

**INFLUENCING PUBLIC HEALTH NURSES TO TRANSFER LEARNING TO THEIR
EDUCATIONAL PRACTICES: A CASE STUDY**

A THESIS

**SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ADULT EDUCATION**

BY

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MARCH, 2001



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ABSTRACT

This study describes the planning of an educational program that supports transfer of learning. The context is a public health agency, with 14 rural public health nurses who participated in a one-day workshop. The main purpose of the workshop was to promote the use of a smoking prevention program conducted by public health nurses with elementary school children. Caffarella's (1994) interactive program planning model was used to plan the workshop, which included transfer of learning strategies. Ottoson's (1997) transfer of learning framework was used to guide the examination of influences on transfer of learning. Transfer of learning was deemed to have occurred if the public health nurses used either the smoking prevention program or teaching strategies that were modelled in the workshop. Data were collected through three questionnaires (pre-workshop, end-of-workshop, and follow-up) and a telephone interview.

With limited time, limited access to participants, and scarce human and financial resources playing a role in the selection of the program planning elements, Caffarella's (1994) model proved to be a useful guide for this study. Caffarella's description of strategies to support transfer of learning was the foundation used to explore the influences described in Ottoson's (1997) framework. Five public health nurses transferred the smoking prevention program, while eight nurses used new teaching strategies in a subsequent teaching situation. The study affirms that it is important to plan for transfer of learning; even within the constraints of the real world of adult education. Recommendations for planning programs for enhanced transfer of learning include using a

flexible planning model and emphasizing improved communications among participants and educators.

ACKNOWLEDGMENTS

This study required a great deal of time and energy from all involved. I wish to express my sincere gratitude to all contributors, in particular, my colleague and co-facilitator of the program who generously shared her knowledge of the field of adult education and her talent in facilitation.

I also thank my husband for his faith in my ability to complete this task and his willingness to assist and support me through the long process. My parents, sister, and friends have supported me by believing that I could succeed. Without all of their encouragement, I would not have met my goals.

This thesis has been prepared as a requirement for the degree of Master of Adult Education at St. Francis Xavier University, Antigonish, Nova Scotia. My thanks to the faculty and staff of the Department of Adult Education for their guidance.

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CHAPTER 1

INTRODUCTION

Public health nurses (PHNs) are trained in both technical and educational aspects of nursing practice. However, health education is most often conducted on a one-to-one basis with clients. As health issues are increasingly being viewed as socially influenced, not just germ and accident related, education of people about health issues is becoming a more recognized role in the professional practice of public health nurses. For example, the controversial debate over the influence of tobacco use on people's health has changed public health nurses' practices from simply telling those addicted to tobacco where to find appropriate medical treatment or cessation programs, to helping people learn about the impact of tobacco usage to prevent the onset of tobacco use. These evolving roles motivate public health nurses to pursue continuing professional learning about new educational processes. Transfer of this professional learning to the nurses' professional practice is a key, but often under-considered, factor in these professional educational programs. In this thesis, I examine a case study that illustrates how program planning factors influence the transfer of learning of educational processes by public health nurses.

Background of the Study

I have worked as a rural public health nurse, as a nursing instructor, and am presently working as a public health nurse in an urban location in central Saskatchewan. My roles in this position range from working with immunization, to developing and implementing health education programs, to one-to-one education and counselling, to

educating other nurses about new professional practices. In this section, I describe how my professional roles and interests contributed to the identification of this study and describe one program in particular in which I have been involved, the Peer-Assisted Learning (PAL) Smoking Prevention Program (Health & Welfare Canada, 1986) for school youth.

My Professional Roles and Interests

As a Saskatchewan public health nurse, I work to promote the health of the residents within my community. To promote health, I immunize children and adults, meet with clients in clinic or their homes, counsel individuals, and teach groups of various ages about a variety of health-related issues. In health education, I use a wide range of teaching strategies including learning games, small group work, and other interactive approaches. Health education is a significant part of my work. At my workplace, I have daily contact with other PHNs. Although our schedules leave little time to collaborate formally, it is reasonably easy for me to obtain input from other nurses on an informal basis. This collaboration ranges from sharing program ideas, to consulting about a specific client. Within my community, I work closely with teachers to encourage implementation of the health education curriculum and to negotiate opportunities to provide health education in their classrooms.

Recently, there have been more resources dedicated to the development and dissemination of health education programs in my agency, for use by the health district's PHNs. This came about through the work of several public health nurses, including

myself, who began sharing our health education programs with others. Additionally, the nursing supervisor responsible for school health persuaded the public health administration to support public health nurses to develop appropriate programs. I have been seconded several times to research, develop, or select educational programs for nurses to use with elementary school students. Most recently, I have worked in the area of tobacco use reduction. I identified the PAL program as a suitable program for our agency to adapt. I also worked with administration to develop a strategy for implementation of the PAL program in schools within our jurisdiction. I began to learn about program planning through this work. I also recognized the need to learn much more about program planning and about facilitating public health nurses to implement new educational practices and programs.

The PAL Smoking Prevention Program

Tobacco reduction is a recognized need in Canada. Smoking rates for 15-24 year olds in Saskatchewan are well above the national average, with Saskatchewan at 35% and Canada at 25% (Health Canada, 1999). My employing health district has adapted the PAL program and conducted a 3-year evaluation (Laurie, 1997, 1998, 1999). Although the PAL program is over 10 years old, it meets most of the criteria for an effective smoking prevention program. The findings indicate that the PAL program leads to greater knowledge and a lower rate of onset of smoking in children receiving the program than in the control group. Additionally, both students and educators enjoy participating in the program (Laurie, 1997). Students learn through an interactive peer-led small group

process. The educator guides each session and coordinates the sharing of learning from each group. The content is positive and does not dwell on the long-term health effects of tobacco use. The educator's PAL manual describes all aspects of the program in detail. It includes: background information, objectives, session instructions, and master copies of all student activity sheets.

My Reasons for Doing the Inquiry

As a PHN, I occasionally have opportunities to attend professional learning programs. Although the content is often appropriate for my practice, I often find it difficult to incorporate the new knowledge or skills into my practice. Other PHNs have expressed similar concerns. I wondered if the difficulty occurs because there is a deficit in the educational program. Given that I am involved in facilitating professional educational programs for other PHNs, I wanted to learn more about planning programs that support PHNs to use their learning in their professional practice.

I chose PAL as the context to study the influence of program planning on transfer of learning. A number of reasons influenced my decision to use the PAL program: (a) I am knowledgeable about the PAL Smoking Prevention Program; (b) several health districts had requested education about PAL; and (c) the PAL program is easy to use once the educator is familiar with the program. Because my concern was to make it easier for PHNs to use new professional learning, I asked the following question: What are the critical aspects of program planning that will positively influence the transfer of professional learning by PHNs?

Purpose of the Study

When transfer of learning occurs, a learner applies something learned at a time and location removed from the learning situation (Broad & Newstrom, 1992). The main purpose of this study was to examine program planning factors that can influence the probability that public health nurses will transfer either the PAL program or educational processes that they learn in a professional development program to their professional practice. To pursue this purpose, I contacted the nursing supervisor of public health in another health district. She and her nurses wanted to learn about the PAL program. She willingly agreed to the workshop and also agreed that I could follow-up this workshop with participating PHNs. Besides the nurses, I invited her to include interested teachers working in surrounding health districts.

I informed both PHNs and teachers about the PAL program and my study through a letter that the nursing supervisor agreed to distribute. I asked participants to be part of this study through completion of a pre-workshop questionnaire, an end-of-workshop questionnaire, a telephone interview, and a follow-up questionnaire. All 14 PHNs agreed to participate in the study.

A secondary purpose of my study was to examine my own practice of promoting transfer of learning. I wanted to determine if my actions, as an educator and program planner, could positively influence the transfer of learning among PHNs participating in an educational program, that I planned and facilitated. To accomplish this, I investigated the PHNs' responses to my interventions through interviews and questionnaires.

Scope and Limitations

The area of interest for this study is transfer of learning by public health nurses. The aspect that I have chosen to study is program planning. As the context for this study, I chose the PAL Smoking Prevention Program which PHNs and teachers use with grades 5 and 6 students. Findings from this study might be applicable to other professional educational programs for PHNs in areas such as: healthy eating, active living, or sexual health.

I used a case study process for this study. I consulted with the public health nursing supervisor and my co-facilitator in the planning process. Communication with the supervisor was by telephone or fax. I was able to meet face-to-face with my co-facilitator. Although both teachers and PHNs attended the workshop, I focused my study only on the experiences of the PHNs. I collected data from participants through three written questionnaires (pre-workshop, end-of-workshop, and follow-up), and a telephone interview. During the interview, participants had an opportunity to seek assistance from me regarding the implementation of the PAL program or teaching strategies.

Due to limited preparation time available to both PHNs and teachers, and the importance of reasonably consistent implementation of the PAL program, I chose to provide a one-day workshop about the PAL program and its implementation. During the workshop, participants walked through each step of PAL. At times they assumed the role of PAL students. We identified challenges already experienced when implementing

the PAL program, and I invited participants to discuss these as well as those they anticipated in their own setting.

Fourteen rural PHNs attended the workshop; of these, 11 PHNs provided feedback through interviews and questionnaires. Most worked exclusively in rural communities, although a few also worked in a small urban setting. Nine of the PHNs had over 6 years of experience teaching elementary school health. Ten teachers and three principals attended the workshop. I received feedback from seven teachers. Of these, five had over 6 years of experience with teaching health education. Prior to the workshop, my contact with the participants was limited to an introductory letter that explained the PAL program and my study; I attached the pre-workshop questionnaire to the letter.

One limitation of the study was the distance that the public health nurses lived and worked from my home. The community at the centre of their health districts is approximately 400 kilometres away. It is one of the closer health districts and the one most interested in learning about and using the PAL program. The distance limited my ability to hold face-to-face meetings with the nursing supervisor and potential participants, therefore minimizing their participation in program planning and my research planning.

A second limitation that restricted my contact with participants following the program was a 3-week province-wide nursing strike. Due to the strike, PHNs were delayed in implementing PAL, so I delayed the telephone interview by 6 weeks. This

additional time may have interfered with participants' recollection of the details of the workshop during the interview.

Assumptions

I made six assumptions that influenced my actions within this study. The first assumption was that I understood the work environment of participating public health nurses. Rather than a needs assessment, I used background information from my own experience and from a rural colleague. Second, I assumed that PHNs had the skills to negotiate the implementation of the PAL program in the schools of their communities. I also assumed that the health education experience of participants may be limited to using a lecture approach. I gave participants in the workshop an opportunity to experience several interactive and small group approaches to increase their comfort with more interactive teaching processes. My fourth assumption was that participants would gain adequate knowledge from the workshop to transfer their learning. Due to this assumption, I did not evaluate individual learning at the end of the workshop. I observed the PHNs throughout the workshop, and during the practice sessions, thus getting a *general* sense of learning. Also, I evaluated the transfer of learning that occurred and believed that this would indirectly indicate learning. I also assumed that the busy schedules of public health nurses limited their preparation time for teaching. I addressed this by going through the PAL program in a step-by-step manner to ensure familiarity with most of the program details and by providing documents to assist them back at work. Finally, I assumed that I was sufficiently unbiased to collect and interpret data honestly and accurately. Because of

this, I conducted the workshop and all follow-up data collection personally, including the telephone interviews.

Plan of Presentation

Following this introductory chapter, I provide an overview of the relevant literature in chapter 2. This literature includes: adult learning (including professional learning), program planning, and transfer of learning. Specifically, I looked at adult learning literature that speaks to learner characteristics that influence instructional design decisions and how the demands of professional practice influence continuing professional learning; program planning with limited resources and transfer of learning in mind; factors that influence transfer of learning according to a model set out by Ottoson (1997); transfer of learning strategies from Caffarella's (1994) program planning framework; and finally, research methods that are relevant to the study of transfer of learning.

In chapter 3, I describe the research I conducted--namely, the planning and implementation of a workshop with emphasis on strategies to encourage transfer of learning. The outcomes are based on the participants' perceptions and my observations, which I compiled from three sources: questionnaires, telephone interviews, and anecdotal notes.

In chapter 4, I analyze the results of the study in terms of findings in the literature. I discuss how my educational beliefs have influenced the outcomes of this study, the usefulness of Caffarella's (1994) program planning model in this context, and the factors that encouraged public health nurses to transfer their learning. Finally, I

discuss the implications of this study for adult education practice, describe what I have learned from my mistakes, draw conclusions, and make several recommendations based on my findings.

CHAPTER 2

LITERATURE REVIEW

Although the importance of transfer of learning is widely advocated in the literature, research into how to apply such ideas in practice is not as widely published. Nevertheless many salient ideas are put forth in practice. Thus, to provide a theoretical framework for my study, I review the relevant literature in three areas. Firstly, planning programs that encourage transfer of learning requires that the educator be knowledgeable about adult learners--who they are and how they learn. Secondly, the educator should understand the various approaches to program planning, the supporting theories, the components of each approach, and the situations in which each is most effective. Finally, the educator should be able to incorporate techniques that can assist learners to consistently use what they learn and be knowledgeable about relevant research methods to collect data about transfer of learning.

Adult Learners

Cross (1981) observes that, with today's technological change and the knowledge explosion, there is more need for lifelong learning. Adults require and will continue to require significant amounts of formal and informal education. But, not all adults pursue learning in a similar manner. Thus, in this section I review factors that influence how adults learn, the degrees to which they are self-directed as learners, and some distinctive aspects of continuing professional education (CPE).

What Influences How Adults Learn?

The adult learner is a complex being, making it unrealistic to assume that all adult learners come to learning situations with a set of predictable characteristics. As Cranton (1989) explains:

The difficulty, of course, with general characteristics of the adult learner is that they may not be relevant to any one adult or any one group of adults. Adults are probably more *different* from each other than children, by virtue of having lived longer and having undergone more variety of experiences. (p. 18)

Although an educator cannot attribute each influencing factor to every adult learner, consideration of these factors can enable the educator to provide activities and content which are relevant to at least some of each learner's preferences, abilities, and knowledge level (Cranton). MacKeracher (1996) identifies five factors that affect adults' response to learning situations. She explains these as individual physiological factors, past experience, sense of time perspective, sense of self, and degree of self-direction. For example, physiological factors of aging may affect learning. This can mean that visual and hearing acuity may decrease with age (Cranton), and there may be a general decrease in the speed of response of the central nervous system, resulting in slower comprehension of knowledge and performance of skills. The current thinking with respect to intelligence is that, within the average range, intelligence is stable into the sixth and seventh decade of life (Percival, 1993). The adult educator must anticipate varied intellectual levels and physical attributes in an audience of adult learners and use a variety of approaches, adequate time for learning activities, and real-life references in order to give all learners an opportunity to learn the content expected (Cranton).

Experience may also influence the process of learning (Kolb, 1984; MacKeracher, 1996). As adults accumulate experience, they tend to develop mental habits, biases, and presuppositions that may cause them to close their minds to fresh perceptions and alternative ways of thinking (Knowles, 1973). Similarly, Mezirow (1994) claims that individuals resist learning anything that does not fit comfortably with what is already known; however, because humans are motivated to understand their experiences, the learner will attempt to gain a perspective which is more inclusive of the learning experience.

Adult learners tend to show a preference for learning in a certain way (James & Galbraith, 1985). Several instruments are used to measure this learning style preference. These tools identify both the disposition and the strength of the individual's preference for a particular learning style (Bonham, 1989). However, the instruments do not have a good reputation for reliability and validity, and some have a minimal theoretical framework (Bonham; Cranton, 1992).

One of these instruments, Kolb's (1984) Learning Style Inventory, is based on a theory which proposes a four-stage learning process with effective learning occurring in each stage. Using these stages, Kolb identifies four types of learners: convergers, assimilators, accommodators, and divergers. Cranton (1992) describes characteristics that an educator may observe in each of these types of learners:

The convergers will quickly focus in on the task and be the first group to finish. Assimilators will often work out a model as a solution and will integrate all information given for the task. Accommodators will experiment with countless solutions; for example, they might fill the blackboard or chart paper with phrases and arrows. Divergers will talk. Quite often, divergers will not produce a written solution, nor address the task as it is presented. (p. 42)

James and Galbraith (1985) describe a second instrument. It involves seven perceptual learning styles. The print-oriented learner tends to learn best through reading. Those with an aural learning orientation are likely to prefer to learn by listening to new information, such as a lecture. People who prefer interactive learning learn best through discussion with others. Visual learners learn best when they see a representation of new information and ideas, such as demonstrations or pictures. Learners with a haptic orientation learn best through the sense of touch, preferring a hands-on approach. Kinesthetic learners learn best through movement. Finally, those with an olfactory orientation learn best through their senses of smell and taste.

The significance of these and other learning styles, according to James and Galbraith (1985), is that by increasing their awareness of their own learning styles, learners may be able to identify situations that will assist them to use their strengths and to expand and develop other learning orientations. Additionally, Cranton (1992) advocates that if educators centre learning activities around one particular style, such as group discussion, then at least some participants may not learn in a manner that is the most effective for them. In addition to learning style preferences, learners also show a preference for the level of self-direction they want in learning situations. The following subsection presents selected aspects of self-directed learning from the literature.

Are Adult Learners Self Directed?

Knowles (1975) promotes self-direction as a natural outcome of an adult's psychological development. He writes that, as people mature, they assume more responsibility for their actions and become increasingly self-directed. Several authors express concern with Knowles' assumptions that adults progress to self-directed learning (e.g. Jarvis, 1984; Tennant, 1986). However, Knowles (1973) points out that adult learners often experience psychological conflict in a learning situation because their past experience with education has taught them to be dependent learners, whereas their life as an adult has taught them to be self-directing and responsible. As Knowles says: "As we have become aware of this problem, adult educators have been working at creating learning experiences in which adults are helped to make the transition from dependent to self-directing learners" (1973, p. 57).

According to Knowles (1975), self-directed learning is a process in which individuals diagnose their learning needs, design a learning plan, locate resources, and evaluate learning. In contrast, Candy (1991) explains self-directed learning in terms of how the learner experiences it. He identifies three self-directed learning experiences: the personal quality of autonomy, self teaching, or as greater learner control in formal educational settings. Rather than considering only the experience of the learner, Grow (1991) describes self-directed learning in terms of the roles of both the student and teacher. He proposes four possible stages: (a) the student is dependent, with the teacher being the authority and coach; (b) the student is interested, with the teacher being a

motivator and guide; (c) the student is involved, with the teacher as facilitator; and (d) the student is self-directed, with the teacher as consultant and delegator. This model implies a continuum of self-directedness in adult learners. This parallels Garrison's (1992) opinion that "self-direction is a matter of degree" (p. 140), with the amount of self-directedness being negotiated between the learner and teacher.

Both Garrison (1992) and Grow (1991) state that a more effective learning situation exists when there is a good match between the learner's stage of self-directedness and the educator's teaching style. Similarly, a study by Wispe (1951) found that students not being taught in a style that matched their learning preference experienced great frustration. Because of the variance in a group of adult learners, Davenport and Davenport (1985) recommend a blend of teacher- and learner-controlled techniques to increase the opportunity for a match with learner preferences. This discussion about self-directed learning focuses attention on the connection between educators and adult learners. Griffin (1993) points out that "human relationships between teachers and learners are of primary importance" (p. 125). Similarly, Daloz (1986) argues that an important aspect of teaching "lies in a willingness to attend and care for what happens in our students, ourselves, and the space between us" (p. 244). Cranton (1994) also encourages educators to assume the role of supporter for adult learners. Consistent with these ideas, Apps (1991) concludes that learning is enhanced when adult educators focus on developing positive and respectful relationships with adult learners.

An understanding of the characteristics of adult learners, including learning styles and self-directed learning, can affect continuing professional education. In the following subsection I describe several aspects of CPE that should be considered when planning programs for professionals.

Continuing Professional Education

Continuing professional education assumes a strong sense of building on previous learning (Percival, 1993). Today, professionals are confronted with a knowledge explosion--one that is doubling every 5 to 8 years (McGuire, 1993). Devney (1998) sees CPE as a means for professionals (specifically nurses) to become aware of research and new professional information, and a means for improving their practice as well.

Professional learning is a continuum that begins with pre-professional education and is ongoing throughout the practitioner's professional life (Knox, 2000). Devney claims that professional learning "is seen by nurses as an essential means of acquiring new skills and knowledge, as well as updating skills previously learned to improve health care delivery" (p. 171). In this subsection, I examine several issues discussed in the CPE literature, including identifying professionals, professional practice, and professional learning.

Identifying professionals. According to Cervero (1988), a professional is defined by society. He states, from his reviews of census data, that it is apparent that professionals represent a large part of society. In industrial societies, professionals are seen as providing an important and unique service, the value of which is shown through the recognition and rewards society gives them. Additionally, professionals are often self-

regulated and their authority to be self-regulated is recognized by the society in which they live and work. Registered nurses fit this description. They are described by Devney (1998) as “professionals dedicated to human caring” (p. 171). Yet, the differentiation of professionals from other occupations is difficult. Houle (1980), for instance, suggests that all occupations that seek to follow the ideals of professionalism should be considered professionals.

Professional practice. Fenwick and Parsons (1998) describe professional practice as a dynamic process in which practitioners are faced with difficult-to-define problems that they are expected to solve within unpredictable contexts. In contrast, Schön (1987) claims that professionals may practice in both familiar and unfamiliar situations. In a familiar situation, the professional solves the problem “by routine application of facts, rules, and procedures derived from the body of professional knowledge” (p. 33-34). Schön argues that when the problem is not clear to professionals and they cannot match the situation to what they know--they will often “speak of ‘thinking like a doctor’--or lawyer or manager--to refer to the kinds of inquiry by which competent practitioners bring available knowledge to bear in practice situations where its application is problematic” (p. 34). Looking to the practice experience of professionals for motivation to change, Bennet and Fox (1993) claim that professionals often strive to change their performance and improve their competence because of “the desire to excel, the presence of an innovation, and the growing dissatisfaction with a current procedure or practice” (p. 269). The next subsection explores this issue in more detail.

Continuing professional learning. The complexity of professional practice requires careful attention to continuing professional education. As important as CPE is to the competent practice of professionals, Queeney (2000) cautions that participation in CPE is not a guarantee of professional competence. More often, as Bennett and Fox (1993) point out, “performance is the central theme and the central challenge of continuing professional education” (p. 262). Additionally, Bennett and Fox argue that most CPE programs focus on knowledge and skills without consideration of the practice context. Kiener and Hentschel (1992) agree that “applying new knowledge to practice is such a complex and difficult-to-assess process that nursing educators (along with professional continuing educators in all other fields) typically have omitted this criterion from evaluation designs” (p. 169). With performance in mind, Queeney encourages educators to develop “an understanding of the ways in which professionals integrate knowledge from their disciplines into the contexts of their practice” (p. 277). Similarly, Knox (2000) and Cervero (1988) both encourage continuing professional educators to promote application in professional learning.

Queeney (2000) presents a plan to improve CPE, which is similar to recent literature on program planning and transfer of learning. She argues that continuing professional educators must work in partnerships rather than in isolation. She also claims that effective partnerships will establish cooperation between organizations, coordinate the activities of the partners, and create an environment of collaboration, and goes on to recommend that educators assess the professionals’ learning needs so that CPE can

address actual problems that the professionals are encountering in their practice. CPE should also be practice-oriented, she says, providing learning activities that give professionals hands-on experience to visualize and develop a plan to incorporate new knowledge or skills into their practice. Queeney proposes that CPE may be more useful when several different professional groups participate. This approach represents the collaborative relationships that exist in the practice context. Queeney also states that CPE will improve if programs are evaluated based on the performance of the professionals in their practice, rather than on what they have learned at the end of the educational program. According to Cervero (1988), the field of CPE is young and will continue to evolve. Expanding on this, Queeney claims that, for CPE to become more effective, adult educators need to give attention to program planning and strategies that improve performance and encourage the use of professional learning in the practice context.

In summary, many factors influence how adults learn: physical and intellectual characteristics, learning style preferences, and the degree of self-direction preferred by individuals will affect how, if, and what adults learn. Professionals as learners require ongoing opportunities to gain new professional knowledge and skills with a focus on performance. Educators must consider these factors when planning educational programs for adult learners. In the following section, I review the relevant literature on program planning in order to expand on this area .

Program Planning

Often programs evolve without deliberate planning, although they are often conceived and planned systematically from a discrete initial stage. In either case, planning programs (whether new or ongoing) requires a great deal of an educator's time and expertise. Planning models are widely advocated to assist with the planning process. In this section, I provide an overview of planning models and examine the planning elements that are most relevant for my study. I use Caffarella's (1994) program planning model to guide my description of program planning elements.

Planning Models

According to Sork (1990), a planning model is useful to the degree to which (a) it is relevant to the situation in which it is used, (b) it assists in developing plans that work, (c) it allows adaptation to changing situations, and (d) it is based on values and assumptions that are compatible with those of the planner. If they have a clear understanding of their own beliefs about adult education, educators are often more able to select an appropriate planning approach (Beder, 1989; Hiemstra, 1988). In this subsection, I provide an overview of several program planning models and their usefulness. Most are systematic models or adaptations of that type.

Several approaches to program planning are found in the adult education literature. They are based on different theories and philosophies. One type of planning approach is based on change theory (Fox, 1984). Here, the planner devises a program that leads learners to change through a three-step process. The learners first become ready and

willing to accept change, change occurs when new information is used to develop new responses and, finally, the new behaviours are stabilized and integrated to allow learners to use them. A second program planning approach is that of community development (Apps, 1985). In this approach, community members are empowered to work together using community-controlled resources to solve a common problem (Heaney & Horton, 1990).

The systematic approach to program planning may also be called technical or institutional (Caffarella, 1994; Sork, 2000; Wilson & Cervero, 1997). Systematic models represent the largest group of program planning frameworks in the literature (Houle, 1972; Sork). Typically, systematic models have order, sequence, and a definite beginning and end (Brookfield, 1986). Recently, there have been models based on this approach that promote a more flexible, non-linear use of the elements (Sork).

Sork and Buskey (1986) claim that there is limited theory incorporated into the systematic models described in the literature. However, Houle's (1972) two-stage program planning model has a strong theoretical foundation which involves a number of assumptions. Important among Houle's assumptions is that learning is affected by the context in which it occurs. Additionally, the planner should base educational activities on the learners' experiences and recognize that learners' environments are constantly changing. Houle also explains that "education is a practical art" (p. 33), not a step-by-step process. In addition, Houle assumes that planning and education are considered to be cooperative rather than operative processes. As a result, educators must work

collaboratively with sponsors, learners, and other individuals or groups affected by the educational program. Finally, planning may be done by an educator, a learner, an independent analyst, or a combination of people.

Caffarella (1994) identifies several theoretical assumptions which are similar to Houle's (1972). She believes that educational programs should focus on what will be learned and on the changes that will occur in the participants. In doing so, the educator/planner is able to work toward learning but also target how learners will use new knowledge in the real-world. Caffarella also explains that planning is both systematic and spontaneous to the situation. With this in mind, she assures planners that believing they can anticipate all possible occurrences is unrealistic. Consequently, planners should be prepared to adapt to the context and events surrounding the planning and implementation of an educational program. Caffarella points out that program planning is complex and involves institutional mandates, tasks, people, and events. Due to this, planners must anticipate working collaboratively with sponsors and participants and, when needed, negotiate for the interests of the learners. Finally, Caffarella explains that program planners become more effective through evaluating their experiences. She encourages planners to evaluate programs with the intent to improve their practice and to show appropriate audiences the strengths or weaknesses of the program.

Caffarella (1994) claims that systematic models are an effective way to plan programs because they: (a) allow more effective use of resources; (b) make the daily work of program planning easier; (c) foster teamwork; (d) provide a basis for control and role

definition; and (e) overall, develop better programs. In clear disagreement with this positive outlook of systematic models, Wilson and Cervero (1997) write that such “procedural tradition” (p. 85) leads educators to consider a limited range of possible actions and consequently restricts what adult education can be. Additionally, Brookfield (1986) criticizes systematic models because they seem to be written for the optimal situation where “adequate resources, congenial colleagues, supportive superiors, and a sympathetic political or institutional climate always exist...such a world is so unrealistic as to call seriously into question any practice injunctions given by these authors” (p. 206). Cervero and Wilson (1994a) soften their judgement when they explain, “to be fair, however, these theories were never meant to account for the realities of practice that include: the shifting goals, limited resources, relationships of power, and the varying personalities encountered in the everyday world” (p. 17). Additionally, they suggest that the reason for this omission is that the intended audience for the systematic models is practicing educators who are assumed to possess practical knowledge of these issues. To address this deficit, Cervero and Wilson describe a *process* that guides program planners to deal with the contexts in which they function. They describe program planning as a process of negotiating interests. To negotiate interests, an educator must have political savvy and the knowledge and skills to negotiate ethically about program planning with those holding power in the program and transfer contexts.

Systematic planning models identify a number of steps in the planning process, and can be either linear or non-linear. Kowalski (1988) explains that linear models provide

a sequential outline of the steps to be completed for effective program planning. Non-linear models provide more flexibility in terms of time and resource allocation by avoiding the use of a rigid sequence of steps and allowing several elements of planning to be done simultaneously. In support of non-linearity, Houle (1972) claims that planning is complex and not sequential. Studies such as that by Pennington and Green (1976), in which they found that most planners did not always use the elements of planning in a linear fashion, support Houle's claim .

Systematic planning models incorporate an expansive list of elements. Some models identify as few as 5 elements; others include as many as 12 (e.g. Caffarella, 1994; Houle, 1972; Sork & Caffarella, 1989). Two of the most cited systematic planning models in recent literature are those by Houle and by Caffarella.

Houle's (1972) two-part system has two complementary actions. The first is to place the program into one of four types of situational categories which focus the educational program on the learner who might be an individual, a group, an institution, or a mass population. Houle explains that if the learner and educator believe themselves to be part of a different situational category--learning is hampered until the different viewpoint is resolved. For example, if the learners believe that they are in control of the program and the educator believes that he or she is in charge of the program, conflict might arise. The second aspect of Houle's model is to perform seven program planning tasks. Houle clearly states that a planner can begin with any of the planning tasks. In this part of the model, the planner identifies a possible educational program. The planner also

identifies and refines the program and learning objectives and selects a format that is suitable for the content and audience. For example, it would be inappropriate to use computer technology to teach learners who have limited literacy skills. Additionally, the planner determines the needed resources, leaders, and schedule. Criteria for program evaluation must be established; and finally, the program is implemented and evaluated.

In Caffarella's (1994) interactive model of program planning, 11 elements are detailed. They are: (a) establish a basis for the planning process; (b) identify program ideas; (c) sort and prioritize program ideas; (d) develop program objectives; (e) prepare for the transfer of learning; (f) formulate evaluation plans; (g) determine formats, schedules, and staff needs; (h) prepare budgets and marketing plans; (i) design the instructional plan; (j) coordinate facilities and on-site events; and (k) communicate the value of the program. Caffarella directly addresses the belief that linear models are too confining to be helpful by presenting her model as a guide for action, that is flexible enough to be used in the ever-changing real world. Still, Cervero and Wilson (1994b) critique models such as Caffarella's because such models do not adequately address the power context of planning and the necessary negotiation of interests, as is discussed next.

Elements of Program Planning

In this study, I used nine of Caffarella's planning elements to plan a one-day workshop. I chose these elements because I believed they were the necessary steps to plan the workshop and because I had both the human and financial resources to

accomplish them. I use these nine elements to organize the discussion of program planning in this subsection.

Establish a basis for the planning process. According to Caffarella (1994), planners need to establish a basis for planning to become knowledgeable about the planning context (structural, human, and cultural factors) and to establish support for the educational program. Planners can acquire information from several sources, including written documents and people. The depth and type of information needed depends on the role of the planner and the situation.

Cervero and Wilson (1994a) describe the planning context as dynamic rather than static and suggest that the actions of the planner affect the context. Knowledge of the planning context can help the planner understand many of the factors that may affect the planning and implementation process (Sork, 2000). By understanding these factors, the planner can adjust the program accordingly. Organizational structure may affect the process; for example, a planner who is unaware of how decisions are made within an organization may encounter multiple barriers when attempting to make program decisions. The political, economic, and social climate of an organization or community can significantly influence the planning process and, ultimately, the program outcomes (Cervero & Wilson, 1994b; Houle, 1972). Cervero and Wilson (1994b) claim that, within an organization, people are involved in a set of power relationships that may influence program planning. If planning is always done “in the face of power” (p. 249), the question arises whether planners are accountable to the learner, the sponsoring

organizations, or other stakeholders for the educational programs they develop. Given this dilemma, Cervero and Wilson (1994a) say planners should develop an ethical vision that will allow them to protect the interests of the learners throughout negotiations and planning.

Although Caffarella (1994) does not specifically focus on these same issues, she nevertheless recommends that the planner needs to seek help from organizations and individuals who are affected by the program. Support may be in a variety of forms and occur before, during, or following the program. Caffarella explains that support requires both commitment and action by the organization or individual. Similarly, Sork (1990) suggests that “planning should be a highly participatory activity involving, at a minimum, representatives of the client group, content experts and process experts who are familiar with both educational planning principles and relevant learning theory” (p. 74). There are often a variety of stakeholders who should participate in the planning of an educational program. By examining the planning context, a planner can identify and include the appropriate stakeholders in each situation.

Earlier, Knowles (1973) advocated that participants need to be involved in planning “with real delegation of responsibility and real influence in decision making” (p. 110). The concept of participation by learners in program planning is prevalent in the literature. However, Fox (1981) points out that practice is not consistent with the literature: “Faculty members or program administrators participate more frequently, and to a greater extent, in planning than client representatives” (p. 223). In addition to

planning, Broad and Newstrom (1992) propose that participants might also be involved as instructors or as after-program peer coaches.

In the workplace, planners might also seek support from their supervisors. For example, before a program, a supervisor might help participants prepare; during the program the supervisor might help with learning goals and beginning to plan to use the learning back at work. Supervisors can support participants while they are attending the program. After the program, supervisors can assist participants to integrate their learning into their work and provide additional time for this to occur (Caffarella, 1994). Such processes help to minimize the effects of unanticipated power issues.

Sort and prioritize program ideas. Caffarella (1994) indicates that when the planner or others establish criteria, it is likely that appropriate program ideas will be selected as the criteria. Who should set the criteria may vary according to the planning situation. Based on work by Boyle (1981), Caffarella recommends planners should consider factors about the potential participants, the environment, and the cost when prioritizing program ideas. Additionally, Gilmore, Campbell, and Becker (1989) suggest that planners should look at whether the desired change is important and feasible. For example, examining the present knowledge or skills of potential participants planners may determine if the expected change can be mastered in an educational program (Gilmore et al.). The environment in which potential participants would use their knowledge can influence whether an educational program is the best intervention. For example, Caffarella describes a situation in which employees work in a high-stress environment. Is the answer

to conduct a workshop about dealing with that environment, or is it to work towards reducing work time from 60 hours per week to 40 hours per week? Finally, the cost of the educational program will play a significant role in whether it is planned and implemented. Caffarella suggests, in situations where costs are prohibitive, that the planner or others explore alternative approaches to addressing the need for change.

Develop program objectives. Program objectives consist of a fairly detailed description of the expected outcomes, behaviours of the learners, or what the planner hopes will happen as a result of the learning (Caffarella, 1994; Sork, 2000). To aid in program development and evaluation, it is important for objectives to be clear, achievable, and to focus on a crucial part of the program (Boyle, 1981). However, it is difficult, if not impossible, to predict all of the appropriate objectives of a program prior to implementation. In fact, believing that all objectives can be predicted in advance limits the flexibility and responsiveness of the program (Apps, 1985; Brookfield, 1986).

Formulate an evaluation plan. “Program evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgements about the program, improve program effectiveness, and/or inform decisions about future programming” (Patton, 1997; p. 23). With an emphasis on accountability combined with funding cuts, today’s planners are being required to provide documentation of program results and to do so using fewer resources (Galbraith, Sisco, & Guiglielmino, 1997).

Kowalski (1988) describes two types of evaluation that are useful in evaluating educational programs. With program improvement in mind, formative evaluation can be used to examine the degree to which the objectives have been met and, using collected data, it allows the educator to make the needed adjustments to the program as the program is going on. Patton (1997) explains that data for formative evaluation is typically collected for a specific period of time, early in the program, to improve implementation and solve unanticipated problems. Galbraith et al. (1997) advocate that nearly all evaluation of education be formative in nature to provide continual evaluation feedback so that adjustments can be made throughout the process. A second type of evaluation is summative evaluation. It is conducted after completion of the program and is often for the benefit of an external audience such as sponsoring organizations or future potential participants (Kowalski; Patton).

Caffarella (1994) recommends the program planner/evaluator identify the audience for the evaluation; for example, potential learners, the sponsors, instructors, or an institution of higher learning. Selecting the audience assists the planner/evaluator to determine what should be evaluated and how to present the findings. An example of an evaluation question is, "What changes in the participants' job performances were an outcome of the leadership development program?" (Caffarella, p. 138). Caffarella emphasizes that the method of data collection must be compatible with the purpose of the evaluation.

There is a clear message in the literature that a program is not complete until the process has been evaluated from start to finish (Bush, Mullis, & Mullis, 1995). However, “attesting to the need for evaluation is somewhat akin to deciding to take exercise more regularly. Both are resolutions that are deemed important and necessary, but both are, for whatever reasons, rarely implemented” (Brookfield, 1986, p. 261). Similarly, in the study done by Pennington and Green (1976), planners did little program evaluation. Whether evaluation is avoided because of lack of knowledge or additional cost, evaluation is useful (and cost saving in the end) because it will support the adaptation of effective programs and can bring about the termination of ineffective programs (Patton, 1991).

Determine formats, schedules, and staff needs. One of the challenges of determining the program format results from the widening alternatives of how educational programs can be structured and delivered. Caffarella (1994) advises that, when choosing a format, the planner should consider the learner, cost, expertise needed, required equipment, and facilities as well as the program content and the desired program outcomes. For example, if the desired outcome is that the participants will learn new skills and develop a plan to use the skills back at the workplace, the program planner needs to choose a format that provides hands-on practice and adequate time for participants to develop strategies to use their learning. The selected format and needed content expertise informs the decision about the staff that are needed to implement the program.

The planner schedules the program by determining the appropriate timing and the length of the program. To encourage attendance, Caffarella (1994) recommends the planner consider other commitments that potential participants might have, making an effort to avoid conflicts.

Prepare budgets and marketing plans. Caffarella (1994) explains that budgeting and marketing issues are important to ensure that adequate resources and participants are available. Developing an educational budget requires a good understanding of the details of the program, the budgeting process, and an accurate perception of revenues and expenses. Kowalski (1988) conceptualizes the relationship between program planning, revenue, and costs using an equilateral triangle. One side of the triangle is the expenditure plan, the other side is the revenue plan, and the bottom is the program plan. If revenues are less than initially anticipated, expenses must be reduced (with the necessary program adjustments) or new revenues must be found.

Marketing is a method of attracting learners to a particular educational program (Beder, 1986). It ensures that the targeted audience knows what the program is about so they can choose programs that meet their needs or interests. Freedom to choose educational programs may lead to greater motivation to learn and to transfer learning (Caffarella, 1994). Once a program is developed, it often needs to be promoted through advertising, face-to-face communication, or incentives. The method and message chosen should be compatible with the mission of the organization sponsoring the program and with the audience (Beder).

Design instructional plan. Sork (1990) explains that an instructional plan is “all activities that are considered necessary and sufficient to bring about the desired learning” (p. 80). Several tasks associated with this element are (a) writing learning objectives, (b) determining content, (c) selecting instructional techniques, (d) identifying and selecting resources and equipment, and (e) evaluating learning (Caffarella, 1994). Additional factors that inform this process are theories of adult learning, the characteristics of the participants, theories of instructional design, and principles of effective facilitation (Cranton, 1989).

Silberman (1990) suggests that the planner should select and include teaching techniques that promote active involvement of program participants with which the instructor is reasonably comfortable. Caffarella (1994) provides a sample of learning activities, ranking them by their level of participant involvement. For example, group discussion and games encourage a high level of participation; behaviour modelling and role playing expect a medium level; and lecture and demonstration require a low level of participation.

Coordinate facilities and on-site events. Caffarella (1994) separates the on-site activities from other administrative responsibilities. Examples of on-site tasks for the program planner include: obtaining suitable facilities and equipment, establishing a positive climate for learning, and monitoring the progress of the program during implementation and making the necessary adjustments. Facilities should be suitable for the program format and audience. For example, when small group work is used, the

planner might select a facility with round tables that allow participants to see all group members during activities (Caffarella). The planner can provide a positive learning environment by providing easy access to refreshments and meals, comfortable temperature and lighting, and carefully planning the program opening and closing activities (Renner, 1994).

Prepare for the transfer of learning. Caffarella (1994) defines transfer of learning as the “effective application by program participants of what they learned as a result of attending an educational program” (p. 108). In contrast, Ottoson (1995a) uses the term “application,” although she means the same as Caffarella. In effect, both are referring to the actual use of learning after an educational program. Caffarella states that, in the past, there was little systematic planning for how program participants could use what they had learned. Consequently, most planning models do not specifically address transfer of learning. Transfer of learning is discussed in detail in the next major section.

Transfer of Learning

Ottoson (1994) argues that transfer of learning “needs to be a concern to all who plan, teach, evaluate, attend and support educational and training programs for adults” (p. 21). Although, as Ottoson (1995a) observes, the area of transfer of learning is not thoroughly developed in the literature, there is an ongoing debate between academic and practitioner educators--a debate she calls a “research-to-practice tension” (Ottoson, 1995b; p. 18). This tension concerns how transfer of learning should be studied and

worked towards. Using literature from a variety of disciplines, I examine transfer of learning from both a theoretical and a practical perspective next.

Defining Transfer of Learning

Transfer of learning is one of several terms used to refer to similar phenomena. Other terms found in the literature include: diffusion (Rogers, 1995), transfer of training (Broad & Newstrom, 1992), implementation (Orlandi, 1986; Ottoson & Green, 1987), and application (Ottoson, 1995a). Transfer of learning has a range of definitions. For example, Cormier and Hagman (1987) state that “transfer of learning occurs whenever prior-learned knowledge and skills affect the way in which new knowledge and skills are learned and performed” (p. 1). Similarly, Perkins and Salomon (1994) submit that transfer of learning “occurs when learning in one context or with one set of materials impacts on performance in another context or with other related materials” (p. 6452). Another definition refers to the use of something learned at a time and location removed from the learning situation (Broad & Newstrom).

A definition alone does not explain, if, how, and why transfer of learning occurs, however, Cruz (1997), for instance, finds that transfer of learning is difficult to measure. She also concludes that with commonly used methods, researchers have difficulty establishing a cause-effect relationship between interventions used to encourage transfer of learning and the actual occurrence of transfer.

By examining the literature on the *mechanisms* of transfer, greater insight into this phenomenon can be gained, as seen next.

Mechanisms of Transfer of Learning

In an effort to explain why transfer of learning does or does not occur, scientists have described hypothetical mechanisms of transfer. Categories of transfer mechanisms include: positive, negative, and absent transfer (Cormier & Hagman, 1987; Gick & Holyoak, 1987); lateral and vertical transfer (Gagné, 1977; Royer, 1979); near and far transfer (Royer; Laker, 1990); and low-road and high-road transfer (Salomon & Perkins, 1989; Laker).

Based on Osgood's 1949 conclusions, Cormier and Hagman (1987) discuss the direction and extent of transfer of learning with the terms positive, negative, and absent transfer. Positive transfer occurs when there is evidence that prior learning leads to successful performance of a transfer task. Negative transfer occurs when the learning impedes success with the transfer task. In negative transfer, the learner may perceive the learning task and transfer task as similar and attempt to apply knowledge or skill that is incorrect for the transfer task. Absent transfer is when the learner fails to use prior knowledge because the transfer task is not perceived to have adequate similar components to the learning task and consequently does not trigger the appropriate learned response. To explain these concepts, Gick and Holyoak (1987) give this example:

A young girl forms a rule such as "If something is small and has a tail, then it is called doggie." The condition of this rule would be satisfied if a cat were...observed, leading to over generalization...(a kind of negative transfer)....The rule would *not* be matched by a Great Dane, leading to under generalization (absence of transfer)....The rule would allow correct labelling of a spaniel (a case of positive transfer). (p. 15)

Gagné and White (1978) discuss the issue of inter-task relationships by distinguishing between lateral and vertical transfer. Lateral transfer is described by Klausmeier and Davis (1969) as “generalizing from one task that facilitates performance of another task of about the same level of complexity” (p. 1483). Royer (1979) gives the example of a child recognizing that the fractions he is learning about in school can be applied to the problem of dividing a prized marble collection that is jointly owned. Vertical transfer occurs when a skill or knowledge contributes directly to the acquisition of a higher-order skill or knowledge. For example, Royer explains that this type of transfer of learning occurs when a student who has mastered multiplication and subtraction masters the skill of long division more rapidly than a student who is not skilled at multiplication and subtraction.

Another transfer mechanism, near transfer, occurs between very similar circumstances (Perkins & Salomon, 1994). For example, when a mechanic repairs the engine of a new model of car, and finds that it has a design very similar to earlier models, this is near transfer. In contrast, far transfer refers to transfer of learning which occurs between situations which are very different. An example of this might be when a chess player applies a basic strategic principle from chess to investment practices (Perkins & Salomon). According to Clark and Voogel (1985), near transfer is most appropriate for procedural objectives such as sequencing of steps, whereas far transfer is most likely to occur with declarative objectives that include broader concepts and principles. Royer

(1979) suggests that the mechanisms of transfer of learning might be a continuum, with near transfer and far transfer at either end.

Low-road and high-road transfer are a set of terms central to a model of transfer of learning developed by Salomon and Perkins (1989). As they explain: “Low-road mechanism involves the spontaneous, automatic transfer of highly practiced skills, with little need for reflective thinking” (p. 118). Low-road transfer is most likely to occur when the learner experiences many and varied opportunities to practice new knowledge or skills; this allows the knowledge or skills to be highly automatic with little need to reflect before acting. For instance, when asked to drive a truck after only having driven cars, the skills used to drive the car will, after some minor adjustments, transfer quite automatically to driving the truck. In situations requiring low-road transfer of learning, Perkins and Salomon (1988) direct educators to provide learning events that closely resemble the transfer situation. In contrast, “high-road mechanism involves the explicit conscious formulation of abstraction in one situation that allows making a connection to another” (Salomon & Perkins, 1989, p. 118). One example of this type of transfer of learning is that of applying the practice of setting aside time to study as learned in elementary school, to setting aside time for projects at work as an adult. Another example is, as an adult, finding that impulsive shopping is a problem and using a technique, such as counting to 10. Here is a technique that has been learned as a child to control temper tantrums applied to adult life. High-road transfer is likely to occur when the learner consciously forms an abstraction of the original learning decontextualized from the

situation. This abstraction allows the learner to connect the original learning to a new situation. This is a mindful process, not an automatic one. Perkins and Salomon suggest that to achieve high-road transfer, an educator must assist the learner through the processes of developing abstractions of their learning and connections with the transfer context. For example an educator might encourage learners to consider how the treatment of blacks in the United States south was like or unlike the treatment of blacks in South Africa today. In another example, an educator can directly teach problem-solving in a particular subject area such as math and then, provoke the learners to practice their skills beyond this scope by asking them how they might apply the strategies to another situation such as planning an essay in English.

Factors Influencing Transfer of Learning

Both theoretical and practical approaches to transfer of learning identify a range of factors that influence transfer of learning. As Ottoson (1995a) states:

No one process captures a whole or universal reality of potential influences on the postadult education experience. Taken together, however, these processes suggest several broad influences including the educational program, learner, context and the innovation to be applied. (p. 4)

Ottoson offers a framework to permit a better understanding of the factors which influence transfer of learning. The framework contains six main factors: (a) the education program including practice time, content, and materials; (b) the nature of the innovation or new learning including its usefulness and adaptability; (c) predisposing factors including characteristics of the learner that affect behaviour; (d) enabling factors including the learner's capacity to transfer the innovation, availability of resources, the learner's

position in the transfer context, opportunity for transfer of learning, organizational culture, and planning time; (e) reinforcing factors including actual or possible rewards or punishments for transfer of learning; and (f) the organizational or environmental context. In applying her framework to a study of health professionals, Ottoson found that, immediately following a workshop, there was no single factor that predicted transfer of learning. However, 3 months following the workshop, she found that several factors positively influenced transfer of the innovation to the learner's work: (a) predisposing factors, including understanding the innovation and feeling able to use it; (b) innovation factors, including the adaptability and usefulness of the innovation; (c) enabling factors, including the learner's position at work and whether there was an opportunity to use the innovation; and (d) reinforcing factors, including the supervisor's attitude toward the learner's use of the innovation. In a later study, Ottoson (1997) shows that an additional and significant influence is that of the learner's predisposition to use the innovation prior to the educational program. When this predisposition is present, there is greater likelihood that the learner will transfer learning.

Broad and Newstrom (1992) propose a model for transfer of learning that is based on Lewin's (1951) change theory. They identify restraining forces, driving forces, and the present behaviour of the learner as components of their model. Drawing upon their experience, a panel of experts, and the literature, Broad and Newstrom propose a list of 80 strategies to remove common barriers to transfer of learning. They identify when

(before, during, or after training) and who (manager, trainer, or trainee) should use each strategy.

Caffarella (1994) encourages program planners to plan for transfer of learning in her interactive program planning model. She identifies six influencing factors key to the successful transfer of learning: program participants, program design and execution, program content, changes required to apply learning, organizational context, and community or societal forces. Caffarella directs attention to specific strategies by rating the level of control a program planner or educator might have over them. Program design and execution are most controllable and community and societal factors are least controllable.

The literature does not contain a consistent view of transfer of learning and the factors that influence it. Based on Ottoson's (1997) model, influencing factors and educational strategies to address these are discussed in more detail below.

Predisposing influence. Predisposing influences include characteristics of the learners that affect behaviour, such as values, beliefs, attitudes, and experiences (Ottoson, 1995a). Ottoson clarifies that not all learner characteristics can be influenced by an educational program because they are stable personality traits. Clark and Voogel (1985) claim that transfer of learning is more likely when the learner is flexible and has the ability to modify the original learning to meet their own needs. In addition, Ottoson (1997) identifies a potential link between the predisposing attitude of participants and their use of the innovation later. She claims that "participant's perceptions, motivations, values,

and beliefs shape experiences during the educational program, as well as their understanding of the innovation and subsequent application” (p. 105). Additionally, Hicks and Klimoski (1987) find that the degree of choice participants have as to whether or not they will attend an educational program has a significant influence on their receptivity to the training involved. Although not as strongly supported by their study, they also believe that prior realistic information about an educational program can influence the attitude and subsequent performance of participants. Similarly, Baldwin and Ford (1988) suggest that a careful selection of interested and motivated participants may improve the rate of transfer of learning.

Fox (1984) proposes that the learner must first be *willing* to change for transfer of learning to occur. This willingness may be inherent in the learner at entry to the program or it may be encouraged by activities around and during the program. Similarly, Broad and Newstrom (1992) claim that learners who are uncomfortable with the changes that may arise from learning will be less likely to transfer the original learning to a new context. Wexley and Baldwin (1986) agree that behavioral commitment to learn and change performance leads more consistently to transfer of learning. Consistent with this, in a study of nurses’ implementation of the goals of a continuing educational program, Cervero, Rottet, and Dimmock (1986) found that the participants’ intent to implement the program goals prior to attending the program were significantly associated with their performance following the program. Additionally, in the same study, they found that the participants’ attitudes toward their practice also influenced the transfer of learning. To

determine the learners' attitudes toward their practice, they used Rogers' (1995) adopter categories. The categories range from the innovator, who is always the first to adopt an innovation, through to the laggard, who is among the last to adopt an innovation. In this study, the nurses rated as innovators by their supervisors were more likely to transfer learning from the educational program than those who were categorized as laggards.

Innovation influence. The usefulness of an innovation is an important factor in transfer of learning (Broad & Newstrom, 1992; Parry, 1990). Rogers (1995) reasons that innovations that are seen as having advantages over other innovations--and those that learners perceive as adaptable to personal situations--will more likely be transferred. Rogers also finds that simpler innovations are more quickly transferred than those that require the learner to develop new skills and understandings. Similarly, Caffarella (1994) suggests that the amount that a learner needs to change to transfer learning will impact on that transfer of learning. Additionally, Martin and Mazmanian (1991) find that when a learner is expected to make significant amounts of change in order to transfer learning, more than one learning episode will be needed. Correspondingly, they suggest that accommodations and incremental changes are less disruptive than major structural changes and are more likely to occur, particularly following a one-time education session. Caffarella suggests that discovering and building on learners' past knowledge may enhance the likelihood that the innovation will be transferred.

Educational influence. "Transfer does not happen in a vacuum. It needs to be nurtured and directed by capable teachers who are expert in guiding students to apply the

skills they have learnt in one setting to another” (Misko, 1995, p. 30). Rogers (1995) suggests that the role of the educator is important. For instance, more effective communication occurs between people with similar culture, language, and background. Consequently, an educator having these similarities to learners may be more successful in communicating the necessary knowledge, attitudes, and behaviour change necessary for transfer of learning.

Programs should be designed around sound learning principles, with attention to sequence, relevant content, and should also use of a variety of teaching strategies to meet the learning style preferences of different learners (Caffarella, 1994). For example, Clark and Voogel (1985) suggest that there is a strong relationship between student ability and instructional methods, and subsequent transfer of learning. Furthermore, the learning activities should enhance learners’ confidence in their ability to use the new skills. Consistent with this, Gagné, Briggs, and Wager (1992) claim that practicing the new learning within the educational program will promote skill development and, consequently, will also encourage transfer of learning. Misko (1995) also favours practice activities that are practical and include cues for transfer to assist the learner to recognize situations where transfer of learning is appropriate.

Noe (1986) claims that motivation to transfer learning to work is positively affected if in the educational program learners see that the innovation is relevant to their jobs, and they have an opportunity to use the new skills. Similarly, Broad and Newstrom (1992) believe that a common barrier to transfer of learning occurs when learners perceive

the content as irrelevant or impractical. They argue that educators need to incorporate information that connects the new knowledge or skill to the learners' practice. Consistent with this, Salomon and Perkins (1989) point out that there is little hope for expertise and consequent transfer of learning if learners acquire facts without receiving and developing strategies about how, when, or where to put these facts to work. Consequently, an important role of the educator is to help learners to make the necessary connections between knowledge and the real world of transfer. Guiding learners to develop an action plan and allowing adequate time in the program for these activities is considered an effective strategy to encourage participants to reflect on their use of the innovation in their practice. Consequently, here is another way to promote transfer of learning (Caffarella, 1994).

Looking at a different aspect of the educational program, Ottoson (1992), and Broad and Newstrom (1992) recommend that learners should have access to resources during the educational program. These can be used in the transfer context to slow memory loss and to provide cues to participants to keep transferring their new learning. To further assist the learner in overcoming negative influences in the transfer context, Marx (1986) suggests educators use a relapse prevention strategy that assists the learner to understand, anticipate, and cope with the problem of transfer of learning failure. When using this process, the learner establishes goals for both learning and transfer of learning. As a result, the learner can anticipate difficulties in using new knowledge and skills and can predict conditions under which difficulty is likely to occur. Finally, with this process, the learner

practices prevention skills and coping responses through activities in the educational program such as role plays and small group discussion (Marx, 1982).

Transfer context influence. According to Ottoson (1995a) the transfer context contains both enabling and reinforcing influences. These may include colleagues and managers as well as physical, political, and social environments (Cervero & Wilson, 1994b). Geroy and Penna (1995) point out that, if transfer of learning is to occur, learners should encounter as little difficulty as possible when they attempt to transfer what they have learned. The transfer environment needs to offer support for the learner to use new knowledge and skills.

Enabling factors include: the skills of the learner, available resources, authority to act, opportunity to transfer learning, the organizational culture, and the amount of planning time available to the learner (Ottoson, 1995a). Kemerer (1991) is supported by Ottoson (1995a) and Parry (1990) in the claim that the learner's ability to learn what is required can affect transfer of learning and may be affected by the individual's intellectual capacity, prior knowledge, and readiness to learn. For example, if supervisors relieve learners of their work responsibilities while attending the educational program, it may help them to focus on the program content and, consequently, they may learn more effectively (Broad & Newstrom, 1992).

Reinforcing factors can be actual or anticipated rewards or punishments for transfer of learning. They might involve support from others for the intended transfer of learning. This could include the supervisor's attitude toward transfer of learning, the

attitude of peers, and so on. Leifer and Newstrom (1980) suggest that the workplace supervisor's involvement prior to, during, and following training will improve transfer of learning because the supervisor is able to offer support and rewards for participation and transfer of learning. Additionally, findings by Baumgartel and Jeanpierre (1972) show that an environment which is considerate of the learner's feelings and encourages the use of innovations and the practice of experimentation is more likely to result in transfer of learning. In contrast with these findings, Gielen and van der Klink (1995) found in three of four case studies that supportive action by the supervisor did not in fact improve transfer of learning. Branderhorst and Wognum (1995) report similar findings. More recently, Foxon (1997) found that learners who received, or believed they received, managerial support for transfer of learning were more likely to transfer than those who did not. In Foxon's study, there are quite a range of behaviours that are perceived by learners as being supportive, from the manager's initial and low-key interest about training, to personal involvement by the manager as a mentor following the training. Interestingly, "the more that learners anticipated manager support, the more support they reported having received" (p. 57). Foxon suggests that practitioners need to know whether those who perceived little or no support actually had different experiences than those who perceived support.

Broad and Newstrom (1992) find that learners usually function within a social environment in the transfer context; consequently, they value group acceptance and may respond well to pressures provided by important colleagues. Thus, Broad and Newstrom

advocate that, when possible, individuals be educated in natural groups. This allows them opportunity in the transfer context to meet, share success stories, and solve problems. This approach also allows peer pressure to have a positive influence toward transfer of learning rather than acting as a barrier. Caffarella (1994) adds that self-help or support groups of peers may also be established to assist learners over time with transfer of learning issues. Educators may provide support with aids or tools to be used in the transfer context. These tools might include: posters, pamphlets, or action plans provided or developed during the educational program (Broad & Newstrom; Laker, 1990). Additionally, the educator might offer refresher or follow-up sessions to former program participants to provide a brief and concise summary of content and to allow participants an opportunity to problem solve and to share success stories (Broad & Newstrom; Wexley & Baldwin, 1986).

Educators have limited control over many of the factors that influence transfer of learning, making it imperative that they understand as much as possible about the factors that prevent transfer of learning. As educators' knowledge of transfer of learning increases, they will become more confident in the appropriateness of their actions. Apart from research by Ottoson (1995b, 1997), little research on transfer of learning has been done by mainstream adult educators. Much of the transfer of learning literature is from human resource development sources (e.g., Broad & Newstrom, 1992). Within this HRD literature, there is a strong behaviourist orientation that often does not take into account the many situational and contextual variables that affect transfer of learning. For instance,

the use of the term “transfer of learning,” suggests that the educator can have considerable control over the learning, regardless of the participants or the content. However, some studies of transfer of learning do take into account the wide range of variables that affect whether transfer of learning occurs (Ottoson, 1997). For instance, in a review of transfer of learning literature, Ford and Weissbein (1997) observe that although there has been improvement in the quality of transfer of learning research, there continues to be a need for more study of new educational design strategies for enhancing transfer of learning. To study these aspects of transfer of learning more completely, Ottoson (1997) suggests that participants in educational programs be viewed as the link between the program and their own transfer context. She also recommends the researcher look for the innovation in the multiple forms it might take and the multiple ways and times in which it can be transferred. Consequently, for educators to gain insight from participants about their transfer of learning experiences and their transfer context, they must select suitable research methodology. The relevance of case study, questionnaires, and interviews to examine transfer of learning is discussed in the following subsection.

Research Methods Relevant to Transfer of Learning

Case study. According to Merriam (1988), case studies have gained prominence in educational research since the 1980s. Merriam and Simpson (1989) describe a case study as an intensive description and analysis of a phenomenon that is primarily concerned with the interactions among people, events, and situations. They suggest that a case study is appropriate when there is little knowledge about a problem, a lack of

theory, or the existing theory does not fully explain the phenomenon. Given that transfer of learning is little understood and has limited theory to support the interventions being used in practice, a case study often is an appropriate methodology to use in investigating it.

There are, however, many limitations to using a case study approach. For example, the population studied in a case study is not selected randomly and is usually focused on one or several cases (Verma & Mallick, 1999). Consequently, critics of the method express concern because the findings cannot be generalized in the same manner as findings from random samples (Merriam, 1988). Furthermore, because of the uniqueness of the population involved, case studies are difficult to replicate (Merriam). In contrast, Guba and Lincoln (1983) claim that case studies are adaptable and allow the selection of data collection methods that suit the circumstance. Additionally, Merriam and Simpson (1989) point to the large amounts of rich, detailed information that can be collected through a case study. Perhaps one of the strongest reasons for using a case study is suggested by Verma and Mallick. They say that case study stresses the “meaningfulness of the data, gathered as it is from the interaction between people and events in their natural environments” (p. 114).

Interviews and observations are data-gathering techniques commonly used in a case study methodology, although other techniques can be used (Verma & Mallick, 1999). These additional techniques include questionnaires and telephone interviews.

Questionnaires. There are many studies of transfer of learning that use a questionnaire methodology (e.g. Ford & Weissbein, 1997; Ottoson, 1997). In general, a well constructed questionnaire can provide data economically and can place moderate demands on the respondent. Questionnaires can be self-administered or administered with assistance (Verma & Mallick, 1999). Questionnaire surveys are often sent to respondents in the mail, although the risk in this is that postal questionnaires often have a low return rate, making it difficult to trust such limited data (Merriam & Simpson, 1989). To avoid this, Merriam and Simpson recommend using a well-constructed and pretested questionnaire.

Questions for a questionnaire may be either open or closed; with closed being the type more commonly used (Verma & Mallick, 1999). Babbie (1989) explains that closed questions give the respondent a limited number of options, provide consistency in responses, and are more easily processed. In contrast, Verma and Mallick state that open questions allow the respondent to provide information without the constraints of categories. This approach provides a wide variety of responses that the researcher can then group into categories of responses. Babbie provides the researcher with guidelines for developing appropriate questions. For example, he recommends that the questions be clear and the researcher avoid double-barrelled questions such as asking a combination question for a single answer. Babbie also suggests that, if negative items are used, there is a greater risk of misinterpretation by the respondent. His final point is to avoid biased items and terms.

Interviews. Fontana and Frey (1998) describe interviews as one of the “most powerful ways we use to try to understand our fellow human beings” (p. 47). Patton (1990) underscores the importance of increasing understanding of the person when he states that a common characteristic of interviewing is that “the persons being interviewed respond in their own words to express their own personal perspectives” (p. 287).

Researchers will use interviews to find an explanation for why something happened or what individuals or groups experienced (Glesne & Peshkin, 1992). For example, Ottoson (1997) successfully used interviews with participants 4 months after a workshop to learn more about their transfer of learning experiences and what factors affected their learning.

Interview questions are typically created by the researcher and typically are fully established before interviewing begins, and remain unchanged throughout the interview (Glesne & Peshkin, 1992). Merriam and Simpson (1989) call this type of interview a structured interview. In contrast, an unstructured interview acts as a guide to the researcher with questions emerging during the interview. This process may replace preestablished questions (Glesne & Peshkin; Merriam & Simpson). This type of interview requires good interviewing skills to elicit information that is pertinent to the study (Verma & Mallick, 1999). Consistent with this, Patton (1990) reflects that “time is precious in an interview. Long-winded responses, irrelevant remarks, and digressions in the interview will reduce the amount of time available to focus on critical questions” (p. 330). Consequently, the interviewer must remain alert during an interview so that such digressions and irrelevant remarks are few.

Summary of the Literature

Adult learners have unique characteristics: varying degrees of self-directedness, differing physical and intellectual capacities, and individual learning style preferences. Educators need to use teaching approaches that address a variety of these characteristics in order to assist as many learners as possible to benefit from an educational program.

Adults build on past knowledge and experience in order to learn new knowledge, skills, and attitudes. Although there is a high expectation that professionals will be able to incorporate new learning into their practices, this is not consistently reflected in the practice of continuing professional educators. Consequently, there is a need for transfer of learning to become a greater focus in the design, implementation, and evaluation of CPE.

Caffarella's (1994) framework is one of few program planning models that can be used to guide planning for CPE programs that promote transfer of learning. Planners need to use a planning process that is consistent with their philosophy of adult education, with the mission of the organization sponsoring the program, and with the best interests of learners. Selection and sequencing of the elements of the planning process is determined by the situation. When possible, the planner should involve others in the planning process--learners, sponsors, and community members.

Transfer of learning occurs when people use what they have learned in a new situation. The type of transfer of learning that occurs varies, dependent upon the knowledge or skill to be transferred, the learner, and the situation. For example, near transfer occurs when there are many similarities between the learning and the transfer

situations. Far transfer occurs when the learning and transfer situations are significantly different. Additionally, there is low-road transfer in which the learning has been repeated so often that it has become an automatic response, and high-road transfer that requires that the learner develop an abstraction that they can use in widely varying situations.

Transfer of learning occurs at a low rate following most adult educational programs, including those focused on continuing professional education. Transfer of learning can be supported in the planning and implementation of educational programs when the educator uses strategies to reduce barriers that impede transfer of learning. Factors that influence learning transfer are found in the learner, the educational program and content, and the transfer context. Transfer of learning is most likely to occur when learners: are motivated to learn and use the new knowledge and skills, form a natural group in the transfer context, and have the past knowledge required to attain the new learning. When planning an educational program, an educator should select content that is both relevant and practical for the learners, provide sequencing that allows learners to build on past knowledge, provide authentic opportunities for practice, help learners link their new knowledge and skills to the real world in which they will use it, and build supports for learners in their transfer contexts. Although there are many suggested interventions to enhance transfer of learning, there is limited support for these interventions in the literature. Even less is known about how transfer of learning is increased in CPE programs for nurses. To gain additional understanding on transfer of learning with nurses, research is needed with a focus on the participants and the situations

in which they strive to transfer their learning. Questionnaires and interviews can be used to provide rich, detailed, descriptions of the learning and transfer of learning experiences of educational program participants.

CHAPTER 3

DESCRIPTION OF THE STUDY

For this study, I organized and facilitated a group of 14 public health nurses to implement a peer-assisted learning (PAL) smoking prevention program. It was done for elementary school students, in close consultation with teachers. My intent was to examine factors that influenced the nurses' transfer of educational strategies. In planning the study I collaborated with two colleagues who also assisted with designing and implementing the workshop. A key learning event for the participating public health nurses was a one-day workshop in February 1999. Their subsequent implementation of the smoking prevention program and/or transfer of educational strategies from the workshop to elementary schools and other programs they administer were used as indicators of the degree of transfer of learning involved.

Planning the Study

In planning this study, I first examined the organizational context for the PHNs in order to understand factors that can influence what they do and how they do it. I then collaborated with two colleagues in sorting and prioritizing program ideas, planning for the PHNs' transfer of learning, and planning the evaluation.

Organizational Context for the PHNs

When planning the workshop, I considered the situation in which the smoking prevention program would be delivered and the circumstances in which the workshop participants would transfer their learning. The public health nurses' organizational context

has changed a great deal in the past 5 years. They have moved from being part of a large provincial organization with dedicated public health managers, to being employed by several health districts. The participating PHNs are employed either by the district--in this thesis I will refer to it as the host health district--or by smaller associated health districts (I do not work for any of these health districts, but for a large district 400 kilometres away). Few of the smaller health districts have administrators dedicated to public health programs. Additionally, the host health district was experiencing a significant budget shortfall. In response to this, the district was leaving vacant positions unfilled. These vacancies increased the already broad and busy workload of the public health nurses. Furthermore, the participating nurses often drive from 25 to 200 kilometres to deliver a service in rural settings. With consistently busy schedules, preparation time for these public health nurses is at a premium and often done at home. Many of them work alone, limiting their ability to develop teaching resources collaboratively.

There has been interest in, but no dedication of resources to, tobacco reduction programs in most Saskatchewan health districts. Consequently, there was much interest in this topical area.

Collaborating With Two Colleagues

The potential program participants were not directly involved in planning the workshop. Rather, I sought collaboration from two colleagues. Lonnie Smith (fictitious name), the public health nursing supervisor for the host health district, was both my primary support and a significant part of the implementation team. Lonnie played several

roles. She was both the facilities and resource coordinator. Through her connections with other health districts and the school systems, she recruited both the public health nurses and the teachers who participated in the workshop. Lonnie and I had no face-to-face meetings prior to the workshop. All our communications were by telephone and facsimile. We planned program scheduling, location, and resources through these media .

Kerri Green (fictitious name) is a supervisor and co-worker in public health in my own health district. She also holds a master's degree in continuing education and advised me in the program planning process and the design of the workshop. Kerri also co-facilitated the workshop. Kerri and I have a long history of collaboration with respect to tobacco reduction programming. Together we initiated and implemented the tobacco reduction program for our health district, which includes the PAL program. We have also co-facilitated various workshops.

Planning for Transfer of Learning

My planning priority for this project was to promote the transfer of learning of educational processes (including the PAL program) with participating PHNs. I did this by planning several strategies to be implemented before, during, and after the workshop.

Before-the-workshop strategies. To ensure that participants were informed about the workshop, I provided Lonnie with a document describing the PAL program. She agreed to give it to participants prior to the workshop. In addition, she agreed to send participants a letter along with a pre-workshop questionnaire (which I prepared) prior to their attending the workshop. The main purpose of this questionnaire was to acquire

some baseline information about the participants, their work situations, and their plans to use the PAL program. The letter provided a brief explanation of my study and asked for their assistance.

During-the-workshop strategies. Learning and transfer of learning are more likely to occur if the innovation is well understood. As participants had some past knowledge and experience of teaching in elementary classrooms, we based our teaching approach and selection of content on their common past knowledge and experience. One strategy we agreed on was to choose content that we believed was relevant to the participants and their transfer situations. The relevance of the content was emphasized by sharing with participants some of the problems encountered and solutions created in similar transfer settings. We also planned to provide opportunities throughout the workshop for participants to reflect on challenges, problems, and possible solutions they might use in their own practice. Based on this, another strategy we agreed upon was to encourage participants to reflect on adaptations they might need to make in the PAL program. For instance, we also recognized that many participants had likely taught smoking prevention by using scare tactics associated with long-term health concerns. To assist participants to let go of this approach, we planned to spend extra time explaining the rationale for minimizing the time spent on the physical consequences with the targeted age group.

Small incremental changes are more likely to be acted on than major changes. I was concerned that the need for participants to change from using lecture to using small group

processes and role play might interfere with their willingness to adopt the new teaching approaches. To overcome this, we endeavoured to make these new approaches easy and fun, and to provide learners with opportunities to use and experience them during the workshop. We wanted the learning process to be interactive throughout the program. For example, at times participants would take the role of potential educators and, at other times, the role of students in the PAL program. We used this approach to encourage participants to make a connection between how they experienced PAL activities at the workshop with how they and their students would experience PAL in the classroom.

A strategy for the end of the workshop was to invite participants to identify and discuss additional barriers to transfer of learning in their situations, and possible solutions as well. To assist in this process, I developed two documents: “Speedbumps and Road Blocks,” and, “I’ll do this...A plan of action.” The intent of these documents was to enable participants to identify their specific challenges and resources, and assist them in developing an action plan for transfer of learning. I planned to introduce these documents to participants at the end of the workshop, and allow time to begin using them.

After-the-workshop strategies. To make it easier for participants to promote and coordinate the PAL program with schools, I provided two resources for PHNs to use when talking with teachers about the PAL program. The first form, “The Revised Smoking Prevention Program (1998),” gave the teacher an explanation of the PAL program in order for them to recruit students. PHNs could use the second form, “The Smoking Prevention

Plan,” to clarify the roles of both teacher and nurse in the program, and it gave them a way to document the schedule and the equipment needed for each lesson.

To encourage post-workshop support, I invited Lonnie to participate in the program. I did this hoping that her increased awareness of the details of the program would lead to a better understanding of the support PHNs would need. Although I initially planned to encourage PHNs to meet with me several weeks following the workshop to discuss their experiences with the PAL program, I did not organize this follow-up program with PHNs. This was because there were external changes in the interim that made follow-up impossible.

Planning the Evaluation

I did not plan to evaluate the learning of each participant on an individual basis. I anticipated that, throughout the program, participants would demonstrate their learning and discuss ways to transfer the PAL program in their communities.

I prepared an end-of-workshop questionnaire (Appendix A) about the workshop (the type that Merriam & Caffarella, 1991, call a “happiness indicator”), which contained questions on the participants’ level of satisfaction with the content, the educational strategies offered, the facilitators’ performances, and the participants’ level of comfort during the workshop. In this evaluation, I asked participants: (a) how they felt about the program; (b) the most meaningful or helpful aspect of the day; (c) what was missing from the day; and (d) when they planned to implement PAL.

To gain more details about their experience and to offer support as needed, I decided to interview each participant by telephone (see Appendix B for a copy of the interview questions I developed). The questions focused on the participant's ability to transfer the PAL program or any of the individual teaching strategies, the factors that influenced their transfer of learning, and the type of support and difficulties they encountered. In addition, I queried whether I could provide additional support.

The follow-up questionnaire asked about the same issues as the interview but in more detail (see Appendix C). The questionnaire contained six closed-ended questions and one page of open-ended questions. These questions were on aspects of: (a) their use of the PAL program or teaching strategies, (b) their plan to use the PAL program in future, (c) their belief in tobacco use reduction education programs, (d) the support received to implement PAL, and (e) what factors influenced their ability to transfer the PAL program or teaching strategies.

Design of the Overall Program

We planned our workshop around the PAL program. We began by giving background information; then research findings; and we moved through the details of the program systematically, all the while highlighting important aspects of each of six lessons. Additionally, a small-group activity was planned to give participants an opportunity to explore challenges they might face to transfer their learning. During the workshop, we planned several icebreaker and energizer activities as well as small group and large group discussions. We also planned to circulate to each group during small group work.

Determining Format, Schedules, and Staff Needs

I decided that the workshop might be more manageable for me and more interesting for participants if two people were involved in facilitation throughout the day. Kerri Green agreed to assist me. Based on past experience with similar workshops, and in consultation with Kerri Green, I chose to provide the details of the PAL program as it had been used by the public health nurses in our own health district. We decided on a workshop format in which we reviewed the lessons they would deliver for the PAL program. We had found in the past that this approach led the PHNs to feel knowledgeable about and comfortable with the PAL program.

In collaboration with Lonnie, I scheduled the workshop for a mid-week day in February 1999. We chose the date for several reasons: it fit with my schedule, a facility was available, and there was another educational program for PHNs scheduled the next day, which might reduce travel for participating nurses. Lonnie and I agreed that the host health district would photocopy a PAL manual for each participant. To facilitate this, I provided a master copy with written permission from Health Canada to photocopy the document. Teachers were charged for the manuals. We also agreed that a copy of the video, "Good Practice Today," (Lesson 4) should be purchased for each PHN or agency. In addition, we agreed that a maximum of 25 participants would attend the workshop, and a minimum of 4 to 5 hours be would allotted for the workshop. The start time would be 8:30 to 9:00 a.m.

Designing the Instructional Activities

Throughout the workshop, we used approaches that were supportive of learning and enabled the participants to acquire new knowledge by building on their past knowledge. Each time we presented new content, we used the following processes: we first gained the participants' attention, informed them of the purpose of the session, asked them to recall past knowledge that might assist them to learn the new content, presented the content using a variety of appropriate facilitation approaches, and had participants demonstrate their understanding of the content--a step that allowed us to correct any errors in their knowledge.

During our opening activities, Kerri and I planned an icebreaker activity to introduce the participants to each other. We then planned to ascertain that each participant had a manual, and then to present some relevant feedback from past users of the PAL program. Additionally, we would ask about the participants' past experience with PAL or similar peer-led programs. We intended to use this feedback to modify the workshop or the role in it of the individuals who had used the PAL program.

The major portion of the workshop was allotted to using the PAL manual as a guide while we explained each lesson and modelled specific PAL activities. The format included: an attention-gaining activity for each lesson, an overview of the PAL students' intended learning, a review of the steps to prepare for the delivery of the lesson, and an explanation of the activities of the lesson, including modelling of some of these activities with the participants as PAL students. An important part of the facilitation of this

content was a discussion of the dilemmas already experienced by other PHNs and teachers delivering the PAL program. We anticipated that these challenges and the solutions could provide participants an opening to discuss their questions and challenges.

For the final portion of the workshop, we planned to talk about additional strategies to support transfer of the PAL program and to refer participants both to the planning documents within the PAL manual and to two additional documents called: “Speedbumps and Roadblocks,” and “I’ll do this...An action plan.” Time for participants to use these documents and discuss their plans was the last activity.

Facilitation of the Workshop

The workshop was implemented in February 1999. In this section, I describe the participants and the facilities, icebreaker activities, and the flow of the workshop activities including introducing the PAL program, the review of the six-lessons of the PAL program, and closing activities.

Recruiting Participants

Lonnie recruited both PHNs and teachers for the workshop. She informed the public health nurses about the workshop, giving them the written information that I had provided, and strongly encouraging them to attend if possible. Teachers were invited in several ways. In outlying schools, Lonnie had the PHN assigned to the school talk with the principal and provide the workshop details. For schools nearer to her office, Lonnie contacted the superintendents and principals herself, providing them with information on

the PAL program and the workshop. Lonnie was not seeking to turn away any interested PHNs or teachers. All participants volunteered and included 14 public health nurses, 10 teachers, 3 principals, and Lonnie Smith.

Coordinating Facilities and Equipment

Lonnie arranged for the facilities and equipment. Some of the equipment I identified that we needed included: an overhead transparency projector, a television, a video cassette recorder (VCR), a flipchart stand, and beverages and snacks. The site she selected was in a small urban centre in the host health district, approximately 400 kilometres from where Kerri and I lived. Lonnie chose a hospital auditorium that had large windows which provided ample natural light, and was large enough to allow participants to sit at round tables in the small groups needed for many of the learning activities.

Kerri and I travelled to site the day before the workshop. On arrival, we located the meeting room and found it to be spacious, but with chairs in rows facing a stage, such as in a theatre. That evening we modified the floor plan. We decided not to use the stage at all because it would put us and the overhead projections too far from participants. We used one side of the room as the “front.” This arrangement allowed us to position the round tables in two rows, bringing participants closer to us and to each other. We also positioned the posters, resources, registration, and refreshments around the room in convenient locations.

Although both Kerri and I had reviewed the instructional plan independently, we had not discussed it in detail, so we used this opportunity for review and discussion.

Through our discussions we made two changes. First, one activity within the PAL program normally required each PAL student to interview a smoker or a former smoker. We decided to incorporate interviewing a *former* smoker into the presentation. This would give participants the content needed for some of the discussion, and it modelled an alternative approach that they might use if a class had difficulty locating people to interview. Secondly, for the closing activities, I decided to have participants share the challenges they anticipated in pairs, then to discuss a few of these challenges with the whole group.

Arrival of Participants and Icebreaker Activities

We greeted participants as they arrived and asked them to submit their pre-workshop questionnaire. I gave a copy of the document to participants who had not already completed one, and collected them prior to the beginning of the workshop. Because Lonnie Smith was a supervisor in the host health district and also knew all of the participants, she introduced Kerri and me to the participants. Prior to beginning the workshop, we noticed an unequal distribution of participants at the tables; there were 11 PHNs plus Lonnie Smith at one table, 8 teachers and principals at another, and two tables of 4 people each--1 with 3 PHNs and a teacher, and 1 with teachers only. Some of the tables were over crowded and, in one case, two participants had their backs to the front of the room. Kerri invited participants to redistribute themselves around the room if they wished to have a better view of the front and if they needed more space to deal with their manuals. However, nobody moved, and we did nothing more to encourage them to move.

We also observed that a couple of teachers had not purchased the PAL manual; without a manual to guide them they would have difficulty following many of the workshop activities. Rather than pressure these teachers to purchase manuals, we asked Lonnie for extra manuals for them to use. At noon, these teachers purchased the manuals they were using.

The participants were quiet until we introduced our icebreaker activity, which went as follows. With all of the participants standing in an open space in the room, Kerrie asked them to think of the brand of car they drove, then find a group of people who drove the same kind of car. Four groups were formed among some laughter and teasing about which was the best brand of car. Once the groups were formed, Kerri and I moved from group to group announcing the car brands to help participants find the right group. We asked them to introduce themselves to anyone they did not know in their group. Next we asked them to regroup with others who had the same favourite comedy show. The group was a bit noisier with this activity. Again, we asked them to introduce themselves to anyone they did not know. Using the same process, we had participants regroup according to their favourite learning style. Four learning style groups formed, one for visual, one for kinesthetic, one for auditory, and a fourth for those who had several preferred learning styles. We then built upon the learning styles by asking them to discuss ways they would teach someone with this same learning style preference. Kerri and I moved from group to group and listened to the discussions. The participants took this activity seriously and created quite a list of strategies they might try for their type of

learner. When the conversation began to wane, Kerri asked the participants to return to their original tables. She commented that individual differences in learning preferences influence how people respond in any learning setting and that, as educators, we must keep this in mind and try to use a variety of approaches to assist all learners to enjoy and benefit from the situation. After this icebreaker activity, the participants were more relaxed.

Introduction of the PAL Program

After introductions and the icebreaker, Kerri began the program by sharing some quotations from teachers and nurses who have used the PAL program in the past. For example: “[students] were enthusiastic, they enjoyed it and had a lot of fun with the program”; “the program flowed well and is flexible”; and “the program was adaptable and I could improvise within the program easily.” She also shared some quotations from students, such as: “I think it has shown me more reasons not to smoke and it has shown me the bad side of smoking that advertisers didn’t tell me”; and:

My experience with PAL was definitely a positive one. I knew all my life that I would say “No” to smoking and this program made me feel good about the choice I made. It taught me that although smokers are not bad, the smoke is. You have more fun being smoke-free than full of smoke.

We used these quotations to gain attention, and it worked. I observed that the workshop participants focused on Kerri’s words, and there were a few nods and eye contact within the groups.

Following this, Kerri presented our planned agenda. Although we had included a couple of short breaks during the day in addition to a 45-minute lunch break, Kerri told participants that we wanted them to take advantage of refreshments and washrooms whenever they wished. She also noted the weather forecast was for snow and blowing snow later in the day, and mentioned that we should all keep track of the weather in the afternoon. Kerri invited the participants to talk in their groups about the agenda to determine if there were any problems with our plans. After a few minutes of quiet discussion, the participants responded that they thought the plan would work well.

When Kerri asked if any participants had past experience with PAL or similar programs, one nurse reported that she had used the PAL program and one teacher had used the Lion's Quest program. This is a drug education program that uses similar strategies to those in PAL. Kerri then asked these participants to share what they recalled about the programs. The PHN stated that she had not used the program for many years so could not remember very much. The teacher indicated that Quest was a comprehensive interactive program that targets drugs in general, not tobacco. He also commented that he was interested to see the differences in the program. This quick survey indicated that, for most participants, the information about PAL would be new.

Using a mini-lecture format, Kerrie gave an overview of PAL, explaining its purpose, the organization, and the approaches that are used with students. She also explained that it met most of the criteria for an effective smoking prevention education program, and that the evaluation results in our health district were also positive.

I explained how the program fit with the provincial curriculum. This was an important point because we believed it could encourage teachers to allocate time in the classroom and could help nurses to market the program to teachers. I also acknowledged that a new provincial lifestyles curriculum had just been released. I was not sure how PAL fit in that program, although from a quick overview, I anticipated that it might fit in the grade 5 curriculum better than grade 6.

Before we reviewed the lessons in the PAL program, I invited participants to page through the binder. I directed them to various sections in the manual, highlighting how each lesson was organized in the same manner with goals, background information, and learning activities. This took a few minutes, with participants chatting with each other as they perused the manual. Although there was some early confusion over the manual, later one participant commented, "The manual is good, it is clearly laid out and easy to follow." After this point, participants seemed able to locate most of the necessary documents.

PAL is most effective in student groups where the smoking rate is below 8%. To determine the class smoking rate, grade 5 and 6 students are surveyed about whether they smoke or not. The survey uses an anonymous written questionnaire. Because many schools get written permission from parents to survey students, one workshop participant asked if we had ever had controversy with having PAL students complete this questionnaire without parental permission. We had not had any problems, but the question opened the floor for discussion. The group decided that if every attempt was

made to maintain anonymity, and students were able to complete the questionnaire with reasonable privacy from their peers, problems were unlikely to arise.

Review of the Six-Lesson PAL Program

I spent more time on Lesson 1 because it enabled us to get participants involved. This lesson addresses the consequences to smoking. The activities touch briefly on the immediate and long-term physical consequences but the majority of the lesson is devoted to the social consequences of tobacco use. I reviewed the manual, using a transparency to highlight key points. To hold their attention, I used an activity which involved chocolate kisses and the conclusion that “Chocolate tastes so much better when you are a non-smoker.” Participants enjoyed this activity and were excited about using it with their students. A key point I made was that dwelling on physical consequences such as cancer has less impact on grade 5 and 6 students than on younger students. Due to this, the social consequences--such as yellow fingers, bad breath, and no money--are a greater focus in the discussion of consequences. I asked participants which type of consequences would influence the behaviour of their students. After some discussion, they concluded that most would be more impressed by the social consequences, although some would still be influenced by physical consequences such as poor endurance for sports. To recognize the difference between habitual use and ceremonial use of tobacco, another key point in Lesson 1 explains the traditional use of tobacco in First Nations’ ceremonies (Abernathy & Bertrand, 1992). When asked if they would use the information about

ceremonial tobacco use, many said no, but others who had a high number of First Nations students in their schools were quite interested in having an elder speak to students.

In Lesson 2, grade 5 and 6 students learn about starting and quitting smoking. Before the lesson, PAL students are asked to interview a smoker or former smoker. During the lesson they discuss the interviews. To replace the interview, during our presentation I interviewed Kerri, who played the role of a former smoker. The attention gaining activity for this lesson uses potato chips. With this activity, students have a few potato chips on their desks and are asked to smell, taste, and then leave the chips for a short time. The temptation of the chips becomes the opener to a discussion of addiction and habit. I started the activity but failed to take full advantage of it during the talk about addictions. It was not until after I interviewed Kerri as a smoker, that I realized this omission. At this point I asked participants to describe their feelings while resisting the chips. Some said they became hungry and had trouble not eating them. Others said they did not like that kind of chip, so felt no temptation. Others indicated that they were distracted by the chips' smell and not being sure whether they could eat them. I asked whether they thought smokers might have similar feelings when trying to resist having a cigarette? After concluding the activity I explained my timing error. At this point I had participants review some stories that students use in their groups to practice developing strategies to resist pressure. When debriefing Lesson 2, one participant commented that his students might not be able to identify with these stories. He had written two stories in a rural setting, using activities that are more familiar to rural students. At my invitation,

he read them to the group. Several participants expressed interest in these. I gladly said I would take these and write additional rural scenarios and distribute them to all participants as soon as possible after the workshop. After Lesson 2, we took a 45-minute lunch break. During the break, Kerri and I had an informal consultation about the progress we had made.

On return from lunch, we had everyone push their chairs back to form a large circle. Then we used an energizer called “Making rain.” In this activity, participants use finger snapping, clapping, and foot tapping to gradually build from the sounds of a light shower to a thunder storm and back again. It takes the whole group working cooperatively and in sequence to make the storm happen. Most participants had never seen this activity and were quite excited about getting a chance to use it in a classroom because it depicts what a group working together can do that one person cannot.

Lesson 3 is on the issue of social pressure to smoke. As an attention-gaining activity, Kerri attempted to pressure participants into smoking by offering a “cigarette” and coaxing them and teasing them to say yes. We staged it so that if no one said “yes” (as was the case), Kerri would approach me--I accepted. She then demonstrated how to deal with this response. After we did this there were several chuckles and comments from participants that they knew exactly who was going to say yes, to put them on the spot. Following a mini-lecture explaining three types of pressure, participants used an activity sheet from the PAL program to practice this information.

The nurses then acted as the PAL students they would be teaching. They began by estimating the number of smokers in each of three age groups: 11 year olds, high school students, and adults. The estimates were high, which is typical of PAL students as well. This was a great opportunity to share the actual statistics and indicate the reasons for our high estimations. Kerri explained that we often notice more about what people are doing than what they are not doing. Consequently, we perceive that more people smoke than actually do, because smokers are doing something, while non-smokers are not. In the discussion following this activity, one participant asked for smoking statistics by gender, and another expressed interest in a regular update of the statistics. We did not have statistic by gender on-site, although I committed to supply these later if I could locate them. I also committed to send the source of any new statistics in a follow-up mailing.

The participants then role-played to depict different kinds of pressure placed on youth to smoke. We wanted to have participants do this because role-play might be an activity that some educators would hesitate to use. During the planning and practicing of the role-plays, there was much laughter in the groups. Kerri and I circulated among the groups as they planned for the role-play. One group showed indirect pressure by having parents smoking in the car in front of their children. Energy levels were high when this activity was completed. Several participants commented that they had always avoided using role play in the past, but they would now consider it an option. One in particular told me that she had “enjoyed the role playing. It was very effective and fun too. I always hated it. When you get to do it and have fun too, it is a good tool.”

Lesson 4 builds on Lesson 3 and is about “Saying No Thanks.” The lesson we recommended and demonstrated was not in the original PAL program. I had developed this lesson for my health district to provide information about refusing pressure and allowing students to practice this skill. Students are encouraged to be creative but also to act in a socially appropriate way with their refusal skills. We shared some of our experiences. For example, in one of our schools a student had said no to insistent pressure by pretending to shoot another student with a machine gun. This experience stimulated a lively discussion among participants about how teachers and nurses could prevent this type of action from interfering with effective student learning and practice. During the discussion, participants expressed concern that some students might have difficulty identifying more than one way to say no. We talked about this with them, indicating that, for this lesson, students need only identify and practice one way to refuse pressure. For this lesson, Lonnie had acquired the recommended video for each public health nurse. I encouraged teachers to either borrow these from PHNs as needed, or order a copy from the address in the manual.

Lesson 5 covers the issues of tobacco advertising, the unstated messages, and their effects on youth. I provided 30 laminated magazine tobacco advertisements to use in this lesson. Participants were encouraged to take these with them to begin their tobacco advertisement collection. The participants identified the unstated messages in the advertisements and, as part of their discussion, commented on the messages they thought students might have difficulty identifying. We had found that some students do not

believe they are affected by advertising. I shared our proposed solution to this. We ask students questions about some of their product choices, for example a popular brand of running shoe, or a brand name of blue jeans. During this lesson, I also drew participants' attention to the samples of posters we had received from the Canadian Lung Association just days before the workshop. When debriefing about this lesson, one teacher indicated that it would have helped him if we had made a supply of these posters available for him to buy at the workshop. I agreed to send the ordering information in a follow-up mailing.

During the review of Lesson 6, we introduced the participants to a rubber chicken activity. I anticipated that familiarity with this new type of activity would lead PHNs to incorporate it into Lesson 6. We formed two teams and, using the rubber chickens as a baton, had a relay race. Most enjoyed this activity. The objective of it was to encourage PAL students to recognize that there are many alternative fun activities to smoking, such as physical activity. Typical of the comments was: "I liked the chickens....It is nice because you can put some fun into smoking prevention." Participants requested the address for ordering the rubber chickens. We passed around a book containing a description of activities and the address for ordering these. To ensure that everyone received this information, I committed to including it in a follow-up mailing.

Closing Activities

I made several last minute changes to the closure activities and explanation of the strategies that might enhance their ability to transfer the PAL program, and other teaching strategies. I did this due to the apparent fatigue of participants and deteriorating weather

conditions. I did not distribute the transfer documents, talk about them, or provide time for individuals to complete and discuss their ideas before closure and evaluation activities as I had planned. Instead, I distributed the transfer documents and evaluation questionnaire together. I talked about my study, transfer of learning, and ways to overcome the challenges they might encounter, relating it to some of the discussions that had occurred during the program. I then explained the transfer documents and evaluation questionnaire, encouraging participants to consider their barriers to transferring their learning and to create strategies to overcome these barriers. All of the participants completed the evaluation form but few worked on the transfer of learning documents. The main barrier identified by both nurses and teachers was their workload. When people began handing in the evaluation questionnaires, we did the closure activity and participants began to leave.

Implementation Phase for the Educational Activities

The implementation phase spanned February 1999 to November 1999. PHNs had many events that influenced their actions in this period. I organize this discussion around my contact with PHNs following the workshop, including supplying information, maintaining communication with nurses, and the activities and constraints that influenced PHNs during this time.

Supplying Materials and Information to the PHNs

Upon my arrival home, I assembled the resources that I had promised: a letter offering on-going support; a telephone and mailing list of participants; the alternative

selection of rural short stories to use in Lesson 2; a new fact sheet for Lesson 4, which I developed after the workshop (intended to provide students with additional guidance on ways to say no); and the order forms for posters from the Canadian Lung Association, including their Internet web site address; order forms for posters from the Canadian Cancer Society; and ordering information for the rubber chickens. The packages were mailed to each participant by the end of the week following the workshop.

Maintaining Collaborative Communications With the PHNs

As part of the follow-up mailing, I included my name and telephone numbers at work and home and encouraged participants to contact me with any questions they had about implementing the PAL program or other teaching strategies. I have had telephone calls from several PHNs. One nurse wanted more information about traditional tobacco use by the First Nations. I was able to provide this as well as a list of resources available through the school system. Another nurse wanted information about the evaluation of the PAL program done by my health district because her health district was considering a similar evaluation process. I sent a copy of our final PAL program evaluation including the questionnaires used in the process. Two PHNs called to request programming information for students in grade 7 who had received the PAL program in grade 6. I had more difficulty addressing these requests because my health district had not completed the programming work for this level of student. I provided information about an appropriate smokeless tobacco program (developed by my district) and referred them to

another program by the Canadian Cancer Society for grades 7 and 8 students. The most recent of these contacts occurred in October 2000.

Activities and Constraints of PHNs During the Implementation

There were many demands on the time of the PHNs during the implementation phase. Although each nurse's situation was unique, there were some common responsibilities that affected all PHNs. After the workshop, one of the public health nurses returning to her community and, typically of all of the nurses from my group, she was faced with responsibilities related to several core programs. She dedicated 2 days of each week to immunization and assessment clinics for infants and preschool children. This nurse also returned to her office to find that several new babies had arrived in her community. As part of an early post-partum visiting program, her first visit was done within 24-hours of the baby's discharge from hospital. The distances travelled for these visits ranged from a few kilometres to 100 kilometres. One nurse commented, "I had very minimal time....The early post-partum visiting program has eliminated any available time in my schedule." She also spent several days in her schools immunizing all grade 6 and grade 8 students. If she worked alone, it took her 3 to 4 hours to immunize a class of 20 students. This nurse consulted and collaborated with other professionals, such as teachers or social workers, to assist high risk individuals and families in her community. In addition, there were several elderly clients in her community that she visited to help them understand the new medications and treatment prescribed by their doctor. She also taught prenatal classes for 3 hours, one night a week for 6 weeks. In addition to these easily

identified tasks, the nurse documented her activities, dealt with many incidental calls, and continued to provide any previously arranged health education in her schools. These activities are typical of the everyday responsibilities of rural public health nurses on their return to their communities following a workshop such as mine.

During the implementation phase, there was another common event that all PHNs experienced. A 3-week province-wide nursing strike pulled all of the PHNs from their communities and eliminated any opportunity to deliver programs, including planning and implementing the PAL program or additional teaching strategies. During the 2 weeks leading to and following the strike, nurses focused on essential services such as immunization and support for families with new babies. Consequently, the strike interfered with implementation of the PAL program for almost 2 months of the implementation phase.

Several PHNs worked in a health district that had a significant budget deficit. One strategy used to manage the deficit was to leave any unoccupied PHN positions vacant. Two of 8 nursing positions were vacant during the implementation phase. The remaining 6 PHNs travelled farther to deliver programs to an expanded population. In another health district, one nurse unexpectedly required family leave. While she was on this extended leave of absence, other PHNs in her health district delivered programs in her community.

Evaluation Feedback and Findings

In formulating my evaluation, I used both formal and informal evaluation methods. My purpose in this evaluation process was to determine what factors in the program

planning process, the workshop, and the PHNs' organizational contexts supported or hindered their transfer of learning. In this section I describe the evaluation process and instruments, my analysis of data, feedback on the PHNs' transfer of the PAL program or teaching strategies, and feedback on factors which supported or hindered learning transfer. Within this study, transfer of learning is deemed to have occurred if a participant used all, or part of, the PAL program or used a teaching strategy that was modelled in the workshop, in a subsequent teaching situation.

The Evaluation Process

The first element of data collection, the pre-workshop questionnaire, was to be done in advance of the workshop; however, most participants completed it at the beginning of the workshop. The second segment of evaluation was the anonymous "happiness" end-of-workshop questionnaire. I collected these at the conclusion of the workshop. In addition to these formal instruments for collecting information, I also wrote anecdotal notes. I describe the process of the telephone interview and follow-up questionnaire in more detail in the next several paragraphs.

Approximately 3 weeks before the telephone interviews I sent each participant a letter to alert them about the coming interview. In June (4 months after the workshop), I interviewed all but one of the available PHNs (2 nurses were on leave from work). The interviews lasted from 15 to 35 minutes. Two of the interviews were time-restricted because of schedule constraints. With the PHNs' permission, I recorded our conversations and later transcribed them. Although the focus of the conversations was

about the implementation of the PAL program or specific teaching strategies, we also discussed events such as: the nursing strike, budget deficits, and the reorganization of several school divisions. The order of questions varied, depending on the opening conversations with each nurse.

For example, in the flow of one typical interview, early in the conversation the nurse remarked, "I really enjoyed implementing the program. It was well received by students and staff." One of the challenges she experienced was scheduling the sessions in the time allotted for health in her schools. She found the timing of the workshop to be good for her, commenting that "I was able to use it before I forgot it." She was very excited about the workshop and using the PAL program: "At the end of it I thought thank goodness I came...it was wonderful. It was really worthwhile and motivated me to realize that it is something that needs to be done and it is not that hard." As we began discussing specific strategies that she used, she said, "I really learned a lot and enjoyed the role playing." She explained that "the role playing has gone very well, they really enjoyed that. They got right into it." Near the end of the interview she emphasized that she adopts new ideas quickly and eagerly, "I like to try new things and see how they work."

The follow-up questionnaire was sent by mail, the package included: a letter, the questionnaire, a stamped return envelope, and a package of apple cider mix as a reward for completing the questionnaire. The cider was a success with one participant who wrote, "Thanks for the apple cider! Did the trick; I completed the questionnaire while sipping my cider!!"

Transfer of Learning Reported

The results that I report here are from questionnaire and interview feedback I received from 11 of the 14 PHNs who attended the workshop. I was unable to contact one nurse for an interview (nor did she return the follow-up questionnaire) and two nurses were away on leave of absence during the implementation phase. According to my criteria, 10 of 11 PHNs (91%) transferred their learning, either by implementing the PAL program only, teaching strategies only, or both. There was little difference between nurses with 11 years or more of teaching experience and those with less (see Table 1).

Table 1

Correlation of Transfer of Learning with PHN Prior Teaching Experience (n=11)

PHN Characteristics	Strategy & PAL	PAL Only	Strategy Only	No Transfer
teaching experience: 0-5 years	1	0	2	0
teaching experience: 6-10 years	0	0	0	0
teaching experience: 11+ years	3	1	3	1

Five of 11 PHNs (45%) reported using the PAL program in elementary schools in their community. Most of these implemented PAL in several classrooms and several schools. Their comments were positive and enthusiastic such as, "I have implemented in three classes: 1 grade 5; 1 grade 5/6 split; 1 grade 6." Another said:

I am doing the program in grade 6 right now....The kids really like the food....A lot of the students are coming up with reasons and ways to say no even before we get to the lesson that deals with that.

In addition to using the PAL program and teaching strategies, one nurse trained several other PHNs in her health district to use the PAL program. One of the newly trained PHNs had already implemented the PAL program in several schools. Four of the nurses who use the PAL program also used teaching strategies outside the PAL program. An additional six PHNs used a teaching strategy from the PAL program or the workshop in a subsequent teaching situation, but did not transfer the PAL program to their practice. Their rationale for not using the PAL program included lack of time in their schedule due to covering vacant nursing positions and difficulty gaining access to classrooms. Several PHNs commented that the workshop had improved their awareness of learning theory and their use of sound teaching principles. The teaching strategies used by PHNs ranged from adding humour when teaching sexual health in high schools, to helping learners to build on their past knowledge, to using role play to encourage learners to see a critical situation from several perspectives.

One nurse transferred neither the PAL program nor the teaching strategies. As seen in Table 1, she had over 11 years of experience. She told me that her schools did not support the PAL program, making it impossible to arrange for classroom time. She was also unable to find time in her own schedule to modify other teaching sessions with new teaching strategies. In my opinion she was being open and honest here because she and I had a good rapport and I know that several of her schools had recently been reorganized. Consequently, many teachers were teaching new grades and were unwilling to participate in new programs such as PAL.

Factors That Supported Transfer of Learning

I identified a number of factors related to the workshop that supported transfer of learning: the organization of the content, the facility, and teaching approaches used by Kerri and me. The PAL program and manual also had a positive effect on learning transfer of learning, as did several characteristics of the PHNs--including their style of adopting new ideas and their belief in the effectiveness of the PAL program.

All PHNs volunteered to participate in the workshop. Although I did not specifically collect data about the impact of this on transfer of learning, one nurse commented, "I decided that this was really important so I arranged for things to go....At the end of it I thought thank goodness I came....It was really worth while and motivated me to realize that it is something that needs to be done and it is not that hard." Also, during the workshop, I observed that all of the PHNs participated in the learning

activities with enthusiasm and most were willing to discuss the challenges they anticipated when using the PAL program.

All the PHNs in this study had a strong positive reaction to the workshop, believing that the workshop was a supportive factor for transfer of learning. This may have led to a higher commitment to transfer learning. For example, one nurse commented:

The workshop was essential for motivation, and practical steps on how to implement PAL. Just the manual alone would not have provided enough incentive. It gave a chance to work through problems and showed you how it felt from a student's perspective.

We chose to organize the room to allow a sense of closeness and increase participants' comfort during the interactive activities. Many PHNs found the room organization comfortable and helpful to their learning. One nurse said this about the room set-up:

That was the first time that I had been in there when someone presented along the wall. They are usually up on the stage and they seem quite a distance. I thought that you had chosen to do something that was more effective, it seemed smaller, and closer together.

Characteristics of the PAL program itself also supported transfer of learning. One nurse indicated in the interview that because the PAL program was relevant to her practice, she was more likely to use it. In addition, two PHNs stated that they wanted to use PAL because it took little preparation. One nurse pointed out that PAL was "Well organized--helps with planning for people with busy schedules." Additionally, several PHNs liked the positive approach of PAL to smoking prevention, saying, "The introduction of humour....It is not a classroom lecture. It is an interactive program."

Participants also found that the content and teaching strategies in the PAL program were adaptable to other situations. One nurse anticipated adapting other presentations because of the workshop, saying it gave “Excellent help on teaching, and saying ‘no’ skills can be applied to other teaching issues eg. family life.” All PHNs believed that the PAL manual supported their transfer of learning. During the workshop we encouraged participants to write in the manual, adding details that they might forget. PHNs commented, “The manual leaves room for adding on, I like that. You can make adaptations as you need to adjust to the group that you are dealing with” and “I found the manual to be very comprehensive with good information.”

Authentic learning experiences which include application exercises can provide opportunities for learners to become active participants in their own learning (Caffarella, 1994; Misko, 1995). All PHNs valued the opportunity to work through each lesson of the PAL program. I received comments such as, “Working through the lesson plans as you would teach them; getting ideas for activities; getting motivated. Very good presentations!!” PHNs also found it helpful when we discussed the challenges to transferring the PAL program in their settings and hearing about Kerri and my experiences with the PAL program. One nurse commented that she was more likely to use PAL because of “the examples of successes & failures.” When I asked if the PHNs were supported by the workshop facilitators to transfer learning, all PHNs indicated that they were helped by our actions (see Table 2).

Table 2**Correlation of Transfer of Learning with Support Received From Facilitators (n=8)**

Level of Support Received	Strategy & PAL	PAL Only	Strategy Only	No Transfer
quite to very supportive	4	1	2	1
moderately supportive	0	0	0	0
somewhat to not at all supportive	0	0	0	0

I examined characteristics of the PHNs that may predispose them toward transferring their learning. Because prior commitment to transfer of learning may have a positive influence, I wanted to know whether participants who transferred the PAL program had planned to do so before coming to the workshop. Prior to the workshop, five PHNs intended to use the PAL program; four of these nurses implemented PAL during the implementation phase (see Table 3).

Table 3**Correlation of Transfer of Learning With PHNs' Plan to Transfer (n=11)**

PHN Characteristics	Strategy & PAL	PAL Only	Strategy Only	No Transfer
planned to implement	3	0	1	0
did not plan to implement	1	1	3	1

Another characteristic that might also play a role in transfer of learning is a learner's typical style of adopting new ideas. I asked PHNs to self-rate their typical style of adoption. Ten PHNs believed themselves to be "first" or "very early" adopters of new ideas. This included three PHNs who used the PAL program, all of the PHNs who used only teaching strategies, and one nurse who did not transfer either teaching strategies or the PAL program. I also asked PHNs about their belief in the effectiveness of smoking prevention education; five PHNs believed "much" to "very much" that it was an effective way to stop youth from starting to smoke. Three of the high-level believers implemented the PAL program.

Factors That Hindered Transfer of Learning

PHNs identified only a few factors related to the workshop and program planning activities that hindered their transfer of learning. Factors that were found to hinder transfer of learning included: workload after the workshop, timing of the workshop, and the time required to implement the PAL program.

In this study, because of the way a rural PHNs' work is organized, the lack of trained replacements, and budget restraints, nurses were not relieved of their work responsibilities during or after the workshop. Consequently, participants knew that following the workshop a backlog of work would be waiting for them in their communities. This may have interfered with their focus on learning in the workshop and limited their time to plan for transfer of learning. Timing of the workshop was perceived as a positive factor by most PHNs; however, during their interview, three nurses stated

that the timing of the workshop made it more difficult for them to implement the PAL program or teaching strategies. One nurse told me, “In terms of our situation, the workshop was timed poorly—close to the end of the year. Both teachers and nurses have limited time at that time of year.” Two of these nurses were still able to transfer their learning nevertheless.

Difficulties with the manual and photocopying for each lesson were identified as challenges to implementation by two nurses who used the PAL program. In terms of the manual, one nurse suggested: “[the] manual is good but a bit confusing...suggest that crossed out sections be eliminated altogether.” A second nurse commented that, although she or her schools were willing to provide the photocopying, it took time and organization to get the copying done in advance.

The two documents I developed to assist PHNs to plan their learning transfer (“Speedbumps and Road Blocks”; “I’ll do this...An action plan”) had little or no effect on transfer of learning; only three PHNs used them and few indicated they would use them in the future.

Reinforcing and Enabling Organizational Factors

For transfer of learning to occur, there should be little or no difficulty for learners when they attempt the transfer. PHNs in this study worked for several different health districts, with varying levels of support. Reinforcing and enabling organizational factors included: support or a lack of support from other PHNs, teachers, and health administrators; available preparation time; opportunity to transfer; and staffing levels.

The majority of PHNs identified that they had received a wide range of support from teachers, principals, or co-workers. Support was also given to most by either health district managers or nursing supervisors (see Table 4). Two nurses who used the PAL program told me of the support they received. One said, "My nursing supervisor...sees smoking prevention as a priority. It was through her that we got this workshop in the first place. Our community services director is supportive as well. He bought four rubber chickens." One other remarked:

Smoking prevention is a priority in my agency. Nursing supervisor has been encouraging. Health District has been supportive and has allowed a very small budget...we have purchased rubber chickens. We may use the smoking survey as an indicator of health education.

Table 4

Correlation of Transfer of Learning With Support Received From Supervisor (n=9)

Level of Support Received	Strategy & PAL	PAL Only	Strategy Only	No Transfer
quite to very supportive	3	1	1	0
moderately supportive	0	0	1	0
somewhat to not at all supportive	1	0	1	1

Several PHNs expressed their frustration with respect to the priorities of their health districts and the associated allocation of resources. Related to this, one nurse told me that verbal support was not enough: “The [health district] did encourage us to implement the program but that is as far as it has gone.” Another nurse talked about feeling isolated from leaders and other PHNs: “Work load and lack of leadership and support for preventative programs....We no longer have networking across the province for Public Health Programs.” In contrast, one nurse faced with limited support sought support out:

We see [smoking] as a big cause of illness. The district does not see this yet. It is an educational process. In fact our next inservice...I have asked for time to inservice the nurses on the [PAL] program...Also our supervisor will...get a better idea of what the program consists of and then she may be able to share her insight with the [health district] board.

Sending co-workers to train together can be a powerful factor to induce change in the transfer context, because of the positive effect of having a critical mass of individuals who are able and willing to change through transferring their learning (Broad & Newstrom, 1992). Participants in this workshop attended with other PHNs from their health district, with the exception of one nurse who came alone from a distant health district. Following the workshop, PHNs offered support to each other—for example, “One nurse smokes and was uncomfortable delivering the program...other nurses offered to do the program for her.” Interestingly, the nurse who attended from a distant health district created her own support group by training most of the PHNs in her district and implementing simultaneously with one of the PHNs she had trained. As she said: “She wishes that she

could have gone [to the workshop]. She sees the difference, although it is pretty good to implement any way. I am doing it ahead of her so I can share how things go.”

Although lack of preparation time, inadequate staffing levels, and the nursing strike were three factors that hindered transfer of learning, three PHNs indicated that they had adequate time to prepare and deliver the PAL program. However, eight PHNs found they had inadequate time to transfer PAL. Several PHNs mentioned heavy workloads related to vacant positions, with one commenting, “Poor staffing and workload issues result in difficulties with time to do program.” In the follow-up questionnaire, only one nurse identified staffing levels as a positive factor, six ranked it as negative, and four felt it had no influence (see Table 5).

Table 5

Correlation of Transfer of Learning With PHN Staffing Levels (n=11)

PHN Staffing Levels	Strategy & PAL	PAL Only	Strategy Only	No Transfer
positive factor for transfer	1	0	0	0
not negative or positive	2	1	1	0
negative factor for transfer	1	0	4	1

Public health nurses deliver services within other systems, such as schools, although there are usually no formal agreements to facilitate this process. Three nurses indicated they had received significant support from teachers to enable them to transfer the PAL program. One nurse commented, "The schools have been quite eager and very receptive. Next year they would like it implemented in grade 5 so that it complements the DARE program delivered by the RCMP in grade 6 regarding drug prevention." One PHN had support from her teacher and principal, but due to the teacher becoming suddenly and seriously ill, she was not able to use the PAL program in that school. Several PHNs reported that they had difficulty gaining access to students for the PAL program. Reasons given included competing school programs and reorganization of the schools. In addition, the approach used to inform and recruit schools was identified as a hindering factor by one nurse who transferred teaching strategies but not the PAL program. As she explained:

From this end, maybe if it had been handled differently with the schools, it may have been different when I tried to implement. If the supervisor had gone to the school board rather than us going to each individual school, their reception may have been more positive. The teachers may have gotten more support from their system.

The findings described in this chapter indicate the majority of public health nurses transferred their learning after the workshop. In fact, a total of 10 out of 11 did transfer their learning. They report a variety of factors that supported their transfer of learning. I will discuss and analyze these factors in chapter 4.

CHAPTER 4

DISCUSSION OF OUTCOMES: ANALYSIS AND INTERPRETATION

In this chapter I examine methods used and the outcomes of this study. I also discuss my study in the context of the literature. I began the study to find critical aspects of program planning that could positively influence the transfer of learning by public health nurses. In this chapter, I discuss the influence of my own educational beliefs on the study outcomes, the usefulness of Caffarella's (1994) program planning model, the effectiveness of the study design, factors that enhanced learning transfer, implications for adult education practice, and the lessons learned from my mistakes. Based on this discussion, I then draw conclusions and offer some suggestions.

The Influence of My Educational Beliefs on the Outcome of This Study

I believe that the ultimate purpose of adult education is to effect change in the learner's knowledge, skills, attitudes, or beliefs (Caffarella, 1994). Change may take place within the professional, personal, or social realm of the learner. Ideally, the change should be positive for the learner, but this may not always be so. As Knowles (1973) points out, new knowledge, skills, or beliefs can lead to a chain of events, including self-examination by the learner that may be unsettling. I teach adults with the expectation that they will be changed by the experience in some way. This is consistent with MacKeracher's (1996) idea that learning "can create a challenge to the adequacy of the learner's existing meanings, values, and skills" (p. 71). Consequently, my focus in this study was in effecting change in how PHN's teach youth about smoking prevention.

The adult learner is complex, making it unrealistic to assume that all adult learners come to learning situations with a set of predictable, homogeneous characteristics (Candy, 1991; Cranton, 1989). Adult learners tend to show various preferences for learning (James & Galbraith, 1985). Being aware of this diversity, we incorporated a variety of activities to address many learning style preferences when we were planning the workshop. We wanted to model a variety of teaching approaches for participants that might help them to meet the learning needs of their students. We included approaches that were appropriate for all types of sensory learners. For example, for the print-oriented learner, we provided the PAL manual and used both a flipchart and overhead transparencies. I also provided several additional documents to assist learners to focus on the content being taught. Those with an aural learning orientation could have benefited from our mini-lectures, videos, and discussions. The interactive learners might have found the many opportunities for participation and discussion particularly helpful to their learning. The visual learners in our group of PHNs and teachers may have learned better because of the flipchart, transparencies, and the demonstrations of PAL strategies and other teaching activities. Kinesthetic and haptic (learn by touching) learners could have benefited because of their participation in the demonstrations of PAL activities. PHNs did not comment specifically on the various teaching approaches in light of their learning styles; however, several nurses appreciated the role-modelling that we did. For example, one said, "What I thought of the workshop...I said excellent, covered well, participatory." Another PHN commented on how our approach motivated her:

It was a wonderful workshop. At the end of it I thought thank goodness I came....It was really worth while and motivated me to realize that it is something that needs to be done and it is not that hard. You did a really good job....Just having the manual would not have been as motivating. Actually seeing you guys do it was really exciting. I'm sure that is why the teachers grabbed onto it.

Because of my personal learning preferences and the work-related constraints which I often experience, I use a more directive approach to adult education than I used in this project. Although this is how I practice, I also believe that learners may prefer to direct their own learning. The degree to which they are self-directed depends on the learner, the situation, and the teacher. Although Garrison (1992) and Grow (1991) suggest that a good match between the learner's level of self-directedness and the educator's teaching style enhances learning, I believed that it was unlikely that I could meet this challenge within the confines of a one-time workshop with a varied audience. I provided a respectful, open learning environment that assisted the learners to experience some of the details of the PAL program, learn the content, and plan how they would transfer their learning. Highly self-directed learners may have found this approach frustrating. Such learners may have simply wanted to take the manual and go through it themselves, whereas others who wanted to be walked through every detail might have felt rushed and consequently unprepared because we demonstrated only a few of the activities for each lesson.

Nevertheless, all of the PHNs were very positive about the organization of the workshop and did not indicate a need for more self-directed learning activities. One PHN described the day as busy but satisfactory, when she said, "I thought it was all right, it

was a jam-packed day, I don't mind that, I'd rather be busy than have it drag on and on."

Another PHN expressed a common sentiment when she explained that "the workshop demonstrated the program by going through the class material quite thoroughly....The manual might have been difficult to use without the workshop."

As Kolb (1984) and MacKeracher (1996) note, adults bring a variety of experiences and past knowledge to a learning situation and I believe that these play a major role in how and what is learned. Because I was aware of the role prior experience plays in learning, I used the principles of instructional design developed by Gagné et al. (1992). Their principles and format enabled me to discover and build on the PHNs' past knowledge and experience, to provide carefully considered instruction, and to allow the PHNs to practice their new knowledge and skills. Although I was not able to conduct a needs assessment prior to the workshop, my observations and experience of working with many public health nurses over time led me to believe that most prefer to deliver information in a direct manner, such as by lecture. Because of this assumption about PHNs' preferences, and because of the suggestion by Mezirow (1994) that individuals resist learning anything that does not fit comfortably with what they already know, I ensured that the PHNs had an opportunity to observe and participate in demonstrations of interactive teaching approaches such as discussion, role-play, and games.

The PHNs found the workshop to be a positive experience. One said:

The workshop was great. I found it motivating...not just another program or workshop. I had fun and particularly enjoyed it because the program itself is all laid out in detail and the workshop allowed us to see and work through most of the program.

Several nurses were pleased that they were more comfortable with role-play as a learning activity. For example, one nurse wrote, "I really learned a lot and enjoyed the role playing. It was very effective and fun too. I always hated it. When you get to do it and have fun too, it is a good tool." Another nurse commented on how the role-play had worked with her students, "The role playing has gone very well, they really enjoyed that. They got right into it. It has been interesting to see their responses."

My background as a nurse has led me to believe in the importance of treating others with respect and the value of being readily available to clients. I applied these beliefs in this study by having an open and respectful environment during the workshop and by inviting PHNs to contact me at home or work after the workshop. I believed that being available to address their problems or questions would support the PHNs' efforts to transfer their learning. Several nurses have contacted me, with the most recent connection occurring in October 2000, and all the PHNs viewed the facilitators as "quite" to "very supportive" of their transfer of learning. My belief of being available to learners is consistent with Daloz (1986) who argues that an important aspect of teaching "lies in a willingness to attend and care for what happens in our students, ourselves, and the space between us." In addition to being available, I also contacted PHNs to interview them about their progress and to provide support. This action complies with Broad and Newstrom's (1992) recommendation that educators take the initiative to contact individual participants after the educational program to encourage learning transfer.

Adult education is a complex field; however, these summaries of several important beliefs that I hold may illustrate how they have affected my practice and this study.

Usefulness of Caffarella's Program Planning Model

I selected Caffarella's (1994) interactive model of program planning because I believed it to be a useful framework for planning. Caffarella's model is flexible because she encourages the planner to identify and use only the elements that are necessary in the specific situation, and to use them in any order. Flexibility was important when I planned the workshop in this study. I knew that, with time and resource restrictions, I would need an efficient planning process. Caffarella also includes a comprehensive explanation of the planning elements in her model. Based on her description, I was able to choose the appropriate planning elements to use.

I selected 9 planning elements--not all 11 that Caffarella (1994) describes--to guide my decisions and actions as I prepared for the workshop (see Figure 1). For example, I omitted the task of identifying program ideas in the PAL program, because the host health district determined the program idea before I began to plan the program.

I established a basis for the planning process by working with Lonnie (nursing supervisor) and Kerri (co-facilitator). I needed information about both the organizational context and about the potential participants. Caffarella (1994) emphasizes flexibility, for example, in establishing a basis for planning, she identifies several sources of information about the planning and transfer contexts. My sources, which included Lonnie, as supervisor, and my own knowledge of the situation of rural PHNs and health districts,

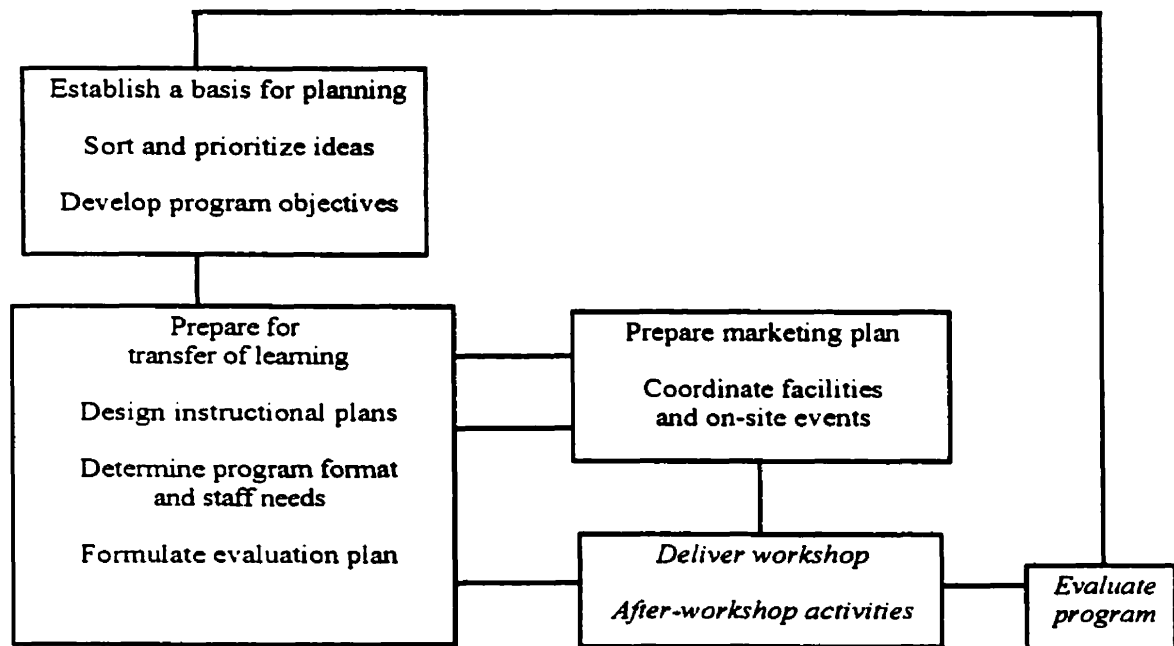


Figure 1. Elements used from Caffarella's (1994) Interactive Program Planning Model

Note: Italics indicate actions taken that were not elements of Caffarella's model.

were consistent with Caffarella's suggestions. I also believe that my exclusion of workshop participants in the planning process (because they were selected only days before the workshop) was an appropriate choice, according to Caffarella's model.

The workshop was a major part of my plan to encourage transfer of learning. As a result, Kerri and I were careful to include strategies for transfer of learning in the instructional design. We based the selection of specific content and the workshop format on Caffarella's (1994) model as well as on past experience with providing other workshops to PHNs. In addition to establishing learning objectives, we considered the desired outcome of transfer of learning. Consistent with Caffarella's model we sequenced

the workshop content to build on PHNs' past knowledge and allow PHNs to see how the PAL program builds students' knowledge and skills. Additionally, we included application exercises and simulations to assist nurses to learn and transfer their learning. For example, in small groups, PHNs developed and performed role plays such as those they might assume with their PAL students.

Caffarella (1994) encourages the planner to enhance transfer of learning by modelling the skills or attitudes needed for transfer of learning. Kerri and I followed this suggestion by modelling many of the teaching and communication skills of the PAL program, including management of small group discussion and guiding role-play activities. Most PHNs appreciated our role modelling, as shown by these comments: "You and [Kerri] were good models of the principles of adult education"; and "Great role models! Very motivating."

Budgeting for the workshop was done by Lonnie; my role was to keep expenses to a minimum. This is one of Caffarella's (1994) steps in planning. A significant cost saving was that Kerri and I did not charge for our time. As the workshop facility was available at no cost, the major expenses were the production of the PAL manuals and the PHNs' time. My marketing plan was also part of my plan for transfer of learning. Hicks and Klimoski (1987) indicate that transfer of learning is enhanced when potential participants are clearly informed about the workshop content. Noe (1986) stresses the importance of participants perceiving the innovation as relevant to their practice. Thus, the interactive feedback in my planning process (shown in Figure 1) between content and

marketing allowed those individuals who chose to attend the workshop to do so because they perceived that it was appropriate for their learning needs and interest (Baldwin & Ford, 1988). Promotion of the workshop was done through personal contact by Lonnie. As advocated by Caffarella (1994), we identified the target population for the workshop-- in this case PHNs and teachers. Lonnie contacted potential participants and distributed information about the PAL program, which I provided. This marketing approach gave us the number of volunteer participants we required.

Formulating summative evaluation plans allowed me to design the questionnaire and interview questions to determine if the planning and delivery of the workshop were effective and whether the proposed outcomes were accomplished. For example; my evaluation plan allowed me to collect data to answer the question of whether the PAL program was used more broadly in Saskatchewan and if my interventions encouraged transfer of learning. I used Caffarella's (1994) questionnaires as a guide and based specific questions on transfer of learning on ideas from both Caffarella (1994) and Ottoson (1995a). I asked PHNs to self-report their transfer of learning or future plans for transfer. I also asked them for feedback on the factors (workshop, personal, and environmental) they believed had supported or inhibited their transfer of learning. My data as collected was summative in nature.

I agree with Brookfield (1986) that many planning models imply that planners always find themselves in situations with adequate resources and contextual support; although, this is not the case in most planning contexts. I found that I had limited time to

dedicate to each planning component due to the timing of the workshop and the distance between myself and the participants. Caffarella (1994) describes her model in a manner that recognizes the complexities of the planning process. An exception is that although Caffarella acknowledges the importance of investigating the environment in which planning, learning, and transfer of learning occur, she provides little guidance on how to deal with the issues that arise from this context. For example, although Caffarella's advice helped me to recognize the presence of outside interests and power, it was not until after I delivered the program and began communicating with PHNs through questionnaires and interviews that I began to realize how much these interests influenced my planning and the possible success of the PHNs in their efforts to transfer their learning. For example, several nurses identified their heavy workload and a lack of supervisory support as strong influences on their ability to transfer their learning. I suspect that a more extensive examination of power issues might have cause me to look even closer at the organizational contexts within which the PHNs work and negotiate to improve their situations for transfer of learning, as Cervero and Wilson (1994a) suggest.

Was My Study Design Effective?

This was a case study of my practice. I examined my effectiveness in encouraging transfer of learning for PHNs. I believe that the case study approach that I used was appropriate because it fit well with my goals and my level of research skills. In this study, I examined some actions that were already a part of my practice and I also used

and studied some new interventions to plan programs that encourage transfer of learning. My study demonstrated a positive influence on the transfer of learning by PHNs.

The criteria I set to determine if transfer of learning occurred within this study was that PHNs would need to transfer either the PAL program, or teaching strategies used, in a subsequent teaching situation. These criteria are consistent with Ottoson (1997) who recommends that researchers should look for innovations in the multiple forms that it can be transferred.

I used interviews and questionnaires for the data collection. I used a semi-structured interview format in which I attempted to address a set of questions with each PHN. The order in which I asked the questions varied according to the opening conversation. Because of this approach, at times I struggled to ensure that I had addressed all of the questions with each PHN. The interview process provided me with the opportunity to hear the rich details of the individual experiences of PHNs--about the workshop and their attempts to transfer their learning. Most PHNs were very open during the interviews and willing to share details of their experience, including mistakes they had made and their problems with supervisors, co-workers, or teachers since, this data collection approach also enabled me to connect with PHNs and provide some of the support and information that they needed at that time.

The questionnaires provided me with much detailed data. The end-of-workshop questionnaire provided a comprehensive collection of comments about the workshop and the PAL program. The literature (see for example Ottoson ,1997, and Caffarella, 1994)

and the responses to the questionnaires (pre-workshop and end-of-workshop) and responses during the interviews, provided the basis for the questions I included in the follow-up questionnaire. PHNs were diligent in completing the follow-up questionnaire, with most making additional comments throughout the document. Even though the follow-up questionnaire was mailed to each participant, my return rate was almost 100%. This may have been because of the connection created during the telephone interviews and possibly because of the “gift” of apple cider enclosed with the questionnaire.

Using a combination of interviews and questionnaires containing both open and closed questions provided me with ample data to understand the PHNs experiences as they attempted to transfer their learning. I was able to find similar trends in both the comments (written and spoken) and the responses to the closed questions. This gave me a rich impression of the factors, including my own actions, that influenced the PHNs’ transfer of learning.

Examining My Assumptions

I made six assumptions at the beginning of the study. My first assumption was that I understood the work environment of the PHNs. Although this was true to some extent, I did not understand the details of their current situation--budget deficit, vacancies--as well as I had anticipated. Cervero and Wilson (1994a) recommend working with those who have interest and hold power in the learning and transfer contexts to improve the quality and the outcome of the educational program. Although I believe that political awareness is an important part of program planning, in this study, I did not have

the resources or time to take actions that might have counteracted the influence of powerful interests on the PHNs, such as negotiation with the administration of several health districts.

I also assumed the PHNs had the necessary skills to negotiate with school teachers and principals to implement the PAL program. This assumption may not have been appropriate for all PHNs. For example, one nurse stated that she might have used the PAL program if her supervisor had communicated with school administrators and had them direct teachers to consider the PAL program for their students. I do not have data to determine whether a lack of skills such as those described by Cervero and Wilson (1994a) concerning political awareness and negotiating was a hindrance to transfer of learning. These skills are traditionally believed to exist among community-based health professional. If this belief is incorrect, a lack of program planning and negotiating skills may be hidden factors that negatively influence transfer of learning.

My next assumption was that most PHNs had limited experience with teaching approaches beyond the lecture format. Feedback from PHNs confirmed this, indicating that they had tried several of the interactive strategies, such as role-play and games, for the first time after the workshop. One nurse stated that, before the workshop, she had avoided this type of teaching approach; after the workshop, she found they were fun to use. I recognized and strategized to address the PHNs' lack of experience with interactive teaching approaches by providing positive experiences with the new approaches. This

type of interactive approach is consistent with Machin and Fogarty (1997) who claim that a positive learning experience may lead to greater transfer of learning.

Fourth, I assumed that PHNs would gain adequate knowledge from the workshop to transfer their learning. This assumption is supported by the high rate of learning transferred by PHNs. I also assumed that PHNs had little preparation time available for the PAL program. I structured the workshop and organized resources to minimize additional effort and time needed by PHNs to transfer the PAL program. Feedback from PHNs affirmed that those who used the PAL program were able to do so with minimal preparation. Ottoson (1997) concurs with my findings that time pressures within the transfer context act as a deterrent to transfer of learning. Similarly, Broad and Newstrom (1992) claim that, without adequate time to prepare for transfer of learning and time to effectively integrate learning into their practice, learners will have difficulty transferring their learning.

Finally, I assumed that I was sufficiently unbiased to collect and interpret data honestly and accurately. I believe this assumption was accurate because, although I wanted the PHNs to succeed in their transfer of learning, I also wanted to discover whether my interventions contributed to transfer of learning. In my role as practitioner-researcher, I worked toward objectivity, but I also recognized that I was a part of the intervention being studied. Although the number of participants in this case study was small, by using more than one type of data collection tool (interviews, anecdotal notes, and questionnaires), I collected ample information about their experiences and was able to

use triangulation with it to find consistent cross-patterns. Rather than assuming that my findings can be generalized to other settings, I plan to refine my actions by continuing to study transfer of learning in my own practice.

Factors That Enhanced Transfer of Learning

As I prepared for this study, I looked for a framework to use as a basis to examine factors that influence transfer of learning. I chose the framework described by Ottoson (1997). Her model considers factors in the learner, innovation, educational program, and the transfer of learning context. In addition to identifying areas of influence, Ottoson states that transfer of learning is affected by a web of influence that changes over time. Consistent with Ottoson, I found that there were not one, but several factors that influenced the transfer of learning of PHNs. I present the factors in four areas, similar to those suggested by Ottoson: the predisposing factors (characteristics of the PHNs), the innovation (PAL program and teaching strategies), the educational program (workshop), and the transfer context (enabling and reinforcing factors). I discuss my findings in terms of the transfer of learning literature. Although my findings do not extend the current findings in the literature, I do confirm that a small number of educator-controllable factors, as seen in the literature, can influence transfer of learning.

Broad and Newstrom (1992) advocate that educators determine the barriers to transfer of learning that exist for learners and then use appropriate strategies to overcome these. I concur with Broad and Newstrom that educators should attempt to identify barriers to transfer of learning and intervene accordingly. My concern with their approach

is that it implies that educators will have adequate resources to determine the barriers and will subsequently have the resources to intervene. An additional flaw in the work by Broad and Newstrom is that they do not provide criteria for prioritizing the barriers to target, or the interventions to use when resources are limited. I had over 80 strategies to choose from. However, I also had limited resources for the program and follow-up activities, and limited knowledge of the circumstance of individual PHNs. These were challenges for me and, therefore, found the selection of strategies process very difficult. Due to circumstances, I restricted the number of strategies that I used. Although most of the strategies were part of the workshop, there were others that took place before and after the workshop.

Predisposing Factors

Learners bring personal characteristics, past experience, and knowledge to a workshop that can influence their levels of participation, how much they learn, and whether they transfer their learning. Although some characteristics are fixed, Ottoson (1997) states that some learner perceptions, motivation, values, and beliefs can be shaped by the educational program. Through my actions before, during, and after the workshop, I attempted to influence these changeable aspects of the learner. For example, Hicks and Klimoski (1987) claim that participants' expectations of an educational program can influence how receptive they are to the content. In an effort to give potential participants a realistic understanding of what the workshop was about, I provided them with information about the PAL program before the workshop. In addition to information,

Hicks and Klimoski also suggest that participants with a greater degree of choice on whether or not they have to participate are more likely to have a positive attitude toward the educational program. They are also likely to learn more, and are more likely to transfer their learning. Consistent with this, we invited PHNs and teachers to attend the workshop rather than require that they attend. Caffarella (1994), and Broad and Newstrom (1992) argue that participants who have relevant past knowledge and experience are also more likely to transfer their learning. All of the PHNs had professional knowledge about teaching and learning and relevant experience teaching health in schools. During the workshop, we acknowledged their experience and knowledge, and built on their understanding of teaching school-aged children. Although we took these actions, I did not specifically ask PHNs whether these factors influenced their learning or transfer of learning.

Rogers (1995), Ottoson (1995a), and Cervero et al. (1986) all conclude that learners who are more likely to transfer learning are typically among the earliest to adopt new ideas. Almost all of the PHNs in this study considered themselves to be the “first” to try new ideas. I did not confirm their self-rating with a supervisor. Almost all of the PHNs transferred their learning (the PAL program or teaching strategies). The PHNs’ styles of adopting innovations may have been one of the critical factors that led to their high degree of transfer of learning. When identifying participants of an educational program, the program planner might improve the rate of learning transfer by identifying and including the innovators--first to adopt--among the participants. Consistent with the

work of Rogers, other people who are not as quick to adopt new ideas may be more willing to do so, upon observing the innovators using the innovation.

My study supports the research findings that learners with a prior commitment to learn and to change are more likely to transfer their learning (Cervero et al., 1986; Wexley & Baldwin; 1986). Prior to the workshop, four of the five PHNs who transferred the PAL program planned to use the program and had already established an implementation date. I attempted to encourage this level of commitment by asking before the workshop and at the end of the workshop, whether PHNs planned to transfer the PAL program and when they would do so. By providing an opportunity for goal-setting at the outset of the educational program, as the literature makes clear, educators might enhance learners' motivation and commitment to transfer their learning.

The Innovation Factor

The innovations in this study were the PAL program or teaching strategies. When learners see an innovation as being useful, they are more likely to transfer their learning (Broad & Newstrom, 1992; Caffarella, 1994). The PAL program was perceived by most PHNs as relevant and useful in their practice. To connect the PAL program to the PHNs' practice, Kerri and I shared the successes and failures of other PHNs with the PAL program. During the workshop we used actual examples of situations that had occurred in our health district. Several PHNs commented that they found this very useful and motivating.

We also taught the PAL program lesson-by-lesson. PHNs had an opportunity to examine and experience the components of each lesson before moving on to the next. Information and skills from one lesson enhanced the learning in the next lesson. This is consistent with Martin and Mazmanian (1991) who state that incremental change is more likely to occur than major change, particularly after only one educational session. We also built upon their teaching experience and knowledge of school-age children. Several PHNs commented that this approach to presenting the PAL program was helpful. For example, one nurse told me that she “liked going through each lesson during the workshop, just as if you were teaching it.” Additionally, the PAL manual acted as a guide for PHNs during the workshop and when they transferred the PAL program. It also helped them to recall the knowledge and skills they learned in the workshop. Several nurses commented that they appreciated how the manual was organized because it gave them all of the information they needed to implement the program. Further, the minimal preparation required for nurses to use the PAL program made it easier for them to transfer.

Most PHNs used the workshop teaching strategies in subsequent teaching situations (8 of 11). One factor that may have contributed to this was that using one or two strategies rather than a complete program, such as PAL, may be easier for the learner. As I have no data from the PHNs on this so can only surmise that PHNs may have transferred teaching strategies in other teaching situations at a higher rate than the PAL program because they had more control over using one or two strategies within an educational program and could not implement a complete program such as the PAL

program. PHNs also saw the teaching strategies as being adaptable to a variety of situations. For example, several nurses used role-play in sexual health education and in a breastfeeding conference. This is consistent with Rogers' (1995) claim that innovations seen as being adaptable to a person's own situation are more likely to be transferred.

The Education Program

In this subsection I discuss the influence of program planning and implementation on transfer of learning. As Caffarella (1994) notes, the educator has control over many of the factors in the educational program. Machin and Fogarty (1997) find that individuals who have a strong positive reaction to the educational program are more motivated to transfer their learning, are more likely to set higher goals for their transfer of learning, and have higher commitment to those goals. My findings are consistent with Machin and Fogarty's conclusions. All of the PHNs found the workshop to be a very positive experience that enhanced their motivation to transfer the PAL program and teaching strategies. For example: "The workshop was great. I found it motivating...not just another program or workshop."

There are many ways to provide a positive learning experience. Caffarella (1994) recommends that the educator should establish a comfortable and respectful environment as a starting point. Broad and Newstrom (1992) claim that a convenient location and comfortable physical facilities are supportive to transfer of learning and the facilitator should avoid the use of inadequate facilities. PHNs appreciated the organization of the room, including the round tables for small group work and the use of the side of the room

as a focal point rather than the stage at the front. They also liked the comfort items we provided, such as having beverages and snacks in the room. Although location and comfort are important influences, the educators, the content, sequence of the program, learning activities, and practice opportunities played a significant role in encouraging transfer of learning.

All PHNs were positive about the role of the facilitators in their learning and transfer of learning; their experiences at the workshop excited the PHNs, making them eager to use what they had learned. Kerri and I were not only experienced instructors; our education, experience, language, and professional culture were also similar to that of the PHNs. In addition, we had relevant experience with the PAL program and teaching strategies. My findings are consistent with Rogers (1995) who suggests that the selection of suitable educators can lead to better communication and subsequent willingness of learners to use the new ideas or skills. He found that educators with background, culture, and language that were similar to the learners' were likely to be more successful in communicating the necessary knowledge, attitudes, and behaviour changes needed to transfer their learning.

Several PHNs stated that the PAL program was relevant to their practice because they saw a need to address smoking prevention in their community. We encouraged this by giving examples of how other PHNs had used the PAL program in their practice. The high rate of transfer of teaching strategies and comments by nurses indicated that most PHNs found several of these strategies relevant and useful in their practice. We were

consistent with Noe's (1986) contention that educators can positively motivate transfer of learning if they structure the educational program to demonstrate the relevance of the new ideas to the learner's own situation, by organizing the workshop to encourage learning and subsequent transfer of learning. For instance, although we anticipated that the majority of PHNs would be more comfortable lecturing than using interactive teaching approaches, we were able to build on their past knowledge and experience of teaching during the workshop. Our practice is supported by Caffarella (1994), who indicates that proper sequencing of content allows learners to build on their past knowledge and experience and, in turn, this can enhance transfer of learning. The PHNs appreciated that we organized the workshop to provide them with the opportunity to work through the PAL program, lesson-by-lesson, and to participate in actual PAL activities in the role of PAL students. Several PHNs also appreciated that Kerri and I modelled the teaching skills used for the PAL program. This allowed the PHNs to observe the skills in action and to anticipate how they might use them in their practice. This is consistent with recommendations by Noe (1986), who explains that learners who can identify situations in which to use the skills and have an opportunity to observe the skills being used are more confident in trying the new skills in the transfer context.

Learning experiences that encourage the learners to connect the facts of the new learning to the challenge of using it in the real world, can enhance transfer of learning (Salomon & Perkins, 1989). The educator becomes the catalyst for linking the new learning to the real world by providing strategies for its use and by encouraging discussion

about where, how, and when the learning might be used. In accordance with this, when debriefing during the workshop, Kerri and I opened the discussion of transferring the content by sharing the challenges and successes we had experienced when using the PAL program. Discussion was often lively on this point, with questions being asked and ideas being shared willingly. In addition to the ongoing discussions, at the end of the workshop I talked specifically about some of the common challenges to transfer of learning and provided an opportunity for participants to begin action planning for transfer of learning. This is consistent with Salomon and Perkins's recommendation that educators should allow adequate time during the program for learners to plan for transfer of learning. It is worth noting that the time that PHNs used at the end of the workshop to begin developing their action plan was brief--approximately 10 to 15 minutes. More time was available but unfortunately, I may have shifted the focus from the action plan to the workshop evaluation by distributing the post-workshop questionnaire with the action planning information and documents. It may have been better to distribute the transfer of learning resources first to allow participants adequate time to focus on their action plan. Once this work was done, the post-workshop evaluations could be distributed.

The Transfer Context

The transfer context is a strong influence on a learner's ability to transfer learning. This point is underscored by Geroy and Penna (1995) who state that, if transfer of learning is to occur, a learner should encounter as little difficulty to transfer their learning as possible. In this study, support from a supervisor, other PHNs, and teachers was

perceived by PHNs as a positive factor to transfer of learning in the transfer context. Although support from a supervisor is not consistently found to positively influence transfer of learning (Gielen & van der Klink, 1995; Leifer & Newstrom, 1980), Foxon (1997) found that learners who receive or perceive that they have received support from a supervisor are more likely to transfer their learning. Similarly, in my study, the perception of supervisor support was reported by PHNs as a positive factor for their transfer of learning, but it did not seem to play a role in their transfer of teaching strategies. Five of 11 PHNs found their supervisor to be “much” to “very much” supportive with 4 of these nurses transferring the PAL program.

Support from teachers was another important factor for transfer of the PAL program. This support determined whether PHNs had an opportunity to deliver the PAL program. All PHNs who used PAL reported that their schools were supportive, though one nurse qualified the level of support by stating that although teachers wanted the PAL program for their students, it was not a priority when it came to scheduling the sessions. To assist PHNs to promote and organize the PAL program with teachers, I provided two documents (“The Revised Smoking Prevention Program (1998)”; “The Smoking Prevention Plan”). All of the PHNs who transferred the PAL program used these documents and planned to use them the next time they implemented PAL. The documents were useful to PHNs because they guided the negotiations with teachers necessary to arrange for resources and to schedule the PAL sessions.

Support from other PHNs was important to most nurses who transferred either the PAL program or teaching strategies. Most PHNs gravitated to natural groupings with other PHNs from their health district in the workshop. Thus, the nurses reported sharing their experiences of successes and failures to help other PHNs transfer successfully. During the workshop, I encouraged PHNs to meet or talk with each other about their attempts to use the PAL program and teaching strategies. The PHNs supported each other informally, with no meetings or follow-up sessions being scheduled either by PHNs or by me. This is consistent with Broad and Newstrom (1992), and Caffarella (1994), who claim that an informal arrangement in which one participant links with another after the educational program often provides effective support for transfer of learning.

As a facilitator of the workshop I also provided post-workshop support during the telephone interviews. In addition to these supports I also provided follow-up information for PHNs to assist them to implement the PAL program. All PHNs reported that support from the facilitators helped them to transfer their learning. My findings are consistent with Daloz (1986) who believes that the relationship between educators and learners is an important influence on learning.

Implications for Adult Education Practice

The literature provides many strategies that might encourage transfer of learning. A program planner or educator may find it difficult to select appropriate measures from this array of options and, as Caffarella (1994) states, "What becomes readily apparent to

many program planners...is that they have little influence or control over some (or even most) of the key factors that must be addressed for the transfer of learning to happen” (p. 115). My findings are consistent with the literature about educator control. Although my findings may not be generalizable to other situations, educators can be informed by the educator strategies that were effective in this situation and they might be worth testing in a similar context.

Fenwick and Parsons (1998) point out that professional practice is dynamic and complex and, as a result of this type of complexity, Queeney (2000) recommends that continuing professional educators need to develop a greater understanding of how professions integrate knowledge to their practice and give greater attention to transfer of learning. My study demonstrates that although there are many factors that influence transfer of learning among professionals such as PHNs, the educator/program planner can act to encourage transfer of learning among the professional participants.

Timing of Strategies When Planning for Transfer of Learning

Educators often assume that transfer of learning will occur naturally after an educational program (Caffarella, 1994). This study indicates that planning for transfer of learning is important to encourage success among learners. Five of 11 PHNs transferred the PAL program and 8 transferred teaching strategies to subsequent teaching situations. Results from my study indicate that carefully selecting instructors, sequencing and selecting content, allowing for observation and practice of skills, using a variety of teaching approaches, and providing opportunities to discuss a plan to transfer learning

were all useful aspects of my program planning that enhanced the PHNs' transfer of learning.

Table 6 lists the strategies that I planned and implemented that supported transfer of learning. This table also shows when I used each strategy--before, during, or after the workshop. For example, before the workshop I invited Lonnie, in her role as supervisor, to attend the workshop. Likewise, Broad and Newstrom (1992) claim that the presence of a supervisor at an educational program can be a very positive influence for learning transfer by the participants. Another strategy that I used was to create a positive workshop environment. This is consistent with Machin and Fogarty's (1997) claim that individuals who have a strong positive reaction to the educational program are more likely to transfer their learning. Prior to the workshop, Lonnie and I worked to create a positive learning environment by arranging for the appropriate facilities and resources (beverages, food, seating arrangement). During the workshop, Kerri and I used icebreaker activities to set participants at ease. In order to maintain this climate, we used small group processes and provided many opportunities for participants to ask questions and talk about using the PAL program.

Table 6**Transfer of Learning Strategies Used in Study**

Strategies	When Strategy Was Used		
	Before Workshop	During Workshop	After Workshop
invited Lonnie (supervisor) to workshop	X		
recruited informed, interested participants (volunteer)	X		
selected facilitators whom matched PHN characteristics and were skilled teachers	X		
PHNs attended with others from same health district	X		
provided positive training environment	X	X	
systematically designed instruction	X		
taught new skill in small incremental steps		X	
used a variety of teaching methods		X	
modelled skills and attitudes for learning transfer		X	
used authentic application exercises and simulations		X	
provided examples of challenges to transfer from similar contexts and discussion opportunities		X	
provided opportunity to begin transfer action planning (discussions, presentation, documents)		X	
supplied PAL manual and other resources		X	
encouraged active participation by PHNs		X	
encouraged PHNs to develop peer supports		X	X
provided and encouraged use of: peer and educator contact information and new PAL information			X
contacted PHNs by telephone during implementation phase			X

Note: The strategies I used were adapted from Caffarella (1994), p. 114

As suggested by Broad and Newstrom (1992), after the program, I encouraged PHNs to use each other as a source of support. Additionally, I contacted each PHN; interviewed them about their transfer of learning, and I provided them with support during the interviews to enhance their transfer of learning. This is in keeping with the recommendations of Leifer and Newstrom (1980) who suggest that following educational programs, educators can enhance transfer of learning by encouraging participants to use their new skills, and by rewarding transfer of learning. As a result of my findings, other educators should strive to use strategies to encourage transfer of learning, in all three time-frames. Additionally, when determining the strategies to use, educators should carefully select the interventions to address existing barriers to transfer of learning and use as many as they have the human and financial resources to support.

Learning Versus Transfer of Learning

Authors such as Baldwin and Ford (1988), and Broad and Newstrom (1992), report that little of what is taught in educational programs is actually transferred, yet the transfer of skills and knowledge are basic expectations in any CPE program. Educators often design programs that promote learning rather than transfer of learning (Kemerer, 1991). I chose not to test or confirm that PHNs had learned the details of the PAL program, or if they had learned the various teaching strategies, but I did examine the occurrence of transfer of learning. I believe that if transfer of learning occurs, learning has occurred. Learning is more than an intellectual activity. My belief is supported by Cervero (1990) who concludes that “what the learner does is more important in

determining what is learned than what the teacher does” (p. 91). Consistent with the literature and based on my findings, I recommend that programs be planned to promote both the learning of the content and the process of teaching, as well as transfer of learning. If educators do not give attention to both, learners will be missing critical knowledge, skills, or attitudes when they return to their transfer context and consequently may be unable to transfer their learning.

Most professional learning requires that the learner use new knowledge in very unique and complex situations. Similarly, in this study, high-road transfer of learning was the most useful type of transfer of learning for PHNs to use. As noted by Bennett and Fox (1993), professionals (such as public health nurses) often form abstractions of their knowledge and skills that they later recall, select, adapt, and use appropriately in a variety of situations; this requires high-road transfer. Bennett and Fox also note that the “Creative use of the knowledge base is a regular and essential part of practice” (p. 264). CPE programs cannot provide learners with opportunities to learn and practice in the many situations in which they will need to use their learning. Consequently, programs should present the content in a manner that assists participants to develop an abstraction of the skill or knowledge. For example, when a PHN used her knowledge and experience with role-play in the PAL program to incorporate role-play into her teaching at a breastfeeding conference, she used an abstraction and projection of the technique when working in a different area (breastfeeding support). Another example of high-road learning

transfer is when the PHNs in this study needed to understand the underlying principles of the PAL program to allow them to appropriately adapt PAL to their own situations.

Learning From Mistakes

I dedicated very few resources (human or financial) to assessing the needs of my potential learners, or their environments. Because of external circumstances, the planning and implementation time frame was short and participants were not confirmed until a few days prior to the workshop. In future, I would ensure more time for program planning activities. Included in this, I would focus more resources on gaining information about potential learners, and in particular, I would learn more about their work and transfer contexts to create a more supportive context for transfer of learning. This is supported by the literature. For example, Sork (2000) suggests that an assessment of potential participants and their environment is a worthwhile expenditure of resources for any program planning process because it allows educators to use resources appropriately when planning and implementing a program. Additionally, Cervero and Wilson (1994a) recommend that because educators always plan in contexts that are defined by power relationships and associated interests, they must become aware of these relationships and act on them through negotiation and other strategies. Specifically, I lacked information about whether the transfer context of each PHN could provide adequate resources for transfer of learning to occur; who would provide direct supervision and support to the PHNs in the smaller health districts; and what formal power relationships existed between the smaller health districts and the larger host health district. I believe that a more

thorough assessment of learners and their environments would provide a clearer direction for program development. In particular, I would be more confident about the selection of content of the workshop and teaching approaches, identification of barriers to transfer of learning, and, consequently, the appropriate interventions to encourage transfer of learning, if I did this on another occasion.

More information about the PHNs might also have been helpful. For instance, as effective communication and marketing skills are an inherent part of health promotion, I assumed that PHNs possessed skills in these areas. However, I did not determine whether they were skilled enough, or if they would be permitted, to negotiate the acceptance of the PAL program by the teachers in their schools. For example, one nurse told me that if her supervisor had contacted the schools she might have been able to implement the PAL program. It is unclear why she did not negotiate this herself.

Program planning, as described by Cervero and Wilson (1994a), is complex because of the political nature of the context and the skills needed to work within that environment. Consequently, it may be unrealistic to assume that all PHNs have adequate awareness of the power and interests acting on the transfer context--their school--and the negotiating skills to promote the acceptance of a new program such as PAL. During the workshop, we attempted to guide PHNs in their negotiations with teachers by providing information sheets for teachers that described the PAL program and another document that clarified the support that the teacher needed to provide for the PAL program to be successful. For nurses who lacked basic negotiating skills, this guidance may have been

inadequate. Due to the lack of data, I can only speculate that the presence or absence of these skills or permissions adversely affected the transfer of the PAL program in this case.

In this study, I did not assess the amount of content learned at the end of the workshop, nor did I ask participants during the interviews or through questionnaires if they thought they knew enough about the innovations themselves, meaning the PAL program and teaching strategies, in order to transfer them. Although the rate of transfer of learning indicated that their degree of learning was adequate, I am unsure whether a lack of knowledge or of confidence, was a factor for some of the PHNs. In future, at the end of the workshop or during an after-workshop contact, I would like to ask participants more about the level of their content learning and their levels of confidence in using the innovation. If warranted, I would conduct a targeted follow-up session to address their specific questions.

Although conducting an assessment at the outset of the planning process is important, consistent with Cervero and Wilson (1994a), I found that learners and their environments are not static. In this study, several PHNs experienced unanticipated events that influenced their ability to transfer their learning. For example, after the workshop, one nurse's husband was diagnosed with a terminal illness and died suddenly--PHNs in her health district were required to take on her workload without additional staff. In this situation, I cannot assume that we could have developed a plan that negated the influence of the staffing and budget problems that resulted, still, it may have helped PHNs in their

transfer of learning if I had met with them and their supervisors following the workshop. In the future, I would incorporate this type of follow-up meeting into the program plan to allow us to talk about unanticipated challenges to transfer of learning, and possible strategies to assist in the transfer of learning.

Although I propose the inclusion of these activities, I believe that I would need to use strong negotiation skills and a collaborative approach to program planning in order to obtain the financial support for these strategies.

Conclusions

From this study, I have rendered several conclusions that may be useful for other program planners and educators of public health nurses. The following conclusions are based on the ideas discussed in the preceding sections.

I found Caffarella's (1994) interactive program planning model a useful conceptual framework for planning continuing professional education for public health nurses. Due to Caffarella's thorough explanation of the rationale for each aspect of her model, I was able to choose components that allowed me to work within the constraints of my situation. I was also directed toward strategies that could, and did, support transfer of learning. In this study I used strategies to encourage transfer of learning prior to, during, and after the workshop--with the majority of effective activities being employed during the workshop.

I found that transfer of learning is indeed something for which educators need to plan. The constraints of the real world of program planning should not inhibit the use of strategies that could enhance transfer of learning. Due to my program planning experience

in this study, I believe that professionals should be prepared for high-road transfer of learning in which they transfer complex learning (knowledge, attitudes, and skills) to the unpredictable contexts of their practice. Consistent with Perkins and Salomon (1988), I propose that educators assist learners to achieve high-road transfer of learning by mediating the process of developing abstractions and connecting their learning with their practice.

Program planners need to tackle barriers to transfer of learning with whatever strategies they have and whatever resources they have. My study suggests that the best way to address barriers is by focusing on transfer of learning at least as much (or more so) than on learned content or skills. Reinforcing and enabling strategies used during, prior to, and after the educational program could seek to help participants overcome barriers of predisposing factors, the innovation (change), the program content, and the transfer context. This approach is supported by Ottoson (1997) who encourages educators to use strategies that influence factors in each of the four categories. Consequently, a program planner who uses strategies that target barriers to transfer of learning, such as the strategies in my recommendations and others found in the literature, will improve transfer of learning outcomes (Broad & Newstrom, 1992; Caffarella, 1994; Cervero & Wilson, 1994a).

These conclusions lead me to offer some recommendations on how an educator can encourage transfer of learning. The recommendations are related to the scope and

limitations of the study, within the confines of the real world of program planning practice.

Recommendations

I offer five recommendations directed to continuing professional education providers for public health nurses who find themselves planning programs with limited human and financial resources. Although directed specifically at educators working with public health nurses, the recommendations as abstractions can be usefully considered in other contexts with other groups of adult learners. The key components of the recommendations that were shown to be effective in this study are described below:

1. Educators of health professionals such as public health nurses should consider using Caffarella's (1994) interactive program planning model when planning an educational program. Because of the flexibility of the model, it is useful even with limited time and resources.
2. To ensure there are interested and motivated participants in a program such as this, adult educators should recruit participants by clearly informing them of the purpose and content of the educational program, and by ensuring that their participation is voluntary. Adult educators should also encourage learners to attend in natural groupings from their workplace to provide support for transfer of learning after the educational program.
3. To improve communication and the quality of the educational experience for participants, program planners should select educators who, if possible, share

professional characteristics with the learners, are knowledgeable of the program content, and have facilitative skills as educators.

4. To ensure that learning occurs and to develop the skills needed for transfer of learning, adult educators should design the educational program to include: (a) objectives that focus on learning and transfer of learning; (b) a comfortable and respectful learning environment; (c) a selection of relevant and practical content, carefully sequenced, and taught using a variety of strategies with attention to employing many interactive activities; (d) opportunities to practice new knowledge and skills; (e) documents to use during and after the workshop that can assist learners in the transfer context; and (f) adequate time during the educational program for guided and independent action planning for transfer of learning.

5. To provide support after the educational program, adult educators should ensure that learners have access to the educator. This could include at least one post-program contact initiated by the educator in the form of a telephone call or refresher session.

Throughout this learning process, I have gained many insights about adult learning (including my own), program planning, and transfer of learning. As I worked through the process of planning a program using Caffarella's (1994) model, I developed a better appreciation of Houle's (1972) belief that program planning is an art. In addition, I am drawn to test Cervero and Wilson's (1994a) idea that program planning is a social activity in which the planner must negotiate with those in power and with those who have an

interest in the outcome of the program. These insights, now framed for me by adult education theory, will colour my practice as an adult educator. I will not hesitate to search for established theory, nor will I be reticent to explore further by adapting and studying my own practice. As I pursue a greater understanding of transfer of learning and program planning, there are several interventions that I intend to study further. For example, the formation of partnerships that encourage cooperation and collaboration among those who have influence on transfer of learning. I would also like to examine strategies for use after the educational program has taken place such as enlisting active support for learners from supervisors and using peer mentors. Associated with these strategies, I would like to pursue organizational acceptance of the additional cost of these and other transfer of learning strategies.

REFERENCES

- Abernathy, T. J., & Bertrand, L. D. (1992). Preventing cigarette smoking among children: Results of a four-year evaluation of the PAL program. Canadian Journal of Public Health, 83(3), 226-229.
- Apps, J. W. (1985). Improving practice in continuing education. San Francisco: Jossey-Bass.
- Babbie, E. R. (1989). The practice of social research (5th ed.). Belmont, CA: Wadsworth.
- Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and direction for future research. Personnel Psychology, 41(1), 63-105.
- Baumgartel, H., & Jeanpierre, F. (1972). Applying new knowledge in the back-home setting: A study of Indian managers' adoptive efforts. The Journal of Applied Behavioral Science, 8(6), 674-694.
- Beder, H. (1986). Basic concepts and principles of marketing. In H. Beder (Ed.), Marketing continuing education. New Direction for Continuing Education, no. 31 (pp. 19-28). San Francisco: Jossey-Bass.
- Beder, H. (1989). Purposes and philosophies of adult education. In S. B. Merriam & P. M. Cunningham (Eds.), Handbook of adult and continuing education (pp. 37-50). San Francisco: Jossey-Bass.
- Bennett, N. L., & Fox, R. D. (1993). Challenges for continuing professional education. In L. Curry, J. F. Wergin, & Associates (Eds.), Educating professionals: Responding to new expectations for competence and accountability (pp. 262-278). San Francisco: Jossey-Bass.
- Bonham, L. A. (1989). Using learning style information, too. In E. Hayes (Ed.), Effective teaching styles. New Directions for Continuing Education, No. 43 (pp. 29-40). San Francisco: Jossey-Bass.
- Boyle, P. G. (1981). Planning better programs. Toronto: McGraw-Hill.
- Branderhorst, E. M., & Wognum, I. (1995). Management influence on the transfer of training. In D. Antonioni (Ed.), Transfer of Learning [in HRD]: Academy of Human Resource Development Conference Proceedings (pp. 28-36). St. Louis, MO. (ERIC Document Reproduction Services No. ED 398 373)

Broad, M. L., & Newstrom, J. W. (1992). Transfer of training: Action-packed strategies to ensure high payoff from training investments. Don Mills, ON: Addison-Wesley.

Brookfield, S. D. (1986). Understanding and facilitating adult learning: A comprehensive analysis of principles and effective practices. San Francisco: Jossey-Bass.

Bush, C., Mullis, R., & Mullis, A. (1995). Evaluation: An afterthought or an integral part of program development. Journal of Extension, 33(2), 62-73. [ON-LINE] Available: [gopher://joe.org/oofjoe/1995april/a4](http://joe.org/oofjoe/1995april/a4)

Caffarella, R. S. (1994). Planning programs for adult learners: A practical guide for educators, trainers, and staff developers. San Francisco: Jossey-Bass.

Candy, P. (1991). Self-direction for lifelong learning: A comprehensive guide to theory and practice. San Francisco: Jossey-Bass.

Cervero, R. M. (1988). Effective continuing education for professionals. San Francisco: Jossey-Bass.

Cervero, R. M. (1990). The importance of practical knowledge and implications for continuing education. The Journal of Continuing Education in the Health Professions, 10(1), 85-94.

Cervero, R. M., Rottet, S., & Dimmock, K. H. (1986). Analyzing the effectiveness of continuing professional education at the workplace. Adult Education Quarterly, 36(2), 78-85.

Cervero, R. M., & Wilson, A. L. (1994a). Planning responsibly for adult education: A guide to negotiating power and interest. San Francisco: Jossey-Bass.

Cervero, R. M., & Wilson, A. L. (1994b). The politics of responsibility: A theory of program planning practice for adult education. Adult Education Quarterly, 45(1), 249-268.

Clark, R. E., & Voogel, A. (1985). Transfer of training principles for instructional design. Educational Communications and Technology Journal, 33(2), 113-23.

Cormier, S. M., & Hagman, J. D. (Eds.). (1987). Transfer of Learning: Contemporary research and applications. Toronto: Academic Press.

Cranton, P. A. (1989). Planning instruction for adult learners. Toronto: Wall & Thompson.

- Cranton, P. A. (1992). Working with adult learners. Toronto: Wall & Emerson.
- Cranton, P. (1994). Understanding and promoting transformative learning: A guide for educators of adults. San Francisco: Jossey-Bass.
- Cross, K. P. (1981). Adults as learners: Increasing participation and facilitating learning. San Francisco: Jossey-Bass.
- Cruz, B. J. (1997). Measuring the transfer of training. Performance Improvement Quarterly, 10(2), 83-97.
- Daloz, L. A. (1986). Effective teaching and mentoring: Realizing the transformational power of adult learning experiences. San Francisco: Jossey-Bass.
- Davenport, J., & Davenport, J. H. (1985). Andragogical-pedagogical orientations of adult learners: Research results and practice recommendations. Lifelong Learning: An Omnibus of Research and Practice, 9(1), 6-8.
- Devney, A. M. (1998). The lamp burns brightly: Trends in continuing education for nursing. In W. H. Young & R. M. Cervero (Eds.), Continuing professional education in transaction: Visions for the professions in new strategies for lifelong learning (pp. 171-182). Malabar, FL: Krieger.
- Fenwick, T., & Parsons, J. (1998). Boldly solving the world: A critical analysis of problem-based learning as a method of professional education. Studies in the Education of Adults, 30(1), 53-66.
- Fontana, A., & Frey, J. H. (1998). Interviewing: The art of science. In N. K. Denzin & Y. S. Lincoln (Eds.), Collecting and interpreting qualitative materials (pp. 47-78). Newbury Park, CA: Sage.
- Ford, J. K., & Weissbein, D. A. (1997). Transfer of training: An updated review and analysis. Performance Improvement Quarterly, 10(2), 22-41.
- Fox, R. D. (1981). Formal organizational structure and participation in planning continuing professional education. Adult Education, 31(4), 209-226.
- Fox, R. D. (1984). Fostering transfer of learning to work environments. In T. J. Sork (Ed.), Designing and implementing effective workshops. New Directions for Continuing Education, no. 22 (pp. 25-38). San Francisco: Jossey-Bass.

Foxon, M. (1997). The influence of motivation to transfer, action planning, and manager support on the transfer process. Performance Improvement Quarterly, 10(2), 42-63.

Gagné, R. M. (1977). The conditions of learning (3rd ed.). Toronto: Holt, Rinehart, & Winston.

Gagné, R. M., Briggs, L. J., & Wager, W. W. (1992). Principles of instructional design (4th ed.). Toronto: Harcourt Brace Jovanovich College.

Gagné, R. M., & White, R. T. (1978). Memory structures and learning outcomes. Review of Educational Research, 48(2), 187-222.

Galbraith, M. W., Sisco, B. R., & Guglielmino, L. M. (1997). Administering successful programs for adults: Promoting excellence in adult, community, and continuing education. Malabar, FL: Krieger.

Garrison, D. R. (1992). Critical thinking and self-directed learning in adult education: An analysis of responsibility and control issues. Adult Education Quarterly, 42(3), 136-148.

Geroy, G. D., & Penna, C. J. (1995). Factors in the organizational climate that motivates the trainee to transfer behaviour learned in a training setting to the actual work environment. In D. Antonioni (Ed.), Transfer of Learning [in HRD]: Academy of Human Resource Development Conference Proceedings (pp. 21-27). St. Louis, MO. (ERIC Document Reproduction Services No. ED 398 373)

Gick, M. L., & Holyoak, K. J. (1987). The cognitive basis of knowledge transfer. In S. M. Cormier & J. D. Hagman (Eds.), Transfer of learning: Contemporary research and applications (pp. 9-46). Toronto: Academic Press.

Gielen, E. W. M., & van der Klink, M. R. (1995). Supervisory support as a transfer enhancing activity: Synthesis of four research projects. In D. Antonioni (Ed.), Transfer of Learning [in HRD]: Academy of Human Resource Development Conference Proceedings (pp. 3-11). St. Louis, MO. (ERIC Document Reproduction Services No. ED 398 373)

Gilmore, G. D., Campbell, M. D., & Becker, B. L. (1989). Needs assessment strategies for health education and health promotion. Dubuque, IA: Brown and Benchmark.

Glesne, C., & Peshkin, A. (1992). Becoming qualitative researchers. White Plains, NY: Longman.

Griffin, V. R. (1993). Holistic learning & teaching: "Would you play a one-string guitar?" In T. Barer-Stein & J. A. Draper (Eds.), The craft of teaching adults (pp. 105-130). Toronto: OISE Press.

Grow, G. O. (1991). Teaching learners to be self-directed. Adult Education Quarterly, 41(3), 125-149.

Guba, E. G., & Lincoln, Y. S. (1983). Effective evaluation: Improving the usefulness of evaluation results through responsive and naturalistic approaches. San Francisco: Jossey-Bass.

Health Canada. (1999). Provincial comparisons. Canadian tobacco use monitoring survey: Wave 1. Ottawa, ON: Health Canada.

Health & Welfare Canada. (1986). The PAL (peer-assisted learning) smoking prevention program. Ottawa, ON: Health Promotion Directorate.

Heaney, T. W., & Horton, A. I. (1990). Reflective engagement for social change. In J. Mezirow & Associates (Eds.), Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning (pp. 74-98). San Francisco: Jossey-Bass.

Hicks, W. D., & Klimoski, R. J. (1987). Entry into training programs and its effects on training outcomes: A field experiment. Academy of Management Journal, 30(3), 542-552.

Hiemstra, R. (1988). Translating personal values and philosophy into practical action. In R. G. Brockett (Ed.), Ethical issues in adult education (pp. 178-194). New York: Columbia University, Teacher's College.

Houle, C. O. (1972). The design of education. San Francisco: Jossey-Bass.

Houle, C. O. (1980). Continuing learning in the professions. San Francisco: Jossey-Bass.

James, W. B., & Galbraith, M. W. (1985). Perceptual learning styles: Implications and techniques for the practitioner. Lifelong Learning: An Omnibus of Research and Practice, 8(4), 20-23.

Jarvis, P. (1984). Andragogy: A sign of the times. Studies in the Education of Adults, 16, 32-38.

Kemerer, R. W. (1991). Understanding the application of learning. In T. J. Sork (Ed.), Mistakes made and lessons learned: Overcoming obstacles to successful program planning. New Directions for Adult and Continuing Education, No. 49 (pp. 67-80). San Francisco: Jossey-Bass.

Kiener, M. E., & Hentschel, D. (1992). What happens to learning when the workshop is over? The Journal of Continuing Education in Nursing. 23(4), 169-173.

Klausmeier, H. J., & Davis, J. K. (1969). Transfer of learning. In R. L. Ebel, V. H. Noll, & R. M. Bauer (Eds.), Encyclopedia of educational research: A project of the American Educational Research Association (4th ed., pp. 1483-1494). Toronto: Macmillan.

Knowles, M. S. (1973). The adult learner: A neglected species. Houston, TX: Gulf.

Knowles, M. S. (1975). Self-directed learning: A guide for learners and teachers. Toronto: Prentice-Hall.

Knox, A. B. (2000). The continuum of professional education and practice. In V. W. Mott & B. J. Daley (Eds.), Charting a course for continuing professional education: Reframing professional practice. New Directions for Adult and Continuing Education, No. 86 (pp. 13-22). San Francisco: Jossey-Bass.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice-Hall.

Kowalski, T. J. (1988). The organization and planning of adult education. Albany, NY: State University of New York.

Laker, D. R. (1990). Dual dimensionality of training transfer. Human Resource Development Quarterly. 1(3), 209-223.

Laurie, M. (1997). Evaluation of the peer assisted learning (PAL) smoking prevention program: Phase I (preliminary report). Saskatoon, SK: Saskatoon District Health-Public Health Services.

Laurie, M. (1998). Evaluation of the peer assisted learning (PAL) smoking prevention program: Phase II. Saskatoon, SK: Saskatoon District Health-Public Health Services.

Laurie, M. (1999). Evaluation of the peer assisted learning (PAL) smoking prevention program: Phase III. Saskatoon, SK: Saskatoon District Health-Public Health Services.

Leifer, M. S., & Newstrom, J. W. (1980). Solving the transfer of training problems. Training and Development Journal, 34(2), 42-46.

Lewin, K. (1951). Field theory in social science. New York: Harper & Row.

Machin, M. A., & Fogarty, G. J. (1997). The effects of self-efficacy, motivation to transfer, and situational constraints on transfer intentions and transfer of training. Performance Improvement Quarterly, 10(2), 98-115.

MacKeracher, D. (1996). Making sense of adult learning. Toronto: Culture Concepts.

Martin, K. O., & Mazmanian, P. E. (1991). Anticipated and encountered barriers to change in CME: Tools for planning and evaluation. The Journal of Continuing Education in the Health Professions, 11(4), 301-318.

Marx, R. D. (1982). Relapse prevention for managerial training: A model for maintenance of behavioural change. Academy of Management Review, 7(3), 433-441.

Marx, R. D. (1986). Self-managed skill retention. Training and Development Journal, 40(1), 54-57.

McGuire, C. H. (1993). Socialcultural changes affecting professions and professionals. In L. Curry, J. F. Wergin, & Associates. (Eds.), Educating professionals: Responding to new expectations for competence and accountability (pp. 3-16). San Francisco: Jossey-Bass.

Merriam, S. B. (1988). Case study research in education: A qualitative approach. San Francisco: Jossey-Bass.

Merriam, S. B., & Caffarella, R. S. (1991). Learning in adulthood: A comprehensive guide. San Francisco: Jossey-Bass.

Merriam, S. B., & Simpson, E. L. (1989). A guide to research for educators and trainers of adults. Malabar, FL: Krieger.

Mezirow, J. (1994). Understanding transformation theory. Adult Education Quarterly, 44(4), 222-232.

Misko, J. (1995). Transfer: Using learning in new contexts. Leabrook, Australia: National Centre for Vocational Education Research. (ERIC Document Reproduction Services No. ED 383 895)

Noe, R. A. (1986). Trainee's attributes and attitudes: Neglected influences on training effectiveness. Academy of Management Review, 11(4), 736-749.

Orlandi, M. A. (1986). The diffusion and adoption of worksite health promotion innovations: An analysis of barriers. Preventive Medicine, 15(5), 522-536.

Ottoson, J. M. (1992). Developing a conceptual framework to analyze application of learning from continuing professional education. In M. A. Taylor & R. Bedard (Eds.), Proceedings of the 11th annual conference of the Canadian Association for the Study of Adult Education (pp. 262-266). Saskatoon, SK: University of Saskatchewan.

Ottoson, J. M. (1994). Transfer of learning: Not just an afterthought. Adult Learning, 5(4), 21.

Ottoson, J. M. (1995a). Use of a conceptual framework to explore multiple influences on the application of learning following a continuing education program. Canadian Journal for the Study of Adult Education, 9(2), 1-18.

Ottoson, J. M. (1995b). Reclaiming the concept of application: From social to technological process and back again. Adult Education Quarterly, 46(1), 17-30.

Ottoson, J. M. (1997). After the applause: Exploring influences on application following an adult educational program. Adult Education Quarterly, 47(2), 92-107.

Ottoson, J. M., & Green, L. W. (1987). Reconciling concept and context: Theory of implementation. Advances in Health Education and Promotion, 2, 353-382.

Parry, S. (1990). Ideas for improving transfer of training. Adult Learning, 1(4), 19-23.

Patton, M. Q. (1990). Qualitative evaluation and research methods. Newbury Park, CA: Sage.

Patton, M. Q. (1991). Beyond evaluation myths. Adult Learning, 3(2), 9-10,28.

Patton, M. Q. (1997). Utilization-focused evaluation: The new century text (3rd ed.). Thousand Oaks, CA: Sage.

Pennington, F., & Green, J. (1976). Comparative analysis of program development processes in six professions. Adult Education, 27(1), 13-23.

Percival, A. (1993). Practising theory: A guide to becoming an effective adult education programmer. Saskatoon, SK: University of Saskatchewan, Extension Division.

Perkins, D. N., & Salomon, G. (1988). Teaching for transfer. Educational Leadership, 46(1), 22-32.

Perkins, D. N., & Salomon, G. (1994). Transfer of Learning. In T. Husen & T. N. Postlewaite (Eds.), The international encyclopedia of education (2nd ed., Vol 11, pp. 6452-6457). Oxford, England: Pergamon.

Queeney, D. S. (2000). Continuing professional education. In A. L. Wilson & E. R. Hayes (Eds.), Handbook of adult and continuing education (pp. 375-391). San Francisco: Jossey-Bass.

Renner, P. (1994). The art of teaching adults: How to become an exceptional instructor and facilitator. Vancouver, BC: Training Associates.

Rogers, E. M. (1995). Diffusion of innovations (4th ed). New York: Free Press.

Royer, J. M. (1979). Theories of the transfer of learning. Educational Psychologist, 14(1), 53-69.

Salomon, G., & Perkins, D. N. (1989). Rocky roads to transfer: Rethinking mechanisms of a neglected phenomenon. Educational Psychologist, 24(2), 113-142.

Schön, D. (1987). Educating the reflective practitioner: Toward a new design for teaching and learning in the professions. San Francisco: Jossey-Bass.

Silberman, M. (1990). Active training. Don Mills, ON: Lexington.

Sork, T. J. (1990). Theoretical foundations of educational program planning. The Journal of Continuing Education in the Health Professions, 10(1), 73-83.

Sork, T. J. (2000). Planning educational programs. In A. Wilson & E. Hayes (Eds.), Handbook of adult and continuing education (pp. 171-190). San Francisco: Jossey-Bass.

Sork, T. J., & Buskey, J. H. (1986). A descriptive and evaluative analysis of program planning literature, 1950-1983. Adult Educational Quarterly, 36(2), 86-96.

Sork, T. J., & Caffarella, R. S. (1989). Planning programs for adults. In S. B. Merriam & P. M. Cunningham (Eds.), Handbook of adult and continuing education (pp. 322-245). San Francisco: Jossey-Bass.

Tennant, M. (1986). An evaluation of Knowles' theory of adult learning. International Journal of Lifelong Education, 5(2), 113-122.

Verma, G. K., & Mallick, K. (1999). Researching education: Perspectives and techniques. Philadelphia, PA: Falmer.

Wexley, K. N., & Baldwin, T. T. (1986). Post-training strategies for facilitating positive transfer: An empirical exploration. Academy of Management Journal, 29(3), 503-520.

Wilson, A. L., & Cervero, R. M. (1997). The song remains the same: The selective tradition of technical rationality in adult education program planning theory. International Journal of Lifelong Education, 16(2), 84-108.

Wispe, L. G. (1951). Evaluating section teaching methods in the introductory course. Journal of Education Research, 45(3), 161-186.

APPENDIX A

END-OF-WORKSHOP QUESTIONNAIRE

EVALUATION: Workshop for the PAL Smoking Prevention Program 1999

1. Circle the flower that shows how you feel about the workshop.



2. What was the most meaningful or helpful aspect of today?

3. What was missing from today?

4. Approximately when do you plan to implement the PAL Smoking Prevention Program?

APPENDIX B

TELEPHONE INTERVIEW QUESTIONS

There are no right or wrong answers, what I want to do is determine if there is a relationship between what you came to the workshop with, and what the learning experience was like, and what happens after the workshop. Looking at the whole picture, many different things are factors...

1. Have you been able to do or use anything from the smoking prevention program or even teaching strategies from the workshop ?

Now, I'd like to look at the workshop itself.

2. What aspects of the workshop helped you the most to either implement the PAL program, components of the PAL program or to use new teaching strategies at in teaching situations?
3. What was missing from the workshop for easy implementation of the PAL program or teaching strategies?

Probe:

- | | |
|---|--------------------------|
| • Information received prior to workshop? | • Workshop organization? |
| • Location? | • Facilitators? |
| • Room setting? | • Manuals? |
| • Content? | • "Speed Bump" Forms? |
| | • Other participants? |

4. How much extra time have you needed to spend to prepare for implementation?

Include meetings with teachers and administrators.

5. Have you implemented or scheduled, any part of the PAL program?
(a) All of PAL? (c) Teaching Strategies?
(b) Part of PAL? What strategies?
What parts?
6. When will the PAL program start?
7. Have you received additional support to use the PAL program or teaching strategies since the workshop?
8. What support and from whom (position)?

Probe:

- | | |
|---------------------|-------------------------------|
| • co-worker | • school principal |
| • supervisor | • students |
| • manager | • workshop facilitators |
| • classroom teacher | • other workshop participants |

10. What difficulties have you encountered in the implementation process?
11. How do you usually feel when trying out new programs?
12. Is smoking prevention a priority for your organization at this time?
13. If so, what actions has the health district taken to support this priority.

APPENDIX C

FOLLOW-UP QUESTIONNAIRE

PAL Smoking Prevention Program Workshop Follow-up

1. When you came to the February '99 PAL Workshop did you plan to implement the PAL Smoking Prevention Program by June 1999?

☐ Yes
☐ No
☐ Unsure

2. Have you used the PAL smoking prevention program since the February 1999 workshop?

☐ Yes
☐ No
☐ Unsure

3. As a result of attending the PAL Workshop, have you used any of the teaching strategies from the PAL program or additional teaching strategies used in the workshop, in other teaching situations? *e.g. role play, discussion around trigger stories, mini-surveys, attention gaining activity at beginning of session, etc.*

☐ Yes
☐ No
☐ Unsure

4. Do you plan to use PAL in the future?

☐ Yes
☐ No
☐ Unsure

- 4.1 If yes, when will you start the program?

<input type="radio"/> November 1999	<input type="radio"/> March 2000
<input type="radio"/> December 1999	<input type="radio"/> April 2000
<input type="radio"/> January 2000	<input type="radio"/> May 2000
<input type="radio"/> February 2000	<input type="radio"/> June 2000
	<input type="radio"/> Other _____

5. Do you believe that smoking prevention programs such as PAL will prevent some individuals from starting to smoke?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Not at all	Somewhat	Moderately	Much	Very much

6. Since February, has tobacco prevention been a priority program within your agency?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Not at all	Somewhat	Moderately	Much	Very much

7. Have the following individuals supported your efforts to implement the PAL smoking prevention program, or the use of additional teaching strategies from the workshop, in other teaching situations?

	Not at all Supportive	Somewhat Supportive	Moderately Supportive	Quite Supportive	Very Supportive
Classroom Teacher					
Principal /Supervisor					
Students					
Co-workers					
Parents of students					
Workshop Facilitators					
Others:					

8. How important is the support from the following individuals to your implementation of the PAL smoking prevention program, or the use of additional teaching strategies from the workshop, in other teaching situations?

	Not at all Important	Somewhat Important	Moderately Important	Quite Important	Very Important
Classroom Teacher					
Principal /Supervisor					
Students					
Co-workers					
Parents of students					
Workshop Facilitators					
Others:					

During the workshop you were given several documents to assist you to implement the PAL program. Three of the documents are shown on the next three pages. Please consider them and answer the related questions.

9. Document 1: "The Smoking Prevention Program"

THE SMOKING PREVENTION PLAN

Who's on First?

I am looking forward to working with you to deliver our revised smoking prevention program. You and I will be working closely together to make this program a success for your class. Here is what we will need to do.

My Job ☺☺☺☺☺

- Supply all the Propaganda and Fundamentals.
- Prepare group leaders for their role.
- Work through the program material with students.
- Give students their assignments.

☺☺☺☺☺ Your Job

- Before the first session:
 - Select groups of 4-6 students & an appropriate leader for each group.
- Remind students about their "assignments" each week (or phone home or school for students to complete them).
- Classroom management during sessions.
- If you are interested in co-teaching, that is a great option.

ALLERGY ALERT: There are crystals of food services in this program. If you know of any severe allergies, PLEASE CALL ME.


Putting the Pieces Together

Introduction	When?
First leader meeting	_____
Lesson 1*	_____
Lesson 2*	_____
Lesson 3	_____
Lesson 4**	_____
Lesson 5	_____
Lesson 6	_____
* Final activities	_____
** TV & VCR needed	_____

☺ "Conflict Resolution"

If scheduling conflicts arise... call me ASAP!

You can call me at _____ ☎



The Scoop on Smoking Prevention


The number of Canadians who smoke is continuously increasing by young smokers, especially young women. Twenty years ago the average smoking age was 18, now it is 15! Young people have the knowledge, motivation and skills to resist the marketing pressures of tobacco.


Our revised smoking prevention program is suitable for grades 5 and students with a low rate of smoking. The purpose of the program is to delay (or hopefully prevent) the onset of tobacco use. It will take 6 sessions of 45 minutes each.

Most of the work to drive to prevent at 45 minutes will be a joint effort... that is the most effective approach for students to complete their work.

☺ The revised curriculum includes:

- Health and social responsibility
- Planning and organizing your education
- Small projects
- Writing "Me"
- Personal advertising
- Writing goals for the curriculum





Drama Stuff

Teaching Plan - Smoking Prevention

Version December 1998

Teaching Plan - Smoking Prevention

Version December 1998

9.1 Did you use this document?

- ☐ Yes
☐ No
☐ Unsure

9.1.1 If yes, what was the impact on your practice? (Choose as many answers as desired)

- ☐ minimized scheduling conflict
☐ gained commitment from teaching partner
☐ clarified your responsibilities
☐ clarified your teaching partner's responsibilities
☐ no effect
☐ other: _____

9.2 Would you use this form in the future?

- ☐ Yes
☐ No
☐ Unsure

10. Document 2: "Speed Bumps and Road Blocks"



Speed Bumps and Road Blocks A Plan for Action

Developing a strategy to implement the program involves a series of steps such as identifying the skills, resources, and setting the time frame. In addition, there may be some skills that you will need to use in the classroom or that may be other issues that have to do with the program. The purpose of this document is to help you identify the skills and resources that you need to implement the program.

1. **Speed bumps and road blocks.** By recognizing that there will be difficulties in the implementation process, you can plan for them and avoid a road block.
 - a. Look left, look right & look straight ahead. What are the predicted speed bumps in the road to implementation?
 - "I am not ready to do this."
 - "I am not ready to do this."
 - "I am not ready to do this."
 - "I am not ready to do this."
 - "I am not ready to do this."
2. **What do you have that will get you over the speed bumps?** Develop your available coping skills and resources.
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
 - developing the skills that
3. **Plan and conduct the work.**
 - plan to overcome the speed bumps and road blocks to success?
 - available support and resources.
 - resources to help a person to overcome a road block.
4. **Follow up with the plan.**
 - make sure the plan is being followed.
 - get support and resources and provide needed support.
 - make sure the plan is being followed and that the plan is being followed.
 - make sure the plan is being followed and that the plan is being followed.



10/20/2000

What are the speed bumps (challenges) to my progress?

What do I have (resources / coping skills) that will help me over the speed bumps?



10/20/2000

10.1 Did you use this document?

- ☐ Yes
☐ No
☐ Unsure

10.1.1 If yes, what was the impact on your practice?

- ☐ clarify challenges effecting implementation
☐ clarify resources available to help with implementation
☐ assist to guide action to over come barriers
☐ no effect
☐ other _____

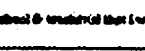
10.2 Would you use this form in the future?

- ☐ Yes
☐ No
☐ Unsure

10.3 When would you like to receive this form?

- ☐ before the workshop
☐ at the beginning of the workshop
☐ at the end of the workshop

11. Document 3: "I'll do this... a plan of action"



I will do this...a plan of action

The initial & tentative date that I will start this program is to be:

My tentative date of implementation is: _____

My past support personnel will be _____

I will talk with them about this program by (date) _____

To get ready, I will need to find details that need changing and actions that are needed)

Date	Time Required	Deadline
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other ideas for success: _____

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- 11.1 Did you use this document?**
- ☐ Yes
- ☐ No
- ☐ Unsure
- 11.1.1 If yes, what was the impact on your practice?** *(choose as many answers as desired)*
- ☐ identified sources of support for implementation
- ☐ encouraged me to use peer support for implementation and adaptation
- ☐ helped me establish time-lines and deadlines for implementation tasks
- ☐ no effect
- ☐ other _____
- 11.2 Would you use this form in the future?**
- ☐ Yes
- ☐ No
- ☐ Unsure
- 11.3 When would be the best time to receive this form?**
- ☐ before the workshop
- ☐ at the beginning of the workshop
- ☐ at the end of the workshop

12. How did the following affect your ability to implement the PAL program or the use of additional teaching strategies from the workshop, in other teaching situations?

	Mostly Negatively	Somewhat Negatively	Neither Negatively nor Positively	Somewhat Positively	Mostly Positively
Workshop					
Attending workshop.					
Format: highlighting objectives of each lesson.					
Format: reviewing preparation tasks for each lesson.					
Format: demonstrating key components of each lesson.					
Timing (February).					
Duration (9:00 - 3:00).					
Manual					
Organization.					
Receiving at workshop.					
Work Environment					
Staffing levels.					
Available time at work for preparation and delivery of program					
Classroom Situation:					
Available time in classroom.					
Ability to match your schedule with classroom schedule.					
Change in provincial curriculum.					
Miscellaneous					
Personal commitment to using PAL program or other new teaching strategies.					
Support of peers (PHN/teachers).					
Other:					

13. Additional comments are welcome. Use the space below:

13.1 The PAL Workshop

13.2 PAL Manual

13.3 Support needed to implement PAL or teaching strategies

13.4 Other

**THANK YOU FOR COMPLETING THE
QUESTIONNAIRE!**