

REPORT OF AN INTERNSHIP CONDUCTED AT THE
MEMORIAL UNIVERSITY COUNSELLING CENTRE
INCLUDING A RESEARCH PROJECT: THE EFFECTIVENESS OF
METACOGNITIVE TRAINING VIA VERBAL SELF-INSTRUCTION ON
THE COMPREHENSION LEVEL AND STUDY STRATEGIES OF
UNIVERSITY STUDENTS WHO HAVE BEEN DIAGNOSED
AS HAVING A LEARNING DISABILITY

CENTRE FOR NEWFOUNDLAND STUDIES

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by

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An internship report submitted to the
School of Graduate Studies in
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for the degree of Master of Education

St. John's

Newfoundland

1993



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Abstract

During the thirteen week internship placement at the University Counselling Centre, Memorial University of Newfoundland, the intern engaged in many professional activities which enabled him to enhance and build upon his skills as a counsellor. These activities included: (a) individual counselling with 29 clients on a variety of personal, academic, and career concerns; (b) weekly training in Interpersonal Process Recall Training in Counselling; (c) working five hours a week as a career information assistant in the Career Planning Centre; (d) co-leading an Assertiveness Training Group for a period of six weeks; (e) participating in weekly case conferences with the professional counselling staff at the Counselling Centre; and (f) supervision and videotape review of counselling sessions enabled the intern to critically examine his counselling skills, building upon his strengths and remediating his weaknesses. The accompanying internship study gave the intern an opportunity to conduct research in an area that was of interest to him. The study was conducted with five volunteers from The Memorial University of

Newfoundland's Learning Disability Association. The intern investigated if training in metacognition via verbal self-instruction would enhance the reading comprehension as well as the learning and study strategies of the participants. The results of the study indicated that while there were no significant gains in the participants reading comprehension, there was, however, improvement in their acquisition of learning and study strategies.

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TABLE OF CONTENTS

	Page
Abstract	ii
Acknowledgements	iv
CHAPTER I	10
INTRODUCTION	10
Rationale for the Internship	10
THE SETTING	11
Learning Enhancement Programs	13
Career Planning Centre	14
Individual and Group Counselling	15
Credentials Service	15
GOALS OF THE INTERNSHIP	16
SUPERVISION AND FEEDBACK PROCEDURES	18
CHAPTER II	21
THE INTERNSHIP: A DESCRIPTION OF ACTIVITIES	21
Orientation Activities	22
AREAS OF CONCENTRATION	22
Individual Counselling	22
Group Counselling	23
Career Planning Centre	24
Review of Videotapes	26
Interpersonal Process Recall Training	26
Case Conferencing	29
Research/Reading	29
Maintaining Log and Case Files	30
Supervision	31
CONCLUSION	34
Chapter III	35
INTERNSHIP STUDY	35
Introduction	35

Statement of Purpose	35
Rationale	36
Significance of the Study	39
Research Questions	40
LITERATURE REVIEW	41
THEORIES OF LEARNING DISABILITIES	41
Ability-Deficit Theory	41
Skills-Deficit Theory	41
Metacognitive Theory	43
SELF-QUESTIONING	46
Research on Self-Questioning	48
METACOGNITIVE STRATEGY INSTRUCTION	49
RESEARCH ON SELF-INSTRUCTIONAL TRAINING	53
CONCLUSION	54
METHODOLOGY	55
THE METACOGNITIVE TRAINING PROGRAM	57
INSTRUMENTATION	60
RESEARCH DESIGN	61
PROCEDURE	63
Participants Responsibility	63
Intern's Responsibilities	63
SUMMARY	64
RESULTS AND DISCUSSION	65
Participants' Results on the Nelson-Denny Reading Test	66
Participants' Results on the LASSI	68
LIMITATIONS OF THE STUDY	73
CHAPTER IV	75

SUMMARY AND RECOMMENDATIONS	75
Summary	75
Recommendations	77
REFERENCES	79

LIST OF TABLES

		Page
Table 1	Hours Allocated to Internship Activities	21
Table 2	Pre and Post Test Scores and Percentile Rankings for each Participant on the Comprehension Section of the Nelson-Denny Reading Test	66
Table 3	Pre and Post Test Raw Scores for each Participant on the Ten Scales of the LASSI	70
Table 4	Pre and Post Test Mean Scores of the five participants derived from the Ten Scales on the LASSI	71

APPENDICES

	Page	
APPENDIX A	Annotated Bibliography	90
APPENDIX B	Consent to Video Form	95
APPENDIX C	Intake Form	97
APPENDIX D	Summary Form	99
APPENDIX E	Consent Form for Participant	101
APPENDIX F	Ethics Form	103

CHAPTER I**INTRODUCTION****Rationale for the Internship**

Candidates for the Master's Degree in Educational Psychology at Memorial University of Newfoundland are required to complete a thesis, or an internship with a related research project, to fulfil their academic requirements. The internship option consists of a 13 week placement in an approved professional setting and is intended to permit the intern to gain confidence as a counsellor through additional practical experiences and skill development.

The internship, to be conducted at the Memorial University of Newfoundland's Counselling Centre, was selected as the option for the following reasons:

1. It would allow the intern to gain practical experience in counselling and to apply theoretical concepts learned during the formal part of the program.
2. The internship would provide a professional environment in which the intern can receive direct supervision in both individual and group counselling and in many of the other

professional activities associated with an active university counselling centre.

3. The intern was interested in working with other professionals and being exposed to a variety of counselling approaches and other human development activities.
4. The intern would be given the opportunity to broaden his knowledge about the counselling profession.

THE SETTING

The Counselling Centre at Memorial University of Newfoundland was chosen by this intern for the internship setting. Application was made to the Centre in the fall of 1991. This was followed by an interview with Dr. George Hurley, Associate Professor in Counselling and Training Director at the Centre. The intern was successful in obtaining a placement at the Centre starting with the first day of classes for the Spring Semester and extending for a period of thirteen weeks.

The University Counselling Centre was chosen by the intern for the following reasons:

1. The quality and quantity of professional supervision available at the Centre.
2. The quality of learning opportunities and experiences likely to be available at the Centre.
3. The opportunity to work with trained professionals and participate in case conferencing.
4. Availability of a qualified field supervisor on site.
5. The opportunity to engage in individual counselling on a regular basis.
6. The opportunity to be exposed to the Career Guidance services offered by the Centre.

The Counselling Centre has six full-time counsellors who are on hand to assist students with their personal, social, academic, and career concerns. The Centre also employs the services of a reading specialist and an administrative assistant. The professional faculty of the Counselling Centre include:

Dr. Elizabeth Church, Assistant Professor in
Counselling

Dr. Elaine Davis, Associate Professor in
Counselling

Dr. Michael Doyle, Assistant Professor in
Counselling

Dr. John Garland, Associate Professor in
Counselling

Dr. George Hurley, Associate Professor in
Counselling and Training Director

Mr. Lester Marshall, Reading Specialist

Dr. B. M. Schoenberg, Professor and Director

Mr. Wayne Yetman, Administrative Assistant in
Counselling.

The primary goal of the Counselling Centre as stated in the Memorial University Counselling Centre Referral And Resources Handbook (1992), "is to help students release, develop, or direct their personal capabilities" (p.5). To this end, the Centre offers services in four areas:

1. Learning Enhancement Programs

These may include such programs as Speed Reading and Comprehension, Organizing Ideas for Term Papers and Essays, and Oral Communication. These programs usually last a period of six weeks during which time the students learn general strategies that will hopefully

help them cope more effectively with their university courses.

2. Career Planning Centre

An appropriate career choice appears to be a major contributor to students' satisfaction with their performance in university. The Career Planning Centre (CPC) serves as a drop-in-centre designed to help students in such areas as gathering information relevant to educational and career goals, performing self-exploration of career-related interests, clarifying values, acquiring more effective decision making strategies, and developing both short and long-term career plans. Additional information that can be accessed at the CPC is described in the Memorial University Counselling Centre Referral And Community Resources Handbook as follows:

- (a) general career-planning materials;
- (b) job hunting, resumé writing, and interviewing materials;
- (c) description of qualifications needed and entrance requirements for various careers;

- (d) guides to different programs of study available in Canada, the United States, and the Commonwealth Countries; and
- (e) a complete collection of Canadian University and College Calendars, (p.5).

3. Individual and Group Counselling

The Centre offers individual counselling and group counselling services to students attending Memorial University. Individual counselling may take the form of either personal, academic, or career concerns. For those students whose difficulties may be better dealt within a group situation, the centre offers group counselling in the following areas: Test Anxiety Management and Assertiveness Training.

4. Credentials Service

For those students attending Memorial University and want to pursue a career in the field of education, the centre provides a service whereby all pertinent employment information on a student is kept on file and when that student applies for a teaching position, the centre forwards the materials to the prospective employers. This service is presently offered to students at a nominal fee.

GOALS OF THE INTERNSHIP

The main objective for this intern in choosing the internship is to gain further practical experience which may help to enhance his professional growth and development. Below is a list of goals which the intern set for himself at the Counselling Centre.

Goal 1: To develop a self-evaluation of the intern's present strengths and weaknesses.

This was accomplished by: a) videotaping all counselling sessions with clients who consented to taping, b) critically reviewing these tapes with the intern's supervisors and a fellow intern, c) meeting with both field and faculty supervisors midway through the internship to discuss the intern's progress, meeting with the field supervisor at the close of the internship to discuss the intern's progress over the period of the internship.

Goal 2: To become familiar with the services of a career planning centre.

This was accomplished by actually working five hours of the work week in the Career Planning Centre. At the beginning of the internship, the intern was assigned a time to work when an experienced person was

present. As the internship progressed, and the intern became more familiar with the Career Planning Centre, the intern was left alone to handle the running of the centre.

Goal 3: To gain further experience with the administration, interpretation, and scoring of standardized test and inventories.

This was accomplished by: a) administering and interpreting tests and inventories such as the Strong Interest Inventory, Destiny, and Self-Directed Search to clients on an as-needed basis.

Goal 4: To develop an increased awareness of the personal, social, and academic concerns of university students and to learn effective ways of dealing with the needs of this specific population.

This was accomplished through: a) engaging in individual counselling with 29 clients, b) disseminating occupational and academic information to students visiting the Career Planning Centre approximately five hours a week, and c) reading journal articles and books relevant to this population (see Appendix A for an annotated bibliography).

Goal 5: To further develop knowledge of counselling theories and techniques.

This goal was accomplished by: a) case conferencing with the other counsellors on staff, and b) reading relevant literature on this topic during the course of the internship, (see Appendix A).

Goal 6: To participate in case conferencing with other trained professionals.

This goal was accomplished by participating in weekly one-hour case presentations with other staff members. Each week one counsellor at the Centre would present a case from his or her files, and the other counsellors would offer feedback and suggestions.

Goal 7: To gain further experience in group counselling.

This goal was accomplished by co-leading an Assertiveness Training Group for a period of six weeks with a fellow intern.

SUPERVISION AND FEEDBACK PROCEDURES

Due to the varying holiday schedules of the staff at the counselling centre, the supervision of this intern was shared between the following three people: Dr. George Hurley acted as field supervisor for the

first seven weeks, Dr. B. Mark Schoenberg for the next four weeks, and for the remaining two weeks, Dr. Elizabeth Church supervised the intern. In addition to the above mentioned, Dr. Elaine Davis supervised the intern with respect to group counselling. Dr. Tim Seifert from the Faculty of Education agreed to act as the intern's faculty supervisor.

Supervision was conducted in the following manner:

1. Regular weekly one-hour meetings were scheduled with the field supervisor to discuss the intern's progress and concerns, and to critically review segments of counselling tapes.
2. In addition to weekly meetings, the intern meet with the field supervisor midway through the internship to discuss the intern's progress.
3. Throughout the course of the internship, the intern meet with Dr. Elizabeth Church and a fellow intern to discuss taped counselling sessions that each had recorded that week.
4. Regular one-hour meetings were held with Dr. Elaine Davis to discuss the interns' progress and concerns with respect to co-leading an Assertiveness Training Group.

5. The faculty supervisor assisted the intern in developing the internship proposal and completing the internship report, and advised the intern with respect to any changes.
6. The faculty supervisor met with the intern on a weekly basis to discuss the interns' progress and concerns with respect to the internship.
7. The intern met with both field and faculty supervisors at the end of the internship to discuss his progress over the thirteen-week internship period and to evaluate the extent to which his goals were reached.

CHAPTER II

THE INTERNSHIP: A DESCRIPTION OF ACTIVITIES

This chapter will serve to highlight the various activities undertaken by the intern during the internship period of May 11 to August 7, 1992. A summary of these activities, complete with time allocations for each, is found in Table 1.

Table 1
Hours Allocated To Internship Activities

Activity	Number of Hours
Individual Counselling	55
Group Counselling	14
Career Planning Centre	65
Review of Videotapes	21
Supervision	40
Interpersonal Process Recall Training (IPR)	24
Case Conferencing	8
Research/Reading	100
Maintaining Log and Case Files	33
Total hours allocated to these activities	360

Orientation Activities

It is customary at the beginning of the internship that new interns at the Counselling Centre spend the first week orienting themselves to their new surrounding. However, since the intern completed his pre-practicum at the centre, these activities did not occur.

AREAS OF CONCENTRATION

During the internship at the Counselling Centre, the intern was exposed to a number of activities, including the following:

Individual Counselling

Individual counselling at the Counselling Centre meant that the intern was available for personal, academic and career concerns. During the period of internship the intern saw a total of 29 clients, 25 females and 4 males. The nature of the concerns that the clients sought counselling were as follows: twenty sought counselling for career concerns, eight sought counselling for personal concerns, and one client sought counselling for academic concerns. The number

of sessions the intern spent with each client ranged from one to four.

A total of 55 hours during the whole of the internship was spent engaged in individual counselling sessions with clients.

Group Counselling

During the internship, the intern was approached by Dr. Elaine Davis, (a counsellor at the Centre), and was offered the opportunity of co-leading an assertiveness training group with a fellow intern who was also completing her internship at the Centre. Both interns were assigned the task of interviewing the prospective clients, and a total of eight were eventually chosen to take part in the group.

The group finally selected was composed of six males and two females. The group ran for a total of six weeks, with each intern sharing the duties of group leader on alternate weeks. The intern found this experience to be both challenging and rewarding. It also gave the intern the opportunity to hone his group counselling skills.

Throughout the course of the six weeks, the intern had regular weekly meetings with Dr. Davis to discuss

the intern's progress and concerns with running the group. This time period was also used to discuss the format of upcoming sessions. The intern found this form of feedback to be extremely helpful. It gave him an opportunity to experience what it was actually like to co-lead a group of this nature. It also afforded the intern a chance to foster the growth of his group skills through interactions with the group under the watchful eye of an experienced counselor.

Career Planning Centre

The Career Planning Centre (CPC) located in Room 3035 of the Thompson Student Centre, is a branch of the Counselling Centre which offers students and faculty the opportunity to drop-in, without appointment, to access various kinds of educational and career information.

One of the duties assigned to the intern during his thirteen-week internship at the Counselling Centre was to perform the duties of a career information assistant in the Career Planning Centre for five hours per week. The intern's main responsibility was to help students and faculty locate appropriate materials. If the intern felt that a person could benefit from more

in-depth counselling, then he informed him/her that they could make an appointment with a counsellor via the main Counselling Centre office.

The intern found that his work at the CPC gave him the opportunity to become familiar with the various materials associated with making an informed career choice. In assisting other students in their search for career related materials, the intern feels that his knowledge of the world of work was expanded. It also gave him a chance to practice his career counselling skills with a variety of age groups. In conjunction with the day to day workings of the Career Planning Centre, the intern also participated in monthly meetings attended by the CPC personnel and the counsellors at the Counselling Centre. These meetings were a time when each staff member could discuss any difficulties that they encountered during the past month. It was also a time new acquisitions to the CPC were presented in a show and tell type of format. The intern spent a total of 65 hours in the Career Planning Centre during the thirteen-week internship.

Review of Videotapes

The reviewing of the intern's videotapes was one of the most helpful activities that the intern engaged in while at the Counselling Centre. At the onset of each counselling session, the client was asked if they would consent to having their session videotaped for the purposes of supervision of the intern. If they agreed, they signed a consent form, as per the regulations for interns at the Centre, (see Appendix B). Of the 29 clients that the intern saw during the course of the internship, 19 consented to having their sessions taped.

The intern viewed these tapes alone, or sometimes his fellow intern sat in on the viewing. In each case the purpose was to critically evaluate the counselling skills of the intern. The intern feels that he benefited significantly from this exercise, as it gave him an opportunity to receive immediate feedback on his progress throughout the course of the internship.

Interpersonal Process Recall Training

To enhance the growth of the intern's counselling skills, Dr. Hurley recommended that he take part in a program at the Centre which was mainly designed for

first year Family Practice residents entitled Interpersonal Process Recall Training (IPR). IPR training is directed at developing three general sets of skills. These are:

1. The ability to understand clearly what a person is saying-overtly and covertly-on both the cognitive and the affective levels.
2. The ability to better recognize and label the impact another person is having on us.
3. The ability to share the understanding we develop with those whom we are communicating. That is, when it is appropriate to do so, to be able to tell others the things we are hearing and the reactions they are engendering in us.

(Kagan, Burford, and Garland, 1988, p.20)

To foster the growth of the above skills, video tapes of patients and clients that the intern and residents had recorded each week were presented as part of each IPR meeting. These videotapes were used as the groundwork for discussion and skills building. The

intern and residents were also acquainted with the interactive model of counselling which is designed to help participants identify when and why they are experiencing difficulties during some interviews.

Interpersonal Process Recall Training was scheduled for Wednesday's from 9:00 - 12:00, and lasted for a period of eight weeks. The intern spent a total of 24 hours engaged in IPR.

Taking part in the IPR was one of the most rewarding exercises that the intern took part in during the entire internship. It gave the intern a chance to critically examine his counselling skills, through viewing videotapes of his own counselling sessions in a atmosphere that was non-threatening. It offered an opportunity for the intern to engage in some self-exploration thereby helping discover issues that impact on counselling skills. The IPR also afforded the intern time to build upon his personal style of counselling by affording him the opportunity to practice implementation of interactive-communication skills including: exploratory, affective, and listening responses and honest labelling.

Case Conferencing

During the course of the internship, the intern participated in weekly one-hour case conferencing sessions. Each week one counsellor would present a case file from one of his/her ongoing cases. Following the presentation, the other counsellors would offer constructive feedback.

The intern's case conference was scheduled on June 5, 1992 and he presented one client from his case files. This experience offered the intern the unique experience of receiving feedback from counsellors that have had up to 30 years of experience in the field of offering counselling services. The intern feels that as a result of being exposed to this exercise, he has become more cognizant of the differing approaches that can be taken to a single counselling scenario.

A total of 8 hours per week were spent in case conferencing with other staff members.

Research/Reading

Counsellors on faculty at the Counselling Centre have at their disposal eight hours which they can devote to conducting research. This time was also provided to the intern and was spent mainly in the

pursuit of books and articles that related to his internship project. The intern also used this time to do some additional reading on areas that were of personal interest to him. They included such areas as hypnosis, sexual abuse and the use of cognitive behavioral therapy in the treatment of depression. As well the intern spent time researching topics significance to his own counselling caseload. An annotated bibliography of books and materials read during the internship is presented in Appendix A.

Maintaining Log and Case Files

To help keep track of the activities that the intern participated in during the internship, a daily log was kept. At the end of each day the intern would compile the activities of that day. As well, reactions to these events were also recorded. The intern found that in completing the log each night, it helped to bring closure to the day's activities. It was also a valuable tool in helping to complete this report.

As per keeping with the regulations of the Counselling Centre, the intern was required to complete an intake summary outlining the presenting problem of the client, (see Appendix C). As well, case file notes

had to be updated after each counselling session. In addition, the intern was required to maintain a master list of clients' names, their presenting problem(s), and the dates that they were seen. This list was presented to the field supervisor each week during the regular supervision meeting.

During the last week of the internship, the intern was required to complete case summary sheets, (see Appendix D) on all 29 clients that he had seen during the thirteen week period. These case files were then passed on to the field supervisor, who reviewed them and then co-signed them. The intern spent a total of 60 hours maintaining his log, writing file notes and completing the case summaries.

Supervision

For the first seven weeks of the internship, Dr. George Hurley was the intern's supervisor, during which time regular one-hour weekly meetings were held. This time was usually spent reviewing videotapes and discussing the progress and concerns of the intern with regard to each of his clients. The intern found these meetings to be both challenging and insightful. It gave the intern a chance to critically analyze his

counselling style and at the same time develop new skills under the guidance of his field supervisor.

The next four weeks of the internship were supervised by Dr. B. Mark Schoenberg. Again regular one-hour meetings were scheduled and they followed a format similar to the first seven weeks. One deviation from the regular schedule saw the intern being exposed to the area of hypnosis. This is an area of interest for the intern, and he was delighted when Dr. Schoenberg agreed to elaborate on this form of therapy.

The final two weeks of the internship were supervised by Dr. Elizabeth Church, and again followed the same format as those held with the two previous supervisors (e.g., reviewing segments of counselling tapes). Throughout the internship, and apart from the regularly scheduled supervision, Dr. Church would also meet with the intern and a fellow intern to view counselling videotapes of each other's sessions. This was particularly helpful to the intern because it gave him a chance to observe other counsellors theoretical orientations and approaches in action.

In addition to the above mentioned supervision, regular one-hour meetings were scheduled with Dr.

Elaine Davis to discuss any problems and concerns that the intern may have encountered with the Assertiveness Training group during the previous week. As well as discussing the events of the previous week, this time was also spent preparing for the upcoming session. These meetings were quite beneficial in allowing the intern to express some of his concerns and aspirations for the upcoming session. As well, the constructive feedback the intern received proved helpful in future sessions with the group.

During the internship, the intern met regularly with his faculty supervisor, Dr. Tim Seifert. These meetings, like the ones at the Centre focused mainly on the progress and concerns of the intern. These meetings were also particularly helpful to the intern in designing the research component of this report.

At the close of the internship, the intern met with both field and faculty supervisors on separate occasions, at which time it was agreed that the goals outlined by the intern before the onset of the internship had been achieved. At that time, it was also agreed that the intern had benefited significantly from the internship experience.

CONCLUSION

This chapter has outlined the various activities that the intern was engaged in during his internship at Memorial University's Counselling Centre. The intern feels that as a result of being exposed to the experiences described above, he has been successful in achieving his overall aim of enhancing his professional growth and development as a counsellor.

The placement at the Counselling Centre gave the intern an opportunity to work with professionals who have been in the field of counselling for over thirty years. The intern feels that this experience has helped him build upon his counselling skills, and in turn has boosted his self confidence as a competent helper. The experience is one that this intern would recommend to further graduate students in Educational Psychology.

Chapter III
INTERNSHIP STUDY

Introduction

Having completed several courses in cognitive psychology, having reviewed relevant literature pertaining to the subject, and having consulted with professionals in the area of learning disabilities, the intern undertook a study to determine the link between metacognitive training via verbal self-instruction and the comprehension performance and study strategies of university students who have been diagnosed as having a learning disability.

Statement of Purpose

In conducting this study, the intern intended to:

1. determine the effects of teaching the metacognitive strategy of self-questioning via verbal self-instruction on the comprehension level of university students who have been diagnosed as having a learning disability.
2. determine if there is a change in the students' learning and study strategies as a result of taking part in this study.

Rationale

Metacognition is a term that describes the knowledge that learners have about their cognitions, as well as their ability to monitor and control their cognitive processes, (Duell, 1986; Baker and Brown, 1981a; Flavell, 1979; Forrest-Pressley, Mackinnon, and Waller, 1985). Research in the area of metacognition has grown over the past fifteen years, as educators and educational researchers have displayed increased interest in the importance of cognitive processes in the education of both children and adults (Narode, 1987).

Data obtained from this research suggest that successful learners differ from the less successful in important ways. Baker and Brown (1984a, 1984b) found that good readers possessed metacognitive skills in reading, whereas poor/immature readers demonstrated a deficiency. The authors also discovered that good readers monitored their own reading comprehension and spontaneously displayed suitable debugging strategies to resolve comprehension problems. Poor/immature readers, on the other hand, were found to have deficits in this area.

A similar observation was made by Tei and Stewart (1985), who found that successful learners can describe their methods and strategies for reading, whereas less successful learners seem unaware of deliberate strategies that could be employed. The implications of this research, say Tei and Stewart (1985), are that "learners who are not aware of their own learning, their limitations, or the complexity of the task at hand, can hardly be expected to take preventative action in order to anticipate and then recover from comprehension failures" (p. 4).

Having stated that poor learners show deficits in metacognitive strategies and that metacognition is an acquired skill whose development can be facilitated with proper instruction, Brown, 1981a, 1981b, 1982, Flavell, (1979), Tei and Stewart, (1985), and Wong, (1988), all suggest that an effective way to help some less successful learners overcome their reading and study problems is to teach them metacognitive strategies.

In recent years, metacognition has found its way into the field of learning disabilities (Wong, 1985a, 1985b), and while research has demonstrated that

students have benefited from instruction in metacognitive training, strategy maintenance and generalization are not often observed (Chan, 1991). This inability of learning disabled students to maintain and generalize metacognitive skills can be attributed to deficits in self-regulation of strategic behaviors, rather than an inability to acquire and execute specific strategies (Harris, 1986; Torgensen, 1982; Wong, 1985).

Chan (1991), suggests that learning disabled students can acquire skills in self-regulation of strategic behaviors by self-instruction training. Chan (1991) defined self-instruction training as: "a set of procedures designed to teach students to gain conscious, personal executive control over a learning task by using self-instructions or self-statements to guide their problem-solving process" (p. 427). Chan, investigated the efficiency of self-instruction in combination with self-questioning, considered by a number of researchers to be one of the most effective metacognitive skills (Haller, Child, & Walberg, 1988; Ganz & Ganz, 1990, Singer, 1978), with fifth and sixth grade learning disabled students to improve their

identification of main ideas in a paragraph. The results of the study indicated that students who were instructed using this method achieved higher scores than those who were taught through the demonstration-practice technique. Chan (1991) contends that self-instruction is appropriate for teaching learning disabled students because it can assist the development of self-regulation through self-statements, which in turn may lead to more effective and more appropriate use and generalization of cognitive strategies.

Based on the results obtained from Chan's study, the intern conducted a somewhat similar study with university students diagnosed as having a learning disability, to determine if similar results would occur in an adult population. In addition, the intern was also interested in finding out if the students' actual learning and study skills improved as result of participating in the program.

Significance of the Study

This study was designed primarily to ascertain the benefits of metacognitive training via verbal self-instruction on the comprehension level and study

strategies of university students who have been diagnosed as having a learning disability.

While this area is of personal interest to the intern, it should also be of value to educators in their work not only with students who have learning disabilities, but with any student who may have deficits in metacognitive development.

The information gained in this study has assisted the intern in developing new insights in the area of learning disabilities. This study may also serve as a catalyst for other professionals to enter into further research in the area of learning disabilities.

In addition, it has, hopefully, provided the participants of the study useful insight into their reading and study strategies.

Research Questions

1. To what extent does metacognitive training via verbal self-instruction affect the comprehension level of university students who have been diagnosed as having a learning disability?
2. Do the students show actual improvements in their learning and study strategies as a result of participating in this study.

LITERATURE REVIEW
THEORIES OF LEARNING DISABILITIES

Ability-Deficit Theory

Traditionally, the poor performance of learning-disabled (LD) children on academic and experimental tasks has been attributed to specific structural or ability deficits (Harris, 1986). According to Wong, (1985a), this model suggests that "...certain children fail to learn well in school because of deficits in processing functions - that is, ability deficits"(p. 143). For example, a student may be experiencing auditory reception or visual perceptual problems which impede the acquisition of reading skills (Palincsar and Brown, 1987). For these particular children to learn, the theory suggests that special instructional methods are necessary to build, in the LD child, those areas in which ability deficits have been found. Thus, says Wong (1985a), "in the case of a child diagnosed to have ability deficits in auditory processing, she or he will be given exercises in auditory processing in the hope of strengthening this area of functioning"(p. 144).

The ability-deficits theory has come under some heavy fire from opponents who suggest that it has

limited usefulness when planning and executing instruction (Arter & Jenkins, 1978; Hammill & Larsen, 1974). Others like Wong (1985a) contend that there is a lack of a demonstrated relationship between the LD students' ability deficits and their academic problems. Without such documented empirical evidence between the two, Wong proposes that we "... may not justifiably use ability deficits to explain academic problems in LD students" (p. 144).

Another concern associated with deficit training in auditory or visual processes, is its inability to transfer to reading (Myers and Hammill, 1982). Brown, (1982) and Jenkins (1979) suggest that the main problem associated with this lack of transfer is the fact that by focusing entirely on the LD students' ability deficits, the proponents of this theory often fail to grasp the complexity of the learning situation, in which any number of factors determine the learners' learning outcome.

Skills-Deficit Theory

Another theory that was also popular at the same time, the academic-skills theory, rejected the assumption that academic failure in LD students was due

to ability deficits, and proposed that such failures were due to skills deficits (Wong, 1985a). According to such researchers as Lerner, (1981), and Wallace and McLoughlin, (1979) teachers should concentrate on teaching the academic skills that are weak rather than spending time focusing on the ability deficits of the students.

This theory, like the ability-deficit theory, has not been without criticism. Lerner (1981), questions whether learning itself is composed of a series of separate and discrete skills. Another criticism aimed at the skills-mastery theory suggests that there is more to learning than the acquisition of knowledge/skills. The learner, say Baker and Brown (1984a), (1984b), must also know where and when to use his/her newly acquired knowledge/skills.

Metacognitive Theory

In light of the criticisms of the ability-deficits and skills-deficit theories, there has emerged another theory that seeks to explain academic difficulties/failures in LD students. The metacognitive theory suggests that rather than an ability or a skills deficit, such failures in LD students are frequently

the result of problems in self-regulation of organized, strategic behaviors, rather than an inability to acquire and execute specific strategies (Wong,1982). Thus, say Baker and Brown (1984a), for the learner to be able to use and control his/her appropriate background and strategic knowledge, she or he needs metacognitive skills.

Torgensen (1979) contends that rather than being limited in their capacity to learn to read, many LD children may have difficulty in the management of their strategies. Torgensen and Kail, (1980) found that LD students failed to spontaneously produce appropriate task strategies, while mild prompts or direct instruction in cognitive and metacognitive strategies improved performance. Similar observations regarding the failure of LD students to spontaneously employ effective strategies have been observed by Tarver, Hallahan, Kauffman, and Ball (1976) and Dawson, Hallahan, Reeve, and Ball (1979) in their studies on selective attention. In a later study conducted by Slife, Weiss, and Bell (1985), metacognitive differences were also found between LD students and their nonidentical peers on a mathematical problem

solving task.

Sensitivity to important textual information or self-monitoring is an important metacognitive skill in reading and study (Brown, 1980). It is also one of the areas in which LD students seem to have problems. According to Wong (1985a), "insufficient self-monitoring of one's state of reading comprehension may be one causal factor in reading comprehension problems in LD students" (p. 165).

The importance of developing self-monitoring skills in young children cannot be overstated. To (Vygotsky, 1962), the development of regulatory self-verbalizations (private speech) among children is considered a prerequisite for more sophisticated cognitive functioning. Thus, says Harris (1986), "...it can be hypothesized that young LD children exhibit deficiencies in the production of appropriate private speech in task situations" (p. 64).

Harris (1986) suggests that the existence of deficits in task-relevant private speech among LD children "...provides further evidence that performance problems among LD children are frequently related to deficits in self-regulation of organized,

strategic behaviors rather than structural or ability deficits" (p. 74).

SELF-QUESTIONING

If indeed LD students do show deficits in private speech or self monitoring skills, what types of remediation could be utilized to help these students acquire these metacognitive skills? One strategy that has been taught frequently in cognitive and metacognitive programs is self-questioning. Haller, Child and Walberg (1988), in conducting a synthesis of metacognitive skills, found self-questioning to be effective as a monitoring and regulating strategy. Singer (1978) contends that to think deeply about what one is reading, one has to wrestle with the text through self-questioning. Ganz and Ganz (1990) also feel strongly about the effectiveness of self-questioning. They suggest that "self-interrogation is an effective study technique for the recall of information and is more efficient than other techniques such as passive, desperate rereading" (p. 182). Whimbey and Whimbey (1975) say that for poor readers, instruction in self-monitoring questions appears particularly relevant because they tend to be unaware

of their lack of reading comprehension. The key then, say Chan and Cole (1986) "...to efficient reading may be to participate in such contrived dialogues with the author of the text, which involve question and answer interactions" (p. 34).

In utilizing a self-questioning strategy, students are taught to generate their own questions during reading to promote learning through: (a) involving the reader in active integration of the text, (b) activating prior knowledge relevant to the text, (c) setting a purpose for the reading activity, (d) directing attention to important propositions in the text, (e) reflecting on semantic propositions of the text (and thus involving oneself in the higher levels of text-processing), and (f) checking for difficulties in comprehension and working out means of overcoming those difficulties (Wong, 1985b).

Singer (1978), in discussing the purpose of teaching students to formulate their own questions, cautions us that the sole purpose is not to have students retain information. The goal, he says, is "...to teach students a process of learning from text which emphasizes the reader's purposes and the dynamic

interaction between the reader and the printed page, including selective attention to those aspects of text that are relevant to satisfying students' curiosity" (p. 904).

Research on Self-Questioning

There have been a number of studies that have sought to test the effectiveness of self-questioning techniques on students who have been diagnosed as having a learning disability.

Wong and Jones (1982) trained LD students to monitor their comprehension via self-questioning. The results of their study showed that training substantially increased LD students' awareness of important textual units, as well as their ability to formulate good questions involving those units. In addition, training facilitated their reading comprehension.

Palincsar (1986) also had success in improving reading comprehension levels of seven LD students by teaching them specific cognitive and metacognitive strategies including self-questioning. The LD students' reading comprehension was also well maintained during maintenance and follow up tests.

Chan and Cole (1986) found that the use of self-questioning to facilitate comprehension monitoring was successful in improving the reading comprehension competence of LD children.

In a later study conducted by Chan (1991), LD students were successfully taught to generate self-questions to aid them in the identification of main ideas from text.

METACOGNITIVE STRATEGY INSTRUCTION

According to Palincsar and Brown (1987) "...the instructional agenda suggested by a metacognitive approach includes (1) increasing the learner's awareness of the task demands, (2) teaching the student to use appropriate strategies to facilitate task completion, and (3) teaching the student to monitor the application of these strategies" (p. 67). Most important, says Palincsar (1986), to any successful metacognitive strategy "...is the gradual transfer of control of the strategy from the teacher to the student" (p. 122).

Evidence of strategic-production deficiencies among LD children has had a significant impact on the types of intervention strategies employed (Harris,

1986). Harris, (1982) and Meichenbaum, (1976) have suggested the use of cognitive- behavioral modification (CBM) techniques with LD children. According to Harris (1986), "(CBM) techniques typically incorporate self-regulation of cognitive and metacognitive strategies, self-verbalizations as crucial tools for achieving self regulation, and place emphasis on the active role of the child in the learning process" (p. 64). Thus, say Hallahan, Kneedler, and Lloyd, (1983), the use of CBM with LD children is seen as "a logical and effective match up between individual characteristics and treatment procedures" (p. 208).

One method of CBM instruction proposed by Vygotsky (1962) and Luria (1959, 1982) is called Verbal Self-Instruction Training (VSI). The Vygotsky and Luria model involves modelling the use of inner speech or self-instructions of the child. "Modelling by the clinician is followed by a set of carefully prescribed steps for teaching the child to use verbal self-instructions in his/her own problem solving attempts" (Kirby and Grimley, 1986, p. 73). The promotion of this inner speech is hypothesized by Vygotsky (1978)

and Wertsch, (1979) to increase a child's awareness and self-control of thought processes.

The steps of Verbal Self-Instruction Training as outlined by Vygotsky and Luria, are as follows:

1. **Task Selection:** The clinician selects a task that involves sustained focused attention and requires the use of some systematic plan or strategy for successful completion.
2. **Cognitive Modeling (six stages):** The clinician models the solution of the task.
3. **Overt External Guidance:** Next, the clinician has the child complete the task while the clinician verbally instructs him/her through it.
4. **Overt Self Guidance:** Here the clinician has the child complete the task again (or a similar one) while using the child's own self-statements to guide him/her to a solution.
5. **Modeling of Faded Overt Self-Guidance:** In this step, the clinician models the whispering of the instructions to him/herself while going through the task.
6. **Child Practice of Faded Overt Self-Guidance:** The purpose of this step is to help the child see the

nature and usefulness of genuine self-instructions.

7. **Modeling of Covert Self-Instruction:** During this step the clinician moves his/her lips, looks pensive, pauses to check two alternatives by pointing at one and then the other, and so on.
8. **Child Practice of Covert Self-Instruction:** During this final step the child has to think his/her own way through the task at hand. Since this step involves covert self-instruction, the clinician is able to monitor directly the child's thinking (Kirby and Grimley, 1986).

Meichenbaum's (1977) self-instructional model is also a CBM technique derived from the one above. However, he has trimmed his working model down to five steps. They include: (1) Cognitive Modeling, (2) Overt External Guidance, (3) Overt Self-Guidance, (4) Faded Self-Guidance and (5) Covert Self-Guidance. Meichenbaum's model, like the Vygotsky and Luria model, seeks to move the subject from "...modeled induced use of task-relevant private speech to the use of covert task-relevant speech in the solution of a problem" (Harris, 1986, p. 66).

RESEARCH ON SELF-INSTRUCTIONAL TRAINING

Research on self-instructional training in the area of learning disabilities has been quite promising. Harris, (1982) and Torgensen, (1982) view self-instructional training to be particularly promising in remediating poor attention, concentration, effort, and persistence among LD children, as well in improving strategic performance.

Kendall and Finch (1979) utilized self-instructional training while working with impulsive, emotional disturbed children. The results of this work indicated improvements in both task-relevant verbalizations and higher scores on the Matching Familiar Figures test.

Kirby and Grimley (1986), in their work with Attention Deficit Disorder (ADD) children, supported the notion of utilizing self-instructional training as a form of therapy. They suggest that "the exciting promise of such treatment is that it encourages children to become aware of and take responsibility for directing and changing their own behavior" (p. 119).

Chan (1991) successfully trained LD students to identify main ideas by the self-instructional

technique. These students scored higher mean scores than those taught by a demonstration technique.

In a study by Harris (1986), LD students were taught self-instruction training as a way of increasing their proportion of task-relevant (TR) private speech. His findings indicated that self-instruction training resulted in a significantly higher proportion of TR private speech among LD students. According to Harris (1986), "the significant higher rate and proportion of TR in the self-instructional training condition indicates that this is an effective technique for increasing TR self-verbalizations" (p. 73-74).

CONCLUSION

Metacognition has generated a new orientation to the remediation of LD students (Wong, 1986). Implicit in this remedial orientation is the focus of the individual in taking an active role in his/her own learning (Brown, 1980; Kirby and Grimley, 1986). In addition to academic concerns, Wong (1986) contends that there is a more important reason for training LD students self-monitoring skills. She states that "...we not only need to improve LD students' academic skills, we need to improve them to the extent that they

could function autonomously like their normal-achieving peers" (p. 22).

METHODOLOGY

The students who participated in the study were university students who had been previously been diagnosed as having a learning disability under the supervision of Dr. Leroy D. Klas from the Faculty of Education at Memorial University of Newfoundland.

Before the beginning of the spring term of 1992, the intern attended a meeting of Memorial Universities Learning Disabilities Association, at which time he presented his proposed study. The intern next asked for volunteers to take part in the six week program. As a result of this meeting six students agreed to take part; however, one dropped out a week into the program. The remaining group consisted of three females and two males.

The metacognitive training program lasted a total of eight weeks. Each weekly session ran for two hours and was scheduled on Wednesday nights from 7- 9 and Friday mornings from 10-12. These time slots were chosen by the participants so as to accommodate their class and work schedules.

During the initial session, participants completed informed consent forms (Appendix C), as well as the pre-tests of the Comprehension section of the Nelson-Denny Reading Test and the Learning and Study Strategies Inventory. The next six sessions were spent implementing the metacognitive training program via verbal self-instruction as discussed in the following section of this report.

The reading material used for the first two sessions was selected from materials made available to the intern by the Reading Specialist at the Centre, Mr. Lester Marshall. Since the majority of the participants in the study were completing first year at Memorial University, the intern, with the assistance of the reading specialist, selected reading material that would be on par with first year university level courses. For the remainder of the program, participants brought in reading material from courses that they were completing at the time. The intern transferred this material to overheads for use in further sessions.

The final session was used for completion of post-tests measures on both the Comprehension section of the

Nelson-Denny and the Learning and Study Strategies Inventory. The results of both pre and post-test measures were then tabulated by Mr. L. Marshall. The data obtained from the study was next analyzed using a single subject design in which each subject was compared only to their own performances on pre and post-test measures. The results of which are discussed later in this report in the section entitled Results and Discussion.

THE METACOGNITIVE TRAINING PROGRAM

The program which was utilized during the six week period involved the training of students in the various components that comprise self-questioning. They include:

- (a) **Pre-Reading Questioning:** This type of questioning serves to activate prior knowledge relevant to the text as well as setting a purpose for the reading activity (Chan, 1991). Some examples of questions that were used during this stage included: "Look at the title. What questions could you ask just from the title alone?" and "What is the nature of the information being conveyed by the author?"

- (b) **During-Reading Questioning:** These types of questions help the student direct attention to important concepts in the text (Chan, 1991). Some examples of questions that were asked at this stage included: "Did I understand the main ideas in the previous section?" and "How are the ideas in this section related to the previous one?"
- (c) **Post-Reading Questioning:** These types of questions, say Tei and Stewart (1985), are essential for evaluating the students' overall understanding of the text. Some examples of questions asked at this stage include: "Do I understand everything that I have read?" and "Can I list the main points of the text?"

Each of the above components of self-questioning was presented in turn to the students via Meichenbaum's (1977) model of self-instruction. This model consists of the following five stages:

1. **Cognitive Modeling:** This stage involved the intern modeling each component of self-questioning by "thinking aloud" before, during and after reading through the text that was presented to the students via overhead projector. In this way, the

intern verbalized the self-question and at the same time, answered it as well.

2. **Overt External-Guidance:** During this stage, the students were instructed to imitate the intern's self-questioning routine; that is, both intern and students read through the given text together, using overt self-questions and answers. In using this approach, the intern's role was to guide the students through the task.
3. **Overt Self-Guidance:** At this stage, the students themselves read through the text while verbalizing the self-questions aloud. This process allowed the intern to observe the student's independent use of the self-questioning strategy.
4. **Faded Self-Guidance:** The students, at this stage, read the text while whispering the self-questions. This allowed the intern to continue monitoring, while fading the self-questioning from the overt level.
5. **Covert Self-Guidance:** At this final stage, the students read the text using covert self-questions.

INSTRUMENTATION

The Comprehension section of the Nelson-Denny Reading Test, developed by M. J. Nelson and E. C. Denny (1960), was used as a measure to determine if comprehension levels of the students changed as a result of taking part in the six week program. Form A of the test was used for the pre-test and form B was used for the post-test.

According to Buros (1965) the Nelson-Denny test "...is one of the better of its kind and represents a useful improvement of an already useful test" (p. 1078). Buros goes on to suggest that "...the test may facilitate a survey of a field where we admittedly lack good information-the growth of reading power in the college years" (p. 1080).

To determine the extent to which the students learning and study strategies may have changed over the course of the program, the Learning and Study Strategies Inventory (LASSI), developed by Weinstein, Palmer, and Schulte (1987), was employed for both the pre and post-test measures. According to the LASSI User's Manual, the inventory consists of 130 items and has a test-retest correlation of .88 for the total

instrument. It is primarily designed, says Weinstein (1987) "to measure college students' use of learning and study strategies" (p. 2). In reviewing the LASSI, Meadley (1988) stated that the authors assert that the LASSI can be used for any one of the following: (1) to diagnose and remediate studying weaknesses, (2) as pre or post tests to measure student achievement in and to evaluate the success of study strategies courses, and (3) as a counselling instrument in college orientation courses. Weinstein (1987) also suggests that the LASSI can be used to measure "both overt and covert thoughts and behaviors related to successful learning...that can be altered through educational interventions" (p. 2). Mealey (1988) supports this contention when she states that if the LASSI were given at the beginning and end of a developmental studies program with a reading/study strategies component, then it "may provide insights into students' self-reported academic strengths and weaknesses coupled with their academic self-concept, a generally neglected area of concern" (p. 384-85).

RESEARCH DESIGN

The research design used in this study was the One-Group Pretest-Posttest Design. The program

consisted of three separate components: (1), the administration of the Nelson-Denny Reading Test (Form A) and the Learning and Study Strategies Inventory (LASSI) as pretest measures. Both of these instruments purport to measure changes in the dependent variables contained in the study. The former measures changes in reading comprehension levels of the participants while the latter measures changes in the learning and study strategies of the participants; (2), the application of the treatment (The Metacognitive Training Program), which is the independent variable; and (3), the administration of post-test measures, which includes the Nelson-Denny Reading Test (Form B) and LASSI. These measures serve to detect changes in the two dependent variables in the study.

According to Campbell and Stanley, (1963), the above design poses some inherent threats to internal validity. Two of these threats may include , history and maturation. However, the intern felt that given the constraints of time and the limited number of participants, this type of design was suited to this particular study. Although the one-group pretest-posttest design has its flaws, Borg and Gall (1989)

suggest that it "...is especially appropriate when you are attempting to change a behavioral pattern or internal process that is very stable" (p. 672). It is the intern's belief that metacognitive skills fall logically into this category. Thus, this design was employed in this study.

PROCEDURE

Participants Responsibility

1. Those who agreed to participate in the program were required to complete a consent form (Appendix E).
2. Those who agreed to participate in the program were required to complete two separate measures on two different occasions. These were completed prior to the first training session, and after the last training session.

Intern's Responsibilities

1. Prior to the start of the program, meeting with the Learning Disabled Society on campus to obtain volunteers for the program.
2. Obtaining permission from the participants at the beginning of the initial session, explaining the

- purpose of the program and students' responsibility, and collecting consent forms.
3. Developing and implementing the metacognitive program that the students participated in during the course of the six weeks.
 4. Administration of two measurement instruments on two separate occasions.
 5. Hiring an independent marker to score the results of the above mentioned measures.
 6. Ensuring confidentiality.
 7. Completing an analysis of each participant's pretest and posttest scores on the above measures.
 8. Obtaining approval of the ethical procedures in the study from the Faculty Ethics Review Committee (Appendix F).

SUMMARY

The purpose of this study was to develop, implement, and evaluate a metacognitive training program using university students who were diagnosed as having a learning disability. The intern sought to address the following two questions:

1. What effect does taking part in a metacognitive training program have

on the comprehension level of participants?

2. What effect does taking part in a metacognitive training program have on the study strategies of participants?

RESULTS AND DISCUSSION

The results of this study are presented using the following format. First, for each of the five participants, the score summaries and percentile rankings for both pre and posttest measures on the Comprehension Section of the Nelson-Denny Reading Test are presented via table format; this is followed by a descriptive analysis of each of the participants performance on this measure. Comparisons are made only between an individual's own pre and post-test scores and percentile rankings on this measure, rather than comparing one participant's results with that of another. This same procedure is followed when discussing the results of each participant on the Learning and Study Strategies Inventory (LASSI).

Participants' Results on the Nelson-Denny Reading Test**Table 2**

Pre and PostTest Scores and Percentile Rankings for each Participant on the Comprehension Section of the Nelson-Denny Reading Test

Participant Number	Pre-Test Raw Score	%-tile Rank	Posttest Raw Score	%-tile Rank
1	18	5	14	4
2	22	3	24	4
3	16	1	20	2
4	22	3	20	4
5	20	2	30	17

Participant #1: As can be seen from Table 2, participant number one's score on the post-test did not improve as a result of taking part in the study. In fact, the raw score and percentile ranking was lower on the post-test measure. It can be inferred from this result that participant number one's comprehension level was not strengthened as a result of taking part in the study.

Participant #2: The results from Table 2 indicate that participant number two's raw score on the Comprehension section of the Nelson-Denny Reading Test increased by

two points and the percentile ranking increased by one percentage point. These results suggest only minimal gains in the comprehension performance level of this participant as a result of participating in the metacognitive training program.

Participant #3: The results from Table 2 indicate that on the post-test measure, participant number three obtained a somewhat marginal increase of four points on the raw score, coupled with an increase of one percentage point in the overall percentile rankings. Again, as with the two previous participants, there were no significant changes in comprehension performance as a result of participating in the study.

Participant #4: As can be seen from Table 2, participant number four obtained a raw score two points lower on the post-test than was scored on the pre-test. The percentile ranking, however, increased by one percentage point. This increase in percentile rankings can be attributed to scaling adjustments between the two different comprehension sections on Form A and Form B of the Nelson-Denny Reading Test. As was the case

with the other three participants, there were no significant improvements by participant number four as a result of participating in the metacognitive training program.

Participant #5: As can be seen from Table 2, participant number five's score on the post-test exceeded that of the pre-test by 10 points. This result translated into an increase in the percentile rankings from 2 to 17. These results suggest that participant number five's comprehension performance may have been enhanced as a result of participating in the metacognitive training program.

Participants' Results on the LASSI

Table 3 presents a summary of the pre and post-test scores for the five participants in each of the ten scales measures by the LASSI. Table 4 represents a summary of the means for each participant on both the pre and posttest scales on the LASSI. Each of the three-letter codes on the LASSI indicates a category of learning and study strategies or methods. The meaning of the codes are:

CODE:**ATT** = Attitude**MOT** = Motivation**TMT** = Time Management**ANX** = Anxiety**CON** = Concentration**INP** = Information Processing**SMI** = Selecting Main Ideas**STA** = Study Aids**SFT** = Self Testing**TST** = Test Strategies

Table 3

Pre and PostTest Raw Scores for each Participant on the Ten Scales of the LASSI

LASSI		Participants Pre and PostTest Raw Scores				
Scales		1	2	3	4	5
ATT	(Pre)	22	33	31	33	38
	(Post)	28	35	28	37	38
MOT		19	40	22	31	32
		26	40	33	33	35
TMT		17	32	14	28	21
		26	34	23	30	25
ANX		17	15	16	29	19
		24	8	28	27	20
CON		15	22	17	29	26
		23	16	26	31	30
INP		16	15	30	31	35
		31	22	31	32	37
SMI		13	6	11	18	18
		17	9	18	20	17
STA		17	18	23	28	31
		26	20	25	32	39
SFT		19	22	23	30	25
		25	30	17	31	26
TST		11	10	22	26	27
		23	14	29	31	29

As can be seen from Table 3, the group as a whole showed significant gains on the following LASSI scales: Motivation, Selecting Main Ideas, Study Aids, and Test Strategies. The extent to which each participant differed on all ten scales of the LASSI are outlined below.

Table 4

Pre and PostTest Mean Scores of the Five Participants Derived from the Ten Scales on the LASSI

Participant Number	Pre-Test Mean	Post-Test Mean
1	16.6	24.9
2	21.3	22.8
3	20.9	25.8
4	28.3	30.4
5	27.2	29.6

Participant #1: It appears that from studying Tables 3 and 4, significant improvements were attained by participant number one. Gains were observed in all ten of the LASSI scales, translating into an increase in the posttest mean of 8.3 points. It is suggested that as a result of completing the metacognitive training program, participant number one's learning and study strategies appear to have improved.

Participant #2: While participant number two reported only slight gains in overall comprehension performance, the same cannot be said for improvements in the learning and study strategies. Table 3 indicates that improvements were made in seven of the ten scales measured by the LASSI. The Motivation scale remained constant and two other areas, Anxiety and Concentration, reported depressed scores. One suggested explanation for these lower scores could be that the posttest was administered during final exam week, which may have accounted for increased anxiety and lack of concentration on the part of participant number two.

Participant #3: As with the two previous participants, the third participant showed improvements in the acquisition of learning and study strategies. As can be seen from Tables 3 and 4, participant number three showed gains in eight of the ten scales measured by the LASSI. These improvements saw the pre-test mean of 20.9 rise to 25.8 on the posttest measure, resulting in an overall net gain of 4.9 points.

Participant #4: Participant number four's results on the LASSI, as reported in Tables 3 and 4, indicate that gains were attained in all but one of the ten scales. The Anxiety scale was the only scale that reported a depressed score on the post-test measure. Overall, the results on the LASSI would seem to indicate that participant number four did show gains in the acquisition of learning and study strategies.

Participant #5: As can be seen from Tables 3, participant number five improved or remained stable in all of the LASSI scales except for one. While the Selecting Main Ideas scale did show a decrease in score, this decrease was only by one point. Overall, the results obtained by participant number five on the LASSI were very encouraging.

LIMITATIONS OF THE STUDY

The following list outlines the limitations of the internship's research exercise:

1. A small sample size of five makes it difficult to generalize findings to other samples.

2. The Nelson-Denny Reading Test may not have been an accurate instrument for detecting marginal gains in reading comprehension on the part of the participants.
3. Lack of a follow-up measure made it difficult to determine the extent to which the skills learned in the study were maintained over a period of time.
4. A six-week period may not have been long enough for the skills taught in the study to be mastered by the participants.
5. Given the varying nature of what exactly constitutes a learning disability, it may be possible that the metacognitive program did not address each participant's own distinct disability.

CHAPTER IV
SUMMARY AND RECOMMENDATIONS

Summary

The intern participated in a thirteen week internship at the Memorial University Counselling Centre. During the placement, he conducted a research study which was designed to test the effectiveness of metacognitive training via verbal self-instruction on the comprehension level and study strategies of University students who had been diagnosed as having a learning disability.

The internship experience allowed the intern to engage in many professional activities which enabled him to enhance and build upon the skills learned in the academic courses which comprised the Master's program in Educational Psychology. These activities included: (a) individual counselling with 29 clients on a variety of personal, academic, and career concerns; (b) weekly training in Interpersonal Process Recall Training in counselling; (c) working five hours a week as a career information assistant in the Career Planning Centre; (d) co-leading an Assertiveness Training Group for a period of six weeks; (e) participating in weekly case

conferencing with the professional counselling staff at the Counselling Centre; and (f) supervision and video tape review of counselling sessions enabled the intern to critically examine his counselling skills, building upon his strengths and remediating his weaknesses.

The intern feels that he was extremely fortunate to have found an internship placement which offered him an opportunity to attain the goals which he set for himself at the outset of the internship. The intern would highly recommend the internship option to other graduate students in Educational Psychology. He would also recommend the Counselling Centre as a site for an internship.

The research component of the internship gave the intern an opportunity to conduct a limited research exercise in an area that was of interest to him. The study was conducted with five volunteers from the Memorial University of Newfoundland's Learning Disability Association, and was intended to determine if training in metacognition via verbal self-instruction would enhance the reading comprehension as well as the learning and study strategies of these students. The results of the study indicated that

while there were no significant gains in the participant's reading comprehension, there were improvements in their acquisition of learning and study strategies, especially in the following areas: Motivation, Selecting Main Ideas, Study Aids, and Test Strategies. It would appear that while the participants were able to acquire the above strategies, it did not always translate to measurable gains in comprehension performance.

Recommendations

The intern would like to make some recommendations for others who might consider a similar internship study:

1. Conduct a maintenance test to determine the extent to which the skills learned in the program are maintained and transferred over a period of time.
2. Conduct this study with a larger population to further determine the extent to which this method of instruction could be valuable to students and instructors alike.

3. Consider other measurement instruments which may accurately determine changes in reading comprehension performance.

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APPENDIX A

**Annotated Bibliography of Readings
Completed During the Internship**

American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Washington, DC: Author.

This is an excellent reference book for diagnosis in clinical practice and research. It offers a comprehensive list of the various disorders that a counsellor may come across in day-to-day sessions.

Bass, E., & Davis, L. (1988). The courage to heal. A guide for women survivors of child sexual abuse. New York: Harper & Row.

This book is an inspiring, comprehensive guide that offers hope and encouragement to every woman who was sexually abused as a child. The authors- Ellen Bass, a nationally known counsellor and Laura Davis, a survivor of child sexual abuse, provide clear explanations, practical suggestions, and many moving first-person examples of the recovery process drawn from their interviews with

hundreds of survivors. The intern found this book particularly helpful in working with some of his clients.

Burns, D. D. (1980). Feeling Good: The new mood therapy. New York: Penguin Books.

This book discuss the role of cognitive therapy in the treatment of depression. The author suggests that by changing the way we think we can alter our moods, deal with emotional problems, and get rid of depression without the use of drugs. In clear simple language, Dr. Burns outlines a systematic program for controlling thought distortions that leads to pessimism, lethargy, procrastination, low self-esteem, and other "black holes" in depression.

Hurley, G., & Garland, J. (Eds.). (1988).

Introduction to medical interviewing. St. John's: Memorial University of Newfoundland.

This book was used in conjunction with the interns training in Interpersonal Process Recall Training conducted at the Counselling Centre. The

book covers such topics as the following: communication skills, listening responses, and honest labelling. There are also activities contained within the text so as to give additional written practice to each participant.

Pope, K. S., & Vasquez, M. J. (1991). Ethics in Psychotherapy and Counselling: A practical guide for psychologists. San Francisco: Jossey-Bass Inc.

The authors Kenneth S. Pope and Melda J. Vasquez present many important issues of ethics and professional responsibility that one may confront on a daily basis. The authors discuss such issues as fees, informed consent, sexual concerns, confidentiality, documentation, and supervision.

Talmon, M. (1990). Single session therapy. San Francisco: Jossey-Bass Inc.

Based on a study of hundreds of single session cases, this book offers a realistic, practical approach to using a single therapeutic

session to prompt substantial changes in clients lives. Rather than suggesting that the therapist condense five or twenty sessions into one, the author describes how to make the most of clients' innate ability to heal themselves. The author also gives a step-by-step guide for using limited therapeutic time more efficiently.

Zukerman, E. L. (1991). The Clinician's Thesaurus: A guidebook for wording psychological reports and other evaluations (2nd ed.). Pittsburg: Three Wishes Press.

This book is an excellent tool to assist the already competent professional report writer in carrying out his/her tasks. The book is divided into five parts corresponding to the sequence of constructing a report. This book was helpful to the intern in writing both case file notes and case summaries.

APPENDIX B

VIDEOTAPE/AUDIOTAPE PERMISSION FORM

I, _____, grant permission to have my counselling sessions at the Memorial University Counselling Centre videotaped/audiotaped. I understand that the tapes will be used solely for the purposes of supervision. That is, the tapes will be viewed only by the counsellor, the counsellor's immediate supervisor(s) or in case conferences at the Centre. I can request that the taping cease at any time and/or that the tapes be erased.

I also understand that refusing to be taped will not affect access to counselling at the Centre.

Signature _____

Witness _____

Date _____

APPENDIX C

APPENDIX D

CASE SUMMARY SHEET

CLIENT: _____ COUNSELLOR: _____

General Presenting Concerns: Academic, Career, Personal**Dates Seen:**

- | | | |
|----------|----------|-----------|
| 1. _____ | 5. _____ | 9. _____ |
| 2. _____ | 6. _____ | 10. _____ |
| 3. _____ | 7. _____ | 11. _____ |
| 4. _____ | 8. _____ | 12. _____ |

Tests Taken:**Case Summary:**

APPENDIX E

CONSENT FORM

Dear Client:

I am a graduate student in the Faculty of Education at Memorial University of Newfoundland. As part of my internship, I am undertaking a study to evaluate the efficacy of metacognitive training via self-instruction on the comprehension level and study strategies of university students who have been diagnosed a learning disability. I am requesting your participation in this study.

Your participation would involve completing two separate measure, The Nelson-Denny Reading Test and the Learning and Study Strategies Inventory, on two separate occasions: prior to the start of the study, and immediately following the last training session. These two measures will take approximately thirty minutes to complete.

The data gathered will be kept confidential and will be used only to evaluate the above program. You may withdraw from the study at any time simply by informing me that you no longer wish to attend the remaining sessions.

This study has received the approval of my committee members and Memorial University's Faculty of Education Ethics Review Committee.

If you are in agreement with participating, please sign below and return one copy to me. The other is for you.

Yours sincerely,

Beaton J. Walsh
Counselling Intern

I, _____, hereby agree to participate in a study to evaluate the effectiveness of a metacognitive training program. I understand that participation is entirely voluntary and that I may withdraw at any time.

Date

Signature

APPENDIX F

FACULTY OF EDUCATION

Memorial University of Newfoundland

Faculty Committee for Ethical Review of
Research Involving Human Subjects

Certificate of Approval

Investigator: Mr. Beaton J. Walsh

Investigator's Workplace: Graduate Student, Faculty of Education

Supervisor: Dr. T. Seifert

Title of Research: The Effectiveness of Metacognitive Training, Via Self-Instruction on
the Comprehension Level and Study Strategies of University Students
Who Have Been Diagnosed as Having a Learning Disability

Approval Date: June 30, 1992

The Ethics Review Committee has reviewed the protocol and procedures as described in
this research proposal and we conclude that they conform to the University's guidelines
for research involving human subjects.

Dr. George A. Hickman
Chairperson
Ethics Review Committee

Members: Dr. Ron Lehr
Dr. Walter Okshevsky
Dr. Dennis Sharpe
Dr. George A. Hickman
Dr. Patricia Canning

FACULTY OF EDUCATION

Memorial University of Newfoundland

Faculty Committee for Ethical Review of
Research Involving Human Subjects

Certificate of Approval

Investigator: Mr. Beaton J. Walsh

Investigator's Workplace: Graduate Student, Faculty of Education

Supervisor: Dr. T. Weifert

Title of Research: The Effectiveness of Metacognitive Training, Via Self-Instruction on
the Comprehension Level and Study Strategies of University Students
Who Have Been Diagnosed as Having a Learning Disability

Approval Date: June 30, 1992

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Dr. George A. Hickman
Chairperson
Ethics Review Committee

Members: Dr. Ron Lehr
Dr. Walter Okshevsky
Dr. Dennis Sharpe
Dr. George A. Hickman
Dr. Patricia Canning



