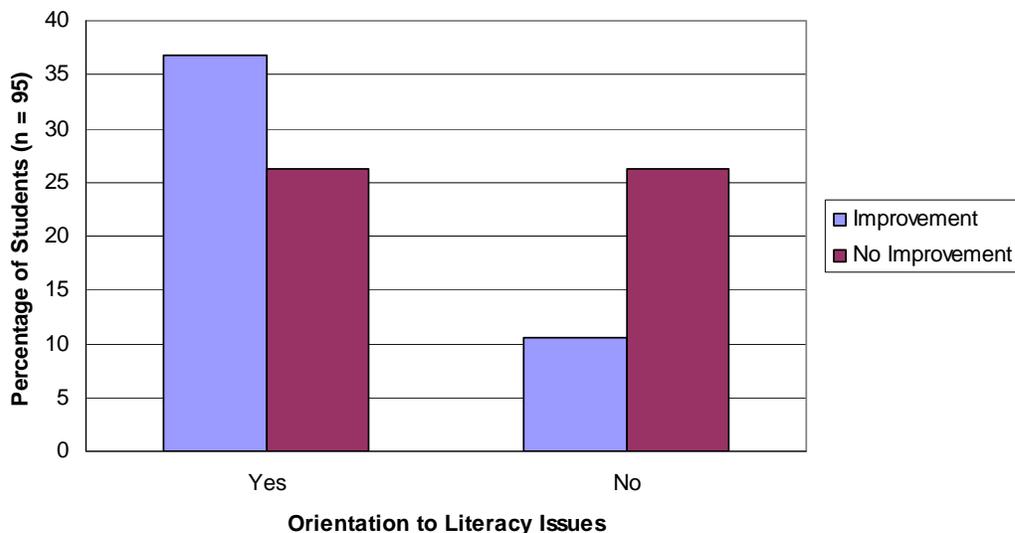
Improvement in Net LBS Level Based on Programs With or Without Full-Time Staff



Improvement in Net LBS Level Based on Student Representation on Board of Directors



Improvement in Net LBS Level Based on Orientation of Board Members to Literacy Issues

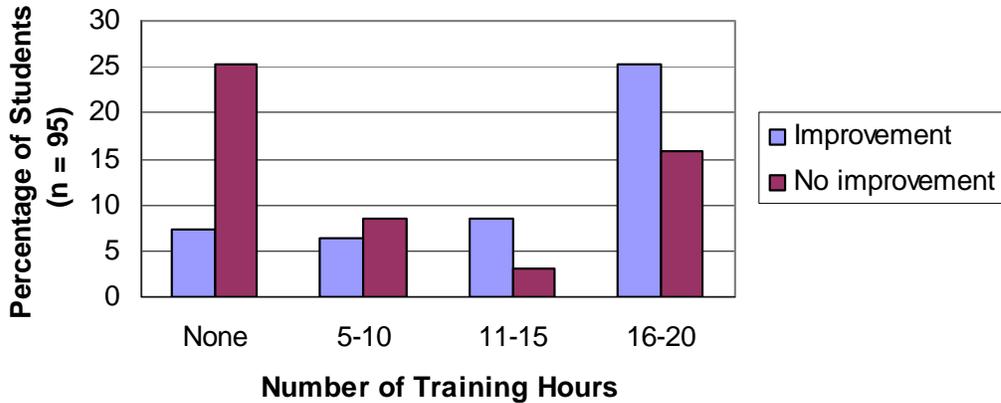


Training Hours

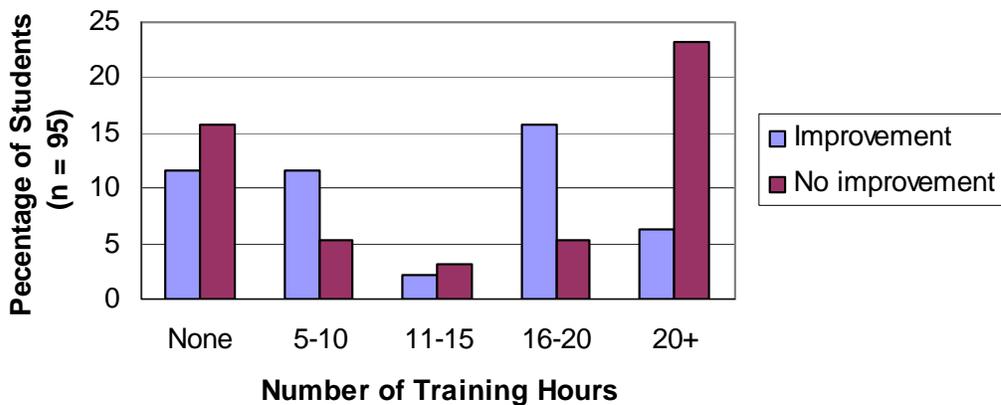
Also important to student outcome was the amount of training received by volunteer tutors and paid instructors. This was especially clear among the volunteers (see graph below). Of the students who received tutoring from volunteers without training, more made no net improvement (25% of students) in their LBS level than made improvement (7%). When volunteers received between five and 10 hours of training, outcome was fairly evenly split. That is, approximately the same number of student showed improvement as did not. More students showed improvement than did not if volunteers received between 11 and 20 hours of training.

The pattern was not as clear when considering the amount of training paid instructors received. In general, students did better if paid instructors received some training rather than none. However, they did not do as well if they came from programs that required over 20 hours of training. The reason for this finding is not clear. It might reflect other characteristics associated with agencies who engaged their paid instructors in certain activities (e.g., teaching large groups; see graph on page 14) or types of training (e.g., administrative in addition to literacy).

Net Improvement Based on Amount of Volunteer Training



Improvement in Net LBS Level Based on Amount of Paid Instructor Training



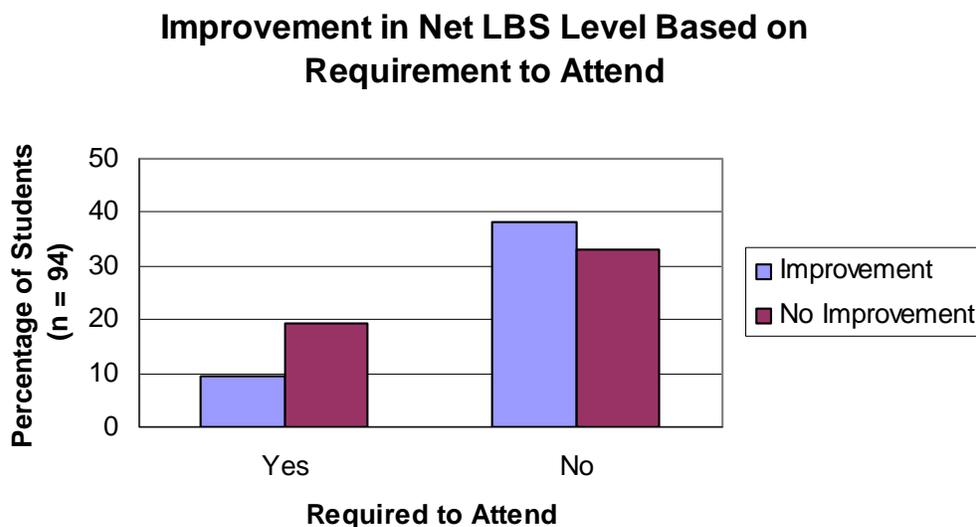
In general, variables focusing on assessment practices did not have an impact on outcome, largely due to the fact that most programs engaged in similar activities (see *Initial Intake and Assessment Practices* section on pages 11 – 13). In addition, which assessment tools (e.g., CABS, CARA, and Laubach diagnostic/placement tools) were used was not associated with outcome.

Student Characteristics

To evaluate the role of student characteristics on outcome, variables of interest were coded into five general categories. These included (1) referral source, (2) social functioning, (3) education, (4) employment, and (5) health. Few of the variables predicted success.

Referral Source

One might expect that students who attend a literacy program on their own accord would do better than those who were required to attend, as was the case with many of the students referred from Ontario Works. Of the 33 students referred from Ontario Works, 28 indicated that they were required to attend in order to receive a monthly allowance. Data needed to evaluate a net change in LBS level was available on 27 of the 28 students. A comparison of their success with students who were referred from other sources (and thus not required to attend) approached statistical significance (i.e., $p < .06$). These data are illustrated below.



Social Functioning

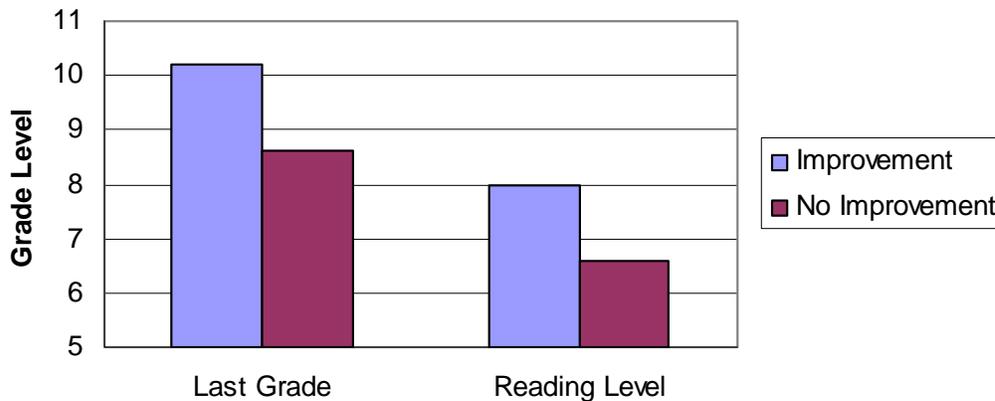
There was no significant relationship between marital status and net gain in LBS level. To evaluate the degree to which a student was socially “connected,” several variables were summed to create a composite measure. The variables that comprised the “connectedness” measure included: (1) the number of children living at home, (2) the number of visits with family members in the past four weeks, (3) the number of times the

student talked or had e-mail contact with family members in the past four weeks, (4) the number of close friends, (5) the number of visits with close friends in the past four weeks, (6) and the number of times the student talked to or had e-mail contact with close friends in the past four weeks. There was no significant relationship between connectedness and improvement in LBS level.

Education

There was a significant relationship between the last grade completed and a net gain in LBS level. The average last grade completed for the group of students who did not make a net improvement in LBS level was 8.6. For the student who made a net improvement, the average last grade completed was 10.2. At intake, students were asked to estimate their reading grade level (e.g., Grade 5). The average estimated grade level for the group that made a net gain in LBS level was 8.0, whereas for the group that did not make a net gain it was 6.6. This difference was statistically significant. Variables unrelated to outcome included (1) whether or not a student repeated a grade, (2) the number of schools attended, (3) whether the student ever received special education help in school, (4) whether the student attended college or university after high school, and (5) whether the student self-identified as having a learning disability.

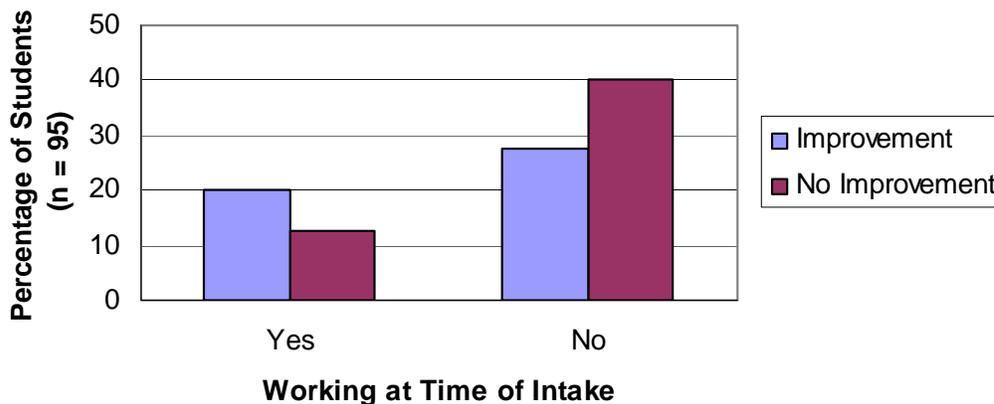
Improvement in Net LBS Level Based on Last Grade Completed and Estimated Reading Level



Employment

Whether a student was working at the time of intake was related to a net gain in LBS skill level. More students who were working showed improvement than did not. Of those that were not working, more showed no improvement than showed improvement. This is illustrated below. Also, those that improved had more paid jobs in the last two years (an average of 1.84 jobs) than those who did not improve (1.02 jobs). Although seemingly small, this difference was statistically significant. Other employment variables did not predict student success as measured by an improvement in the net LBS level.

Improvement in Net LBS Level Based on Working Status



Health

There was a small, but statistically significant relationship between a student's perceived change in overall health from the time of intake to exit and net gain in LBS level. On a scale from 1 to 10, the average rating for the improved group at the exit interview was 6.18 compared to 5.36 for the no improvement group. A rating of 5 indicated no change in overall health.

The relationship between mental health and improvement was also examined. A mental health issue was defined as having received treatment or counseling for any one or more of the following: nervousness/anxiety, anger management, depression, bipolar disorder (manic depression), alcohol or other drug use, marriage or family problems.

The results indicated that there was no significant relationship between mental health so defined and improvement in net LBS level.

Students were also asked to indicate at the time of intake and then again at exit the number of times they saw a health care professional. The list of professionals included a family doctor, an eye specialist, a surgeon, a neurologist, a physiatrist, a psychiatrist, any other physician, a dentist or orthodontist, a chiropractor, a physiotherapist, an occupational therapist, a speech and language pathologist, a social worker or counselor, and a psychologist. For each student, the change in the total number of visits to a health care professional from intake to exit was calculated. There was no significant difference between the improved and the not improved groups in the number of visits to a health care professional.

For most of the physical, emotional, and cognitive/developmental disorders surveyed, there were insufficient sample sizes to conduct statistical analyses, even when combining certain disorders to create a broader category. For example ADHD and conduct/behaviour disorders were combined to create a disruptive behaviour category. An exception was mood disorder. Students who indicated that they had been diagnosed with depression, anxiety, or obsessive-compulsive disorder were combined to create a mood disorder variable. By this definition, 20 students (26%) had been diagnosed with a mood disorder and 57 (74%) had not. The sample was sufficiently large to warrant statistical analysis. However, this variable was not related to improvement in LBS level.

Summary

The main purpose of the *Factors Affecting Success Study* was to identify program and student characteristics that related to successful outcomes following literacy training. To do so, surveys were developed to gather relevant information and indicators of success, both objective and subjective, were defined. Twenty-two community based Literacy and Basic Skills agencies, representing 81% of the regional networks, consented to participate in the study. From these agencies, 257 students were recruited. Their average age was 36.2 years, with approximately half the sample between the ages of 25 and 46 years. There were slightly more males than females (52% and 48%, respectively).

Information regarding demographic and other characteristics of students attending adult literacy programs was obtained from the sample of 257 students. However, only a subset of these students left their program at a natural termination point during the course of the project. It was this group of 106 students that was the focus of the outcome analyses.

Indicators of Success

In this study, outcomes were measured in terms of both objective and subjective indicators. Objective indicators were based on the students LBS levels in reading, writing, and numeracy. For the majority of the students that terminated involvement with their literacy program naturally within the course of this study, measures of LBS levels were available at intake and at exit. For each of the skill areas there were fewer students at levels 1 and 2 at exit than there were at intake, whereas for each skill area there were more students at level 3 at exit than there were at intake. The improvement in reading, writing, and numeracy skills at exit was also indicated by the change in the average LBS levels from intake to exit from a program. Although the average increase in each skill area was small, each was statistically significant. Gaining employment could also be considered an indicator of success. Twenty three of the 106 students (22%) discontinued their involvement with a literacy program because they either found a new job or returned to a former one.

Strong support for the value of literacy training emerged from the subjective indicators of success. Virtually all students thought that attending their program was a good use of their time and that their skills in reading, writing, and math at improved as a result of their involvement in literacy training. Most of the students also reported improvements in a variety of functional activities related to basic skill areas, as well as in personal and adaptive activities (e.g., independence, self-confidence, and getting along with others). The majority of students were also of the opinion that they had attained their own

specific learning goals related to each of the categories surveyed, which included reading, writing, numeracy, oral communication, self-management and self-direction, and keyboarding and computer skills. The majority of students also reported attainment of their adaptive goals, which included the categories of employment, training and education, and independence. In addition, the vast majority of students thought that their confidence in completing reading and writing tasks in daily life and in the workplace was higher than when they began the program.

Based on the results of the Learner Satisfaction Survey (MTCU), the majority of students either agreed or strongly agreed that they made good progress in reaching their goals, that the learning activities were useful in working towards their goals, that the staff of their agency explained the LBS program clearly, that they were treated fairly by the staff, and that the hours were convenient for them. Most considered in general that they were satisfied with their program and that they would recommend the program to others.

Program Practices

There were several ways in which literacy programs were similar. All agencies reported having the Board of Directors, with the vast majority also having a job description for its members as well as bylaws related to the makeup of their board. Many, but not all, involved their board members in orientation to literacy issues. Most used similar methods for promoting their services and acknowledged flexibility in meeting the needs of their students. Similarities were also seen in the initial intake procedures, assessment practices, and means by which to evaluate student progress. Most encouraged students to take an active role in their learning, which included defining their own learning goals as well as involving them in program development and program evaluation.

However, there were differences in agency characteristics and program practices that related to outcome. A higher percentage of students made a net gain in their LBS skills than did not if they received at least some one-to-one instructions, whereas for those students who received group instruction only, more did not make a net gain than did. More students improved than did not if their program had diversified sources of funding. In contrast, more students did not improve than did if their programs received funding from MTCU only. Students did better if they attended an agency that was affiliated with one or more literacy organizations than if the agency was not. Students also did better if they attended an agency that had at least one full-time staff compared to students who attended an agency that had no full-time staff. In general, the findings also indicated that students did better if they attended an agency that required their practitioners, whether volunteers or paid instructors, to participate in training prior to tutoring or instructing. The advantage to students seemed clearest for practitioner training that was between 16 and 20 hours. A more favourable outcome was

associated with student representation on the agency's Board of Directors and board member orientation to literacy issues.

Many of the agency factors associated with success reflected activities outside of direct service delivery practices. Orientation of board members to literacy issues, student representation on the BOD, diversified funding, and agency affiliation with provincial or national organizations were factors associated with better outcomes. These factors may reflect a greater connection to the literacy field more generally, as well as a greater sensitivity and commitment to literacy issues.

Student Characteristics

There were few student variables that had a significant relationship to outcome. Perhaps not surprisingly, more students who were required to attend a literacy program in order to receive a monthly allowance did not show improvement than did. In contrast, slightly more improved than did not in net LBS level if they were not required to attend. The number of years of education was also related to improvement. Students who made a net gain in LBS level completed on average 10.2 years of schooling, whereas those who did not make a net gain completed an average of 8.6 years. On average, the students that made a net gain estimated at intake their reading level to be at the 8th grade, whereas those who did not make a net gain estimated their reading level to be around mid Grade 6. Certain employment variables were also associated with success. Working at the time of intake was associated with a better outcome. Also, students who made a net gain in LBS level had more paid jobs in the previous two years than students who did not make a net gain. Interestingly, the group of students who showed a net gain in LBS level rated their overall health as changing for the better between intake and exit. On average, their estimated level of health was higher than the group that did not show a net improvement in LBS level.

No relationship between other physical health or mental health variables and outcome was demonstrated in this sample. In addition, social connectedness, defined as the extent to which a student was in contact with family and friends, was not related to outcome. Although school achievement as measured by the last grade completed was related to outcome, other achievement-related variables were not. These included the number of times a student repeated a grade, whether a student received special education assistance in school, whether a student attended a university or college, and whether a student self-identified as having a learning disability.

Limitations of the Present Study

It is important to consider that the sample used to examine outcome included only the 106 students (41% of the total number of participants) who entered and exited a literacy

program during the relatively short timeline of the study. Fifty-one percent of the students were continuing their involvement in a LBS program. On average, the 106 students who exited naturally from the study spent 8 months in their literacy program. Overall, these participants may comprise a more resourceful subset of students and are not necessarily representative of the entire population of individuals that attend community based literacy programs. Although the outcome for students who take more time to complete a program may do just as well at completion, the present results cannot be generalized to this other group. Furthermore, it is possible that students who take longer to complete a program have greater training needs, as might be expected if the student had a learning or other form of developmental disability. Thus, students who require more intensive training to achieve a successful outcome may not be represented in this sample.

Another potential limitation is the use of LBS skill levels as the objective measure of outcome. Although significant improvements were seen, the degree of change was small, especially in relation to the overwhelming success and satisfaction based on subjective measures. Standardized measures of reading, writing, and mathematics might be more sensitive to basic skill gains in each of these areas and, consequently, provide a better correspondence to, if not an explanation of, the functional benefits that students are reporting.

Recommendations

1. Objective and, especially, subjective indicators of success provided strong evidence that community based literacy programs are highly valued by learners and are having a positive impact on their basic literacy and more general adaptive skills. Overall, program characteristics had a greater impact on student outcome than did student characteristics. To enhance successful outcomes, this would seem desirable in that literacy practices are easier to change than are the demographic characteristics that students bring with them to their literacy program. With this in mind, the findings from this project could become the basis for an agency's self-study. One of the goals would be to examine the agency's characteristics and program practices to determine the extent to which they reflect the factors of success identified in the current study. Undertaking such a self-study would be an indication of an agency's commitment to a best practices approach to literacy training.
2. One of the objectives of the FAS study was to promote a research culture in adult literacy. Several workshops at provincial conferences were conducted with this aim in mind. Feedback to the literacy field was provided at various stages of the project in order to keep the field apprised of developments and the corresponding research issues. With the project findings now at their fingertips, agency staff and other stakeholders might uncover questions or issues that are relevant to their own interests, programs, or community. The current project can serve as an example for future studies, highlighting key steps in conducting research, such as the importance of a literature review, funding, and sound methodology, to name a few. With the distribution of this report, it is expected that others in the literacy field will identify research issues of interest and be inspired to undertake their own projects designed to advance the literacy field.
3. A potential limitation of the present study was the short time frame within which to examine factors affecting success. Many participants were excluded from the analyses examining outcome because they had not yet completed their literacy program. Consequently, the findings from this study may be biased in that they do not reflect the outcomes over the longer term and their relationship to program and student characteristics. However, the current project provides the tools necessary to address outcomes more generally and in the longer term. These include the survey forms, project manual, and data base software with which to code the data. Tracking the progress of students over the longer term would be a natural extension of the current study.

4. The subjective indicators of success provided consistent and compelling evidence that community based literacy programs are effective, this despite the rather small improvements demonstrated in LBS skill levels. Why are students reporting such success in their functional skills? Perhaps the measure of basic skills used in the present study, which is required of community based literacy programs, is insensitive to meaningful changes in skill level, especially at Level 1 and Level 2. Perhaps actual gains in basic reading, writing, and numeracy are, in fact, small, but that students learn to make better use of their existing skills through various compensatory strategies. With the administration of a standardized measure of basic academic skills at intake and exit, such as the most recent edition Wechsler Individual Achievement Test or the Wide Range Achievement Test, finer changes in skill levels could be detected. This approach in conjunction with the methodology of the FAS Project would help address the relationship between gains in basic skill levels and the subjective reports of functional improvement.

5. The lack of an association between self-reported learning disabilities and gains in net LBS level in this study was counter-intuitive and inconsistent with the research literature. It is likely that individuals with SRLD are a diverse group. Although about a third of the total sample indicated that they had received a diagnosis of LD, most did not know who made the diagnosis or chose not to say. The current findings raise the question as to the accuracy of SRLD. Students with a “true” learning disability may have been under-represented in the sample of students who exited naturally from this study and over-represented in those who continued their literacy training beyond the study period or who were lost contacts. Given that problems in reading, writing, or numeracy in the context of at least average intellect are the core defining features of LD, it seems that an accurate diagnosis to guide literacy training is essential. A psycho-educational assessment is the foundation to an accurate diagnosis and to educational planning for a child suspected of having a learning disability. For an adult suspected of having a learning disability, a psycho-vocational assessment is the foundation to an accurate diagnosis and to vocational planning. Conducting psycho-vocational assessments on a random sample of individuals with and without SRLD would provide a more accurate estimate of the prevalence of learning disabilities in adults attending LBS programs and, more importantly, advance our understanding of the literacy training and vocational needs of adults with learning disabilities.

Appendix A

Literature Review

Introduction

A significant number of adult Canadians have serious problems understanding and using any printed materials; many others can only manage simple reading tasks (ABC Canada, 2001). Literacy is generally thought to impact much more than just academic and vocational endeavors. Individually, adults with reading deficits may experience problems throughout many areas of functioning encountered in daily life. On a more global level, the prosperity of the Canadian economy is thought to be closely interconnected with the percentage of literate adults in the nation. However, very few Canadians believe that illiteracy contributes to our economic problems. Corporate companies have provided minimal, if any, literacy training for their employees even though most have stated that functional literacy was a problem in some part of their organization (ABC Canada, 2001). As part of a world-wide literacy movement, government agencies and private nonprofit organizations in Canada are working to raise public awareness regarding the importance of literacy as well as the scope and prevalence of the problem. In addition, many organizations offer intervention programs aimed at improving literacy skills. Unfortunately, very few of the Canadians who might benefit from literacy upgrading programs actually enroll. From those that do, there is virtually no scientific data addressing the effectiveness of these programs.

Defining the characteristics of the participants and the interventions are important considerations when attempting to evaluate any program's effectiveness, particularly when there is a reasonable probability that the participants constitute a heterogeneous group with respect to their demographic and situational make-up and when there is a reasonable probability that literacy practices vary across agencies. Attempting to determine whether programs in general are effective in promoting literacy skills overlooks the possibility that they may work very well for some students, less so for others, and not at all for some. In a broad analysis, such variable outcomes would mask the set of circumstances under which successful and unsuccessful outcomes occur. A more refined question than "Do adult literacy programs work?" is to ask "What are the conditions that relate to successful outcomes in adult literacy programs?"

The purpose of this review was to examine the existing literature with respect to factors that might predict student outcomes in literacy programs. However, before considering a review of current knowledge related to learner and programs characteristics, the many definitions of literacy are discussed in order to gain a better understanding of the various ways literacy is operationalized. This is followed by a discussion of the demographic characteristics of persons attending literacy programs and the individual

characteristics that are associated with the development of literacy skills. Just as learner characteristics are likely to be varied, one would expect that approaches to improving literacy skills in adults also vary, and that certain program and tutor characteristics affect outcome. Indeed, through systematic and comprehensive research one would hope to identify factors that would constitute a set of “best practices” in promoting adult literacy skills. With this in mind, the literature addressing program factors that affect outcome are considered. Also of interest for the purposes of the present study are the reasons why individuals either do not participate in adult literacy programs or decide to terminate their involvement before achieving their goals. It would seem that such factors have a direct bearing on literacy skills. How to measure participant progress is critically relevant to the present project. Again, we must first turn to the existing literature to determine past practices and then to evaluate whether this process can be improved. Finally, a review of studies using data from the National and International Adult Literacy Survey is presented, which encompasses many of the aforementioned topics.

Definition of Literacy

Literacy is often defined in terms of grade level equivalence. However, current definitions also describe literacy in terms of an adult’s ability to function within a social context. Gray (1956) defined a person as functionally literate when they had acquired knowledge and skills in reading and writing which enabled the person “to engage effectively in all those activities in which literacy is normally assumed” within their culture or group. Kirsch and Guthrie (1977-1978) defined functional literacy as “how well a person can read materials with survival activities.” Hunter and Harman (1979) defined functional literacy as “the possession of skills perceived as necessary by particular persons and groups to fulfill their own self-determined objectives as family and community members, citizens, consumers, job-holders, and members of social, religious, or other associations of their choosing.”

Although it is generally agreed that literacy should be defined as the ability of individuals to function within a social context, there does not exist a commonly agreed upon definition that could be used (1) to specify the goals of literacy programs; (2) to evaluate the effectiveness of literacy programs; (3) to specify the appropriate content for literacy instruction; (4) to diagnose, place, and assess students; and (5) to determine how many adults are illiterate (Cervero, 1985). It is virtually impossible to provide a common operational definition of literacy as the goals and content for various programs are value dependent.

Wagner (1990) proposed a four-category representation of the levels of literacy, which could be measured using assessment instruments. First, a non-literate cannot read a text with understanding, cannot write a short passage in a significant national language, cannot recognize some words on signs and documents in everyday contexts, and

cannot perform such specific tasks as signing his or her name or recognizing the meaning of public signs. Second, a low-literate cannot read a text with understanding and cannot write a short text in a significant national language but can recognize some words on signs and documents in everyday contexts, and can perform such specific tasks as signing his or her name or recognizing the meaning of public signs. Third, a moderate-literate can with some difficulty (i.e., after making numerous errors) read a text with understanding and write a short text in a significant national language. Finally, a high-literate can, with little difficulty (i.e., making few errors), read a text with understanding and write a short text in a significant national language.

Demographics

Gottesman, Bennett, Nathan, and Kelly (1996) described the demographics of 208 adults, ages 16 to 63, who sought help from an adult literacy program. Most of the individuals were born or grew up in the United States. The average age of participants was 33 years with two-thirds being between 28 and 35 years old. Three quarters of the sample were minority group members and one quarter was white. Women constituted slightly more than half of the group. Almost 90% said that they contacted the program due to long-standing reading problems. The other participants cited difficulties with understanding what people said, with paying attention, or they experienced difficulties on the job. Only one-third of the participants were employed. The job skills of more than three-quarters of the sample fell into the unskilled or moderately skilled worker classifications. A very small percentage of the group was classified as professionals or students. Over two-thirds of the sample reported living independently. The others were either living in a residential setting or with relatives. About half of the participants were married or living with someone.

Over two-thirds of the sample experienced delayed cognitive, language, and motor milestones (40%), and 29% experienced problems with substance abuse. Ten percent of the group reported that they had spent some time in jail. Almost half of the participants had been enrolled in special education classes, and a third had left school by the age of 15. About a fifth had sought help from other adult literacy programs and about a fifth had sought help from substance abuse treatment centers.

Clinical diagnoses fell into nine categories: mixed developmental disorder (42%), dyslexia (33%), borderline intelligence (6%), mental retardation (6%), attention-deficit/hyperactivity disorder (4%), normal functioning (3%), specific arithmetic disorder (2%), and language disorder (2%). On average, the mean IQ score was 81 with a standard deviation of 12. On the Bender Gestalt, 53% of participants showed fair or poor perceptual-motor skills. Scores on the WRAT-R Spelling subtest were extremely deficient. More than half of the sample showed difficulty with elementary phonics, and 39% had difficulty blending sounds to make words. Math performance was also low.

Marron (2001) also studied the demographics of low-literate adults across national literacy surveys. It was found that minority groups were over-represented and that these groups tended to have completed fewer years of schooling in the United States than Whites. Low-literate adults were also more likely to represent the low end of socioeconomic scales, tending to be economically disadvantaged or impoverished and to be unemployed. Finally, these adults typically had little exposure to literacy activities at home and less exposure to literacy activities at school (e.g., due to task refusal, more absences).

Malicky and Norman (1995) found that most adults enrolled in literacy programs retain the same low paying, temporary jobs that they held before entering the program. Thus, in this study as well as others (e.g., Graff, 1987; Levine, 1986) there has been little evidence that increased literacy has a significant and direct positive effect on employment.

Individual Characteristics

In a study of educational antecedents and influences on practical literacy (Weinstein & Walberg, 1993), early experience and current activities were found to powerfully influence young adults. In addition, the results showed that early environmental advantages produced subsequent advantages that lead to wide disparities in adult literacy skills. That is, early family, educational, and other social experiences strongly influenced later adult accomplishments. Children of parents of higher socioeconomic status who were not in the vocational track in high school scored the highest on all literacy outcomes. However, current language activities and experiences, independent of earlier ones, appear to be moderately influential on literacy. Those individuals who were socio-economically and educationally advantaged earlier in life participated much more frequently in a variety of literacy-promoting activities as young adults. Frequent and extensive engagement in literacy-promoting activities as a young adult was associated with higher scores on literacy outcomes.

Reder and Vogel (1997) reviewed the National Longitudinal Transition Study of Special Education Students conducted by the Stanford group. These studies addressed a variety of employment and economic outcomes for adults with self-reported learning disabilities (SRLD) and also examined gender differences. It was found that although recent high school graduates with SRLD were employed at the same rate as their non-learning disabled peers, their wages and occupational status were considerably lower. In addition, females with SRLD were more often than males to be unemployed and were more often in part-time, lower-paying jobs when compared to males with SRLD and nondisabled females.

Demetrian (1997) examined the relationship between student goals in adult literacy programs and mandated policy calling for important public outcomes related to the

workplace and family literacy. It was stated that policy advocates tend to view outcome quantitatively, such as how many people have found a job and are, therefore, no longer collecting welfare. In terms of the students' perspectives, four areas were found that they felt were important. First, the students saw literacy as helping them to locate themselves in the world in terms of being able to read something, get the information needed, and then being able to act on it. Second, students thought it was important to gain the ability to use written and oral language effectively in interpersonal and social situations. Third, literacy was viewed as a vehicle for independent action which consists of a wide variety of areas including learning skills for not being taken advantage of, living on one's own, gaining increasing control over one's life, and making decisions on one's own. Finally, literacy was seen as a bridge to the future, especially towards the goal of being able to compete effectively in the global economy. It was concluded that adult literacy programs should serve as a tool for developing a range of life competencies and as a symbolic source of power in the realm of self-reconstruction. In addition, literacy education does contribute to the public good, but in subtle ways. For example, it enhances mediating institutions and social settings such as the family, the literacy program itself, the public school, the job site, and the neighborhood.

From their review of the literature, Diekhoff and Wigginton (1989) concluded that the average literacy program participant fails to achieve a functional level of literacy. However, some students are extremely successful in these programs. Two variables were found to highly distinguish between successful and unsuccessful students. First, successful students expected that their efforts to achieve literacy would be successful. Second, successful students saw literacy training as more relevant to their goals. It was concluded that student motivational factors are critical to success in adult literacy training.

Programs

Fitzgerald and Young (1997) found that initial ability, individualized curricula, and the use of experienced, full-time staff were the main factors on improving literacy in an Adult Basic Education program.

Kitz (1988) summarized a plan for adult literacy education that was strongly supported by past research with school-aged children. Three types of instructional models that dominated the reading field were examined: meaning emphasis, code emphasis, and interactive. Meaning-emphasis is a top-down approach that does not stress the phonological analysis of words, but the meaning gained from text. Advocates of this approach believe that adults are more able to use contextual cues to decode unfamiliar words and also that adults encounter different reading tasks than children. Code-emphasis is a bottom-up approach that teaches the phonological analysis of words to help readers more accurately decode words and subsequently gain meaning from the text. The interactive model combines strategies from the two previous models, but

emphasizes top-down strategies. Reading is viewed primarily as a process of gaining meaning from text, and phonological analysis is one of the tools used in this process.

Through a review of the literature, it was found that adult readers often had an inadequate knowledge of phonics. Therefore, Kitz proposed that phonics should be stressed during initial reading instruction as part of a more comprehensive reading program. Once the student has gained fluency and a solid understanding of phonics, higher level reading skills such as making comparisons, inferring main ideas, drawing conclusions, and using context to predict word meaning can be taught.

Ardila, Ostrosky-Solis, and Mendoza (2000) described a neuropsychological method of teaching reading to adults, called NEUROALFA. They hypothesized that a teaching-to-read program that reinforces some specific neuropsychological abilities could facilitate the learning-to-read process. Many abilities were targeted, but a strong emphasis was placed on verbal memory, visuo-perceptual abilities, and phonological awareness. Results were compared with two control groups that used more traditional approaches to learning to read. Significant improvement was observed in various cognitive domains, but especially in visuo-constructive ability, phonemic verbal fluency, verbal reasoning, and language comprehension. All three learning-to-read methods resulted in some improvement in neuropsychological test performance; however, the NEUROALFA approach was found to be the best teaching program.

Purcell-Gates, Degener, Jacobson, and Soler (2002) examined the authenticity of the activities and texts used in adult literacy class and the degree of teacher-student collaboration around activities, texts, assessments, and program governance. Authenticity was defined in this study as those literacy activities and purposes used by people in their lives, excluding those that are structured solely around learning to read and write in school. Results of the study showed that authenticity of literacy activities and texts had a significant effect on literacy practices, such as increases in frequency of reading and writing and types of texts read and written. The degree of collaboration between students and teachers was not significant in terms of its effect on literacy practice change.

Skinner, Gillespie, and Balkam (1997) cautioned against the use of improperly trained volunteers, as special instructional methods are required to teach adults who evidence learning disabilities. Although they implemented a learning disabilities preservice training module for their volunteers, outcome data supporting their anecdotal claims of improvement in tutor training was lacking.

Norton (2001) looked at peer tutoring in an adult literacy center. It was thought that, through peer tutoring, students and tutors developed both literacy skills and self-confidence. It also allowed a shift in power relations because students took more active roles in teaching, learning, and other aspects of the literacy program.

Kazemek (1988) noted some changes that were necessary in adult literacy programs. It was argued that much of adult literacy education is based upon misconceived notions of literacy, leading to inappropriate methodology. This methodology usually involves striving to provide the students with the ability to make efficient use of various decoding skills, to recognize appropriate sight words, or to perform at a predetermined grade level. Kazemek states that research shows that literacy is a relative phenomenon, one that is both personal and social as it occurs in different contexts, depends on the reader's/writer's purpose and aims for engaging in literacy acts, and varies according to the nature of the text. Also, the point was made that literacy professionals have often been unable to translate their knowledge into effective practice. Kazemek also cautions against the use of volunteers who often receive a paucity of appropriate training. The lack of adequate financial support is blamed for the lack of professionalism in many literacy programs. It was concluded that literacy is constrained by social and cultural practices and that this understanding must be incorporated into adult literacy programs.

Greenberg, Fredrick, Hughes, and Bunting (2002) examined a research-based reading program for adults. Reading skills were taught in a developmental sequence and were integrated with the reading process so that no skill was taught in isolation. These skills included phonological and orthographic awareness, pronunciation, decoding, sight word reading, story reading, fluency, accuracy, and vocabulary. After 80 hours of instruction, 60% of the students were able to move up a level in the program. Characteristics that made the program successful included giving positive feedback and the use of questions that the participants could answer correctly.

Non-participation

It has been estimated that dropout rates from adult literacy programs are sometimes as high as 70% (Quigley, 1992). According to the International Adult Literacy Survey, 38 percent of Canadians have difficulty with everyday reading and writing, but only 5 to 10 percent enroll in literacy programs (ABC Canada, 2002). It is important to understand the reasons why many individuals do not seek help from literacy programs. The most common reasons for not contacting the program are work, family, and lack of interest. Concerns about money, conflict with paid employment, and distance of the program offered were also listed as concerns. Among older individuals and those with lower levels of formal education, cognitive-emotive reasons, such as fear, are sometimes cited as the main factor for not enrolling (ABC Canada, 2001).

Methodology

Venezky, Bristow, and Sabatini (1994) examined the problems in the measurement of student change in adult literacy programs through repeated testing of a group of students and through computer simulations. No significant difference was found in

change scores (pre- vs. post-program) for amount of instructional time received or attendance. In addition, a large amount of group heterogeneity was found. The authors caution that adult literacy programs cannot be evaluated effectively by any single measure. Also, aggregating grade-equivalent scores was found to distort change estimated over time when fewer than 200 scores were used. Thus, multiple indicator systems that attend to the multiple goals of such programs and are free of grade equivalent measures were thought more desirable.

National Adult Literacy Survey

The National Adult Literacy Survey (NALS) defined literacy as “using printed and written information to function in society, to achieve one’s goals, and to develop one’s knowledge and potential” (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993). The NALS provides a detailed picture of the current literacy skills and practices and the sociocultural and demographic factors that are associated with these skills and practices in the United States (Smith & Reder, 1998).

Smith & Sheehan (1998) reported two studies that examined practice proficiency relationships within the NALS sample. The first study examined the everyday reading practices of adults with respect to newspapers, magazines, books, and brief documents and the association of these practices with reading proficiency. It was found that adults acquire literacy through participation in various literacy practices, in multiple contexts using various text materials. However, individuals who are more proficient readers may simply be more inclined to read, so it is difficult to establish a cause-effect relationship between reading practice and literacy proficiency. This study also suggested that motivating adults to broaden their range of reading materials should be a principal goal of adult education. This was particularly true for racial and ethnic minorities in the second study, which looked at differences in practices and proficiencies among various ethnicities and racial groups represented in the NALS. This result was thought to be due to reading practices that had been hindered by poor-quality schooling in childhood. Irrespective of demographic characteristics, reading practices that are considered the most mature, involve the use of multiple text materials.

Friedman and Davenport (1998) examined patterns of gender performance on the NALS, taking in to account age and ethnicity. It was found that adults over age 80 had the most striking gender differences. These differences were in favor of the white ethnic group, especially in favor of males with higher educational levels. Adults between ages 55 and 64 showed a narrowing of the gender gap; however, whites still showed a considerable gender difference in educational level favoring males. Adults between 25 and 39 years of age showed no significant gender differences, though the gender discrepancy was larger than in younger groups. Differences in educational level were virtually undetectable except among Asians, with males having a higher level of

education. The two youngest age groups in the NALS showed almost identical performances, with females holding a slight advantage on the prose scale.

Vogel and Reder (1998) reported on the literacy proficiency of adults with self-reported learning disabilities. Not surprisingly, adults with SRLD did more poorly than adults in the non-SRLD population on the NALS. In addition, more than half of the adults with SRLD performed at the lowest level of literacy (Level 1). Findings reported from the National Institute for Child Health and Human Development Learning Disability Research Programs indicated that the most efficient method for teaching adults with severe reading disabilities is to use a direct, systematic, and explicit instructional program to teach phonological awareness, sound-symbol relationships, and reading comprehension strategies in an integrated fashion.

Sheehan-Holt and Smith (2000) examined the prevailing consensus in the literature that number of years of education is the best predictor of adult reading ability. The effect of education, termed the literacy development effect, had not been demonstrated for adults at the lower end of the literacy skills continuum who had participated in basic skills education. NALS data on adults who participated in various basic skills programs was used for this study. No association was found between participation in such programs and literacy skills. This may be because adult basic skills programs are ineffective for developing the types of literacy proficiencies assessed by the NALS, namely reading and understanding prose and documents containing quantitative information. There was an association between participation and reading practices, such as an increase in using newspapers, books, and work related-documents.

International Adult Literacy Survey

Reports based on the International Adult Literacy Survey (IALS), the best available source of recent Canadian literacy rate data, emphasize that low literacy is found regardless of demographics across the population (Sussman, 2003). IALS identified and measured three types of literacy tasks: prose (the ability to understand and use information from texts such as news stories or fiction); document (the ability to find and use information from documents such as maps or tables); and quantitative (the ability to make calculations with numbers imbedded in text, as in balancing a chequebook). These tasks are represented by three scales (prose, document, and quantitative) that are divided into five levels reflecting the empirically determined progression of information-processing skills and strategies (see Appendix B). Based on an analysis of this data, over 4.5 million adult Canadians (age 16 years and over) have inadequate literacy skills and an additional 5.5 million also have difficulty with common literacy demands. Formal education is the best predictor of literacy by a wide margin. The majority of Canadian adults with the very lowest literacy skills belonged to two distinct demographic groups: older Canadians (i.e., age 56 and over), and/or those whose first language is neither English nor French (i.e., "Allophones").

Previous analyses show that Canadians in Levels 1 and 2 are the most disadvantaged (Statistics Canada, 1997), and that those in Level 1 are significantly more disadvantaged than those in Level 2. In total there are approximately 4.5 million adults (age 16 years and over) in the Level 1 (prose) group; 5.5 million in the Level 2 group; 7.2 million in Level 3; and 4 million in Levels 4/5.

Some portion of each age group scores at the lowest two literacy levels. In general, however, literacy is inversely related to age: younger people tend to have higher literacy levels and older people tend to have lower literacy levels. Less than one-quarter of the Level 1 group (21%) was between 16 and 35 years of age. In comparison, more than half of the Level 1 group (54%) was age 56 or older. More than two-fifths of the Level 2 group (42%) was between 16 and 35 years of age. Approximately 24% of the Level 2 group was 56 years of age or older. Thus, on prose literacy measures people in the two youngest groups were roughly twice as likely to be found in Level 2 than they were in Level 1, while people in the two oldest groups (56 to 65 years, and 66 and over) were roughly twice as likely to be found in Level 1 than they were in Level 2. People in the three youngest age groups comprised the large majority of Level 3 and Level 4/5 groups (70% and 81% respectively), whereas older Canadians, ages 56 and over, made up only a small fraction of those two higher levels (16% and 5% respectively).

Anglophones comprise 59% (roughly 12 million people) of the total adult Canadian population (ages 16 years and over). There are significantly fewer Anglophones in the Level 1 (based on measures of prose literacy) group, constituting only 36% of the Level 1 group (1.5 million people). Approximately 54% of the Level 2 group (2.9 million people) is Anglophone. Anglophones are significantly over-represented in Levels 4/5, constituting about 81% of Level 4/5 group (2.1 million people).

Francophones comprise 25% of the total adult population (roughly 5 million people). Francophones are somewhat over-represented in both the Level 1 and Level 2 (prose) groups, constituting approximately 31% and 29% of those groups respectively (1.3 million people and 1.5 million people). In contrast, Francophones appear to be significantly under-represented at the highest literacy levels, comprising only 12% of the Level 4/5 group (about 465,000 people). This suggests Francophones are more likely than Anglophones to have low literacy levels. Within the two lowest levels, Francophones are slightly more likely to be at Level 1, while Anglophones are much more likely to be at Level 2. Also, bilingual Anglophones have higher levels of literacy than bilingual Francophones. The apparent difference between Francophones and Anglophones is largely a matter of age and education—an effect that is diminishing in recent generations.

In summary, the Level 1 group is comprised of significantly more older adults than all other levels, people with much less formal education than those at other levels, an almost even mix of Anglophones, Francophones and Allophones, and a much higher

proportion of Allophones than at all other levels. The Level 2 group comprises a mix of people demographically similar to the Canadian adult population at large, that is, people at various ages roughly in the same proportion as their numbers in the population, Anglophones, Francophones and Allophones in proportions roughly similar to their numbers in the population, and people with a variety of levels of education.

Additional evidence suggested that many of the other people in the lowest literacy group might have special, complex learning challenges (e.g. social/emotional problems, learning disabilities, or physical disabilities). A 1999 Canadian study by Kapsalis reports that 52% of Canadians between the ages of 16 and 55 who have learning disabilities fit into the IALS Level 1 category. Kapsalis also reports that 15% of people with physical disabilities (excluding intellectual disabilities or mental health disabilities) are in this group.

When taken alone, gender does not appear to be important in predicting who is at Level 1, but with education, age and language held constant, women are less likely to be in the Level 1 group than men. However, the difference between men and women is still insignificant.

Looking at the effects of place of education or birth, there are two international regions and two provinces that deviate significantly from Ontario. Those born/educated in Latin America, the USA, Asia, and other countries (e.g., Africa, Middle East) are much more likely to be in the Level 1 group. Those born/educated on Prince Edward Island (PEI) are significantly more likely to be in the Level 1 group, while those born/educated in Saskatchewan are significantly less likely to be in this group.

Roughly 44% of the Level 1 group in Ontario had eight years or less of schooling. Both Levels 1 and 2 in Ontario include many people with neither English nor French as their first language (33% and 18% respectively).

At the national level, people over age 56 make up more than half (54%) of the Level 1 group. In comparison, people over age 56 make up less than one-quarter of the Level 2 group. People in the 66 years and over age group are more likely to be at Level 1 than 36 to 45 years olds, even when the effects of education, gender and language have been taken into consideration.

There was a major discrepancy between IALS's self-assessment data for people in the two lowest literacy level groups and their actual performance ratings in the survey. IALS participants' evaluations of their own skills were significantly higher than would be predicted by their performance on IALS test items. Statistics Canada (1997) describes the Level 1 group as having great difficulty with reading, and few basic skills or strategies available to them to allow them to decode and work with text. However, just over half of the Level 1 group (57%) stated that their reading skills for everyday life are excellent or good, and an additional 24% rated their skills as moderate. Sixty percent of

the Level 1 group currently in the labor force stated that their reading skills are not limiting their job opportunities at all, while 27% stated that their reading skills limit job opportunities moderately, and 13% stated their skills were greatly limiting. The data also indicate that most people at Level 2 can read but not well, and can only deal with material that is simple and clearly laid out. A large majority of people (90%) in Level 2 rated their own reading skills (prose) as good or excellent, and 84% stated their job opportunities were not limited by their reading skills.

The results of this study led the author to conclude that basic skills upgrading and secondary school equivalency programs should be accessible to all adults in Canada who need them. Outreach and recruitment for these programs should be targeted primarily toward: people in the Level 1 group, people who have not completed secondary school, Allophones and Francophones within the Level 1 group, and people in Level 2 who graduated from secondary schools outside of Canada.

Another study using the comparison across generations from the data generated by the International Adult Literacy Survey (IALS) in 1994 is congruent with the above findings (Statistics Canada, 1997). The results showed that the distribution of literacy skills in Canada is far from even. In the 16- to 20-year-old age group, literacy was related to educational attainment. High school graduates had the highest scores on all three literacy scales. For all Canadians aged 16 and over, women scored higher than men on the prose scale while men scored slightly higher on the document and quantitative scales.

Age was a major factor in determining literacy levels: 80% of Canadians aged 65 and over scored at Levels 1 and 2 on all three IALS scales, compared to one-third of respondents in the 16 to 25 age group. There is a marked difference in literacy between those who were educated primarily after the Second World War and those whose education was completed before or disrupted by that war. The gap can be attributed to differences in educational attainment, and to a "small deterioration in skill" linked to advancing age.

The IALS measured proficiency at the five different levels within each literacy type (prose, document, and quantitative).

- 22% of Canadians were at level 1. These people have difficulty reading and have few basic skills or strategies for decoding and working with text. Generally, they are aware that they have a literacy problem.
- 26% of Canadians were at level 2. These are people with limited skills who read but do not read well. Canadians at this level can deal only with material that is simple and clearly laid out. People at this level often do not recognize their limitations.
- 33% of Canadians were at level 3, which means that they can read well but may have problems with more complex tasks. This level is considered by many countries to be the minimum skill level for successful participation in society.

- 20% of Canadians were at levels 4 or 5. These people have strong literacy skills, including a wide range of reading skills and many strategies for dealing with complex materials. These Canadians can meet most reading demands and can handle new reading challenges.

There were several key findings from the IALS. Literacy development is influenced in childhood by family environment and the educational background of parents. The higher a nation's literacy skills, the more likely its population is to have healthier lifestyles and to participate in their communities and in society. Literacy is linked to economic prosperity and determines type of employment, salaries, and the ability to upgrade work skills. Literacy also contributes to society's overall economic and social performance. Those who read, write, and use numbers regularly have higher literacy levels. Education strongly influences literacy but is not the only factor. Some less-educated people who practice their literacy skills regularly have higher literacy levels than well-educated people who do not practice their literacy skills.

The IALS results also show that although literacy skills are linked with success in school, they decrease over time if they are not used. This suggests that people whose literacy skills keep them out of well-paid jobs are likely to fall even further behind because their skills are not being used.

Summary of Literature Review

Demographic Variables and Individual Characteristics. Several studies have focused on the demographic characteristics related to literacy and adult learners. Age, race, gender, and socioeconomic status, the usual variables considered in epidemiological research, have been shown to have a relationship to literacy. Although the vast majority of persons contacting literacy organizations complained of problems with reading, difficulties with oral comprehension and paying attention were also reported. A large minority have been shown to be dependent on others, at least to some extent, for housing (e.g., relatives or a residential setting). About two-thirds of adults from one study who sought help from a literacy program experienced delays in cognitive and language abilities. The percentage of individuals experiencing problems with substance abuse or having conflict with the law is higher than in the general population. As children, about half were enrolled in special education classes and about 30% left school by age 15.

The results of previous studies also suggest that many who seek adult literacy training experience various clinical conditions at rates higher than those seen in the general population. Especially prevalent were developmental disorders, dyslexia, and intellectual disabilities. Individuals with self-reported learning disabilities (SRLD) demonstrated lower literacy levels than those without SRLD.

Minority groups and those of lower socioeconomic status are over-represented among those with low literacy skills. Unemployment or low paying, temporary jobs seem more prevalent than in the general population.

Motivational factors seem critical to success in adult literacy programs. One study found that successful learners expected that their efforts to achieve literacy would be successful and saw literacy training as more relevant to their goals.

Studies suggest that situational variables may also play an important role in outcome. The same circumstances that prevent individuals from enrolling in literacy programs may also undermine program completion for those enrolled. Such factors might include inadequate financial resources, conflict with paid employment, family commitments, lack of sustained interest in the program, and distance to travel to access the program.

Taken together, studies focusing on the demographic characteristics of adult learners suggest that persons seeking literacy training constitute a diverse group. Many may have unaddressed needs for assistance that go beyond basic skills training in reading, writing, and arithmetic. It is reasonable to assume that some of these characteristics might influence program effectiveness, particularly if the vulnerabilities are not recognized early during program involvement or otherwise disregarded completely. Unfortunately, none of these studies have examined the relationship between learner demographics and literacy program outcome.

Program Variables and Outcome Measures. There is little information addressing the influence of tutor and program characteristics on outcome. What does exist, suggests that individualized curricula and the use of experienced, full-time staff are important program factors for improving literacy skills. Studies also suggest that literacy training will increase the frequency with which learners read and write if the activities and texts of the program reflect their daily literacy activities and purposes.

In addition to learner and program characteristics, there is a third domain important to this line of inquiry. It concerns the definition and measurement of outcome. It has been suggested that adult literacy programs cannot be adequately evaluated by any single measure, such as comparing pre- and post-program grade equivalency on a reading test. Standardized achievement tests are unlikely to identify the functional skills that might be gained through the program or reflect any other improvement in daily living or vocational areas, progress that would be just as important.

Some have been critical of the tendency to view outcome quantitatively, such as a reduction in the number of individuals reliant on social assistance. From the learner's perspective, other, less tangible products of literacy training may be as important. Four areas were identified in one study. Learners saw literacy as helping them to locate themselves in the world in terms of being able to read something, get the information needed, and then being able to act on it. Learners also thought it was important to gain

the ability to use written and oral language effectively in interpersonal and social situations. Thirdly, literacy was viewed as a vehicle for independent action that consisted of a wide variety of activities, such as learning the skills to live on one's own, gaining increasing control over one's life, avoiding exploitation, and making independent decisions. Finally, literacy was seen as a bridge to the future, especially as a means to enable one to compete effectively in the global economy. It was concluded that adult literacy programs should serve as a tool for developing a range of life competencies and as a symbolic source of power in the realm of self-reconstruction.

Unfortunately, there has been little research in the literacy field aimed at examining outcome in a more comprehensive manner, one which considers a variety of adaptive or functional domains and that incorporates the learner's goals.

Limitations of Existing Studies

As in many areas of human service, it would be reasonable to expect that people who seek the assistance of adult literacy programs will come with a variety of personal strengths and vulnerabilities. Unfortunately, the literature has focused almost entirely on the learning challenges of adult students and has given little attention to the personal qualities and personal life circumstances that help students achieve success. Although the prevalence of certain life circumstances among adult learners, such as dependency on others for housing and under-employment, is greater than in the general population, it is important to recognize that these situations are not represented in the majority of adult learners and that they may have little influence relative to other factors on literacy training outcome. These challenges to learning might be interpreted as "risk factors" to a successful outcome, but even this conclusion cannot be made because the identification of these various characteristics associated with adult learners have not been linked to outcomes, either on an individual or a group basis. Also, it cannot be concluded that the absence of a risk factor is necessarily a factor of success. For example, not abusing street drugs does not guaranteed vocational success. For the various reasons discussed above, it is important to identify directly factors that are associated with success, which is a goal of the current project.

Despite the literature's general focus on the vulnerabilities of persons attending adult literacy programs, some studies have identified characteristics related to success. Not surprisingly, a student's level of motivation has been associated with success in literacy training. Two variables, in particular, were found to distinguish students who made significant improvements in their literacy level compared to those who did not. Successful students expected that their efforts to achieve literacy would be successful. Also, successful students saw literacy learning as more relevant to their goals.

Similarly, there has been very limited attention given to identifying tutor and program characteristics that promote success in literacy training. The lack of such information is especially remarkable given the trend in many sectors today, such as education and medicine, to emphasize “best practices” or “empirically-established interventions” in the delivery of services. What information does exist, suggests that there are program characteristics that are important in promoting literacy skills. These include individualized curricula, the use of experienced tutors, and the use of learning materials relevant to the student’s daily literacy activities. However, literacy training is a dynamic and interpersonal undertaking, suggesting that many other program variables may be relevant to a student’s success. Although students reported that certain tutor characteristics were important to them in their literacy training, it has not been determined whether interpersonal characteristics or tutor teaching styles influence student success.

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Appendix B

Description of the Prose, Document, and Quantitative Literacy Levels of the IALS

	Prose	Document	Quantitative
Level 1	Most of the tasks at this level require the reader to locate one piece of information in the text that is identical or synonymous to the information given in the directive. If a plausible incorrect answer is present in the text, it tends not to be near the correct information.	Most of the tasks at this level require the reader to locate a piece of information based on a literal match. Distracting information, if present, is typically located away from the correct answer. Some tasks may direct the reader to enter personal information onto a form.	Although no quantitative tasks used in the IALS fall below the score value of 225, experience suggests that such tasks would require the reader to perform a single, relatively simple operation (usually addition) for which either the numbers are already entered onto the given document and the operation is stipulated, or the numbers are provided and the operation does not require the reader to borrow.
Level 2	Tasks at this level tend to require the reader to locate one or more pieces of information in the text, but several distractors may be present, or low-level inferences may be required. Tasks at this level also begin to ask readers to integrate two or more pieces of information, or to compare and contrast information.	Document tasks at this level are a bit more varied. While some still require the reader to match on a single feature, more distracting information may be present or the match may require a low-level inference. Some tasks at this level may require the reader to enter information onto a form or to cycle through information in a document.	Tasks in this level typically require readers to perform a single arithmetic operation (frequently addition or subtraction) using numbers that are easily located in the text or document. The operation to be performed may be easily inferred from the wording of the question or the format of the material (for example, a bank deposit form or an order form).
Level 3	Tasks at this level tend to direct readers to search texts to match information that require low-level inferences or that meet specified conditions. Sometimes the reader is required to identify several pieces of information that are located in different sentences or paragraphs rather than in a single sentence. Readers may also be asked to integrate or to compare and contrast information across paragraphs or sections of text.	Tasks at this level appear to be most varied. Some require the reader to make literal or synonymous matches, but usually the matches require the reader to take conditional information into account or to match on multiple features of information. Some tasks at this level require the reader to integrate information from one or more displays of information. Other tasks ask the reader to cycle through a document to provide multiple responses.	Tasks found in this level typically require the reader to perform a single operation. However, the operations become more varied—some multiplication and division tasks are found in this level. Sometimes two or more numbers are needed to solve the problem and the numbers are frequently embedded in more complex displays. While semantic relation terms such as "how many" or "calculate the difference" are often used, some of the tasks require the reader to make higher order inferences to determine the appropriate operation.
Level 4	These tasks require readers to perform multiple-feature matching or to provide several responses where the requested information must be identified through text-based inferences. Tasks at this level may also require the reader to integrate or contrast pieces of information, sometimes presented in relatively lengthy texts. Typically, these texts contain more distracting information and the information that is requested is more abstract.	Tasks at this level, like those in the previous levels, ask the reader to match on multiple features of information, to cycle through documents, and to integrate information; frequently however, these tasks require the reader to make higher order inferences to arrive at the correct answer. Sometimes, conditional information is present in the document, which must be taken into account by the reader.	With one exception, the tasks at this level require the reader to perform a single arithmetic operation where typically either the quantities or the operation are not easily determined. That is, for most of the tasks at this level, the question or directive does not provide a semantic relation term such as "how many" or "calculate the difference" to help the reader.
Level 5	Some tasks at this level require the reader to search for information in dense text that contains a number of plausible distractors. Some require readers to make high-level inferences or use specialized knowledge.	Tasks at this level require the reader to search through complex displays of information that contain multiple distractors, to make high-level inferences, process conditional information, or use specialized knowledge.	These tasks require readers to perform multiple operations sequentially, and they must disembed the features of the problem from the material provided or rely on background knowledge to determine the quantities or operations needed.

* (Statistics Canada, 1995)

Appendix C

Specific Learning Goals Identified by the Students (Question 10 of the Exit Interview)

Goal 1	Frequency
Attain a profession	1
Be able to add	1
Be able to multiply and divide	1
Computer	2
Did not stay in long enough to rate	1
Financial independence	1
Fork Lift Training	1
Get high school diploma	1
Help with homework	1
Improve English, Math	1
Improve memory skills	1
Improve reading skills	6
Improve reading and writing	3
Improve sentence structure and/or grammar	4
Improve writing skills	3
Improving writing skills – spelling	2
Improving writing skills - writing notes	1
Job skills	1
Learn to read	1
Looking after children	1
Manage literacy end of small business	1
Math	6
Measure capacity	1
Operate own business	1
Participate in PSW program	1
Read	1
Read job application forms	1

Read work material	1
Short-term employment	1
Subtract, multiply and divide whole numbers	1
Subtraction, understanding fractions	1
Summarizing math ideas when reading	1
Write a letter	1
Write and communicate (work and personal)	1
Write complete sentences	1
Write effective paragraphs	1

Appendix C (continued)

Responses to Question 10 of the Exit Interview

Goal 2	Frequency
Apply to renew driver's license	1
Attain Grade 12 diploma	1
Attain permanent job	1
Be able to subtract	1
Be employed full time	1
Calculate change and receipts (Math)	1
Communicating with others	1
Complete fractions	1
Computer skills – confidence	1
Essay topics	1
Full-time job	1
Get respect from others	1
Improve basic math skills	2
Improve grammar and spelling	1
Improve math skills	3
Improve reading and writing	1
Improve writing	3
Job – Full-time fork lift operator	1
Long-term nursing	1
Math comprehension	1
Mechanic License	1
Numeracy	1
Organizing ideas in paragraphs	1
Prepare for the GED by improving writing skills	1
Proofread work	1
Read a book/novel	2
Reading	2
Run own business	1

Spelling	3
Summarize key points in well developed paragraphs	1
Understand work material	1
Use phonics to decode words	1
Work in factory	1
Write a book review	1
Write entrance test for PSW	1
Write well-developed paragraphs	1
Write, spell, complete business paperwork	1
Writing improvement	5
Writing a word list for spelling	1

Appendix C (continued)

Responses to Question 10 of the Exit Interview

Goal 3	Frequency
Can read to clients in job	1
Complete woodworking	1
English	1
Focussing and determining my next steps	1
Help others who need help	1
Improve calculation figures in mind	1
Improve reading and writing	2
Improve sentence structure	1
Improve typing skills	2
Improve writing skills	3
Learn reading, writing and math	1
Literacy skills to be able to conduct business	1
Making the effort to improve literacy skills	1
Math	1
Read workplace forms	1
Reading	4
Regular, consistent learning	1
Secondary school diploma	1
Self-management	1
Spelling and grammar improvement	1
Spelling improvement	4
Spelling Reading Writing Math Improvement	1
Understand main ideas in reading	1
Understand main point of story	1
Understand shipping and receiving invoices	1
Understanding details in reading	1
Use decimals	1
write complete sentences	1

Write drafts of work	1
Write notes	2
Write well-developed paragraphs	3
Writing - completing forms	1

Appendix C (continued)

Responses to Question 10 of the Exit Interview

Goal 4	Frequency
Achieve PSW certificate	1
Computers	2
Dealing with people	1
Fill out job application	1
Find friends	1
Give change	1
Help children with homework	1
Improving phonics ability with vowel sounds	1
Math improvement	2
Meet with other people, extended family	1
Numeracy, understand fractions and decimals	1
Perform all basic math functions	1
Perform basic math skills for everyday activities	1
Perform calculations with % etc.	1
Read for understanding	1
Self confidence to achieve goals	1
Self-motivated to achieve	1
Solve problems with fractions	1
Spelling	3
Work-related	1
Write notes/messages	1
Writing	2

Appendix C (continued)

Responses to Question 10 of the Exit Interview

Goal 5	Frequency
Grammar	1
Graphing	1
Help my wife manage the business	1
Improve math for budgeting skills	1
Improve typing skills	1
Math	1
Perform calculations with fractions and decimals	1
Read job application forms	1
Typing	1
Understanding and appreciation of learning styles	1
Understanding others	2
Write business letters	1