

**The Experiential Knowledge Transfer Gap:
A Cause of Skills Shortage**

Myrna Giese-Van Grootel

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Executive Summary

This project shows methods to effectively and efficiently facilitate knowledge transfer among knowledge workers. It also explains the necessary factors to develop and maintain a teaching culture in an organization.

This project was conducted within a Canadian agency which operates in Northern British Columbia and the Yukon. It was focused on four worksections within the same corporate division due to the consistency of workflow and training. The division employs approximately 70 people, 66 were available during this project survey and 61 completed a project survey. 36% of the division employees plan to retire within 10 years. This creates the urgency to capture their relevant experiential knowledge to share within the organization. Consequently, the organization can maintain a sustainable competitive advantage with this shared knowledge resource and resulting innovation and productivity.

Increased support is needed for a teaching culture; otherwise we may be diminishing our supply of shared experiences. Further, a systematic approach needs to be implemented to manage the organization's knowledge base to ensure all members have equal access to it. The following recommended solutions were determined by project research, survey and interviews. (Further explanation is shown in the Recommendations section.)

1. Create an inventory of skills, knowledge, abilities and experience.
2. Match learners to the appropriate teachers by a dispatch method.
3. Track and monitor the trends in learners' questions to determine additional learning needs.

4. Arrange workspaces so employees of differing levels can work side by side to increase conversational collaboration.
5. Arrange mentorship teams for day-to-day mentorship and coaching opportunities.
6. Encourage experienced knowledge workers to create case study documents.
7. Retain case studies electronically and use them for learning aids and group discussions.
8. Arrange virtual cross-functional work teams by e-mail and phone.
9. Develop external experiential knowledge sharing by videoconference meetings.

Time will need to be invested in the initial reorganization, continual case study documentation, and as needed for purposeful group meetings. Team leaders' managerial expertise and time will be called upon if they are required to dispatch learners to the appropriate teachers. The long term benefits will be retention of experiential knowledge by documentation and conversational sharing. The benefits of equal learning will be gained by all with access to case studies and allocated teachers. A systematic teaching culture will evolve as learners share their experiential knowledge in collaborative, reciprocal knowledge sharing relationships.

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Abbreviations

- IT: Information technology
- KM: Knowledge management
- OL: Organizational learning
- RBV: Resource-based view
- SME: Subject matter expert

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Chapter One: Introduction

The original research problem and primary research examined an imminent skills shortage in an organization as key employees retire, resulting in organizational knowledge loss. The secondary research was exploratory and initially reviewed the topic of experiential knowledge. Knowledge Management was explored to find ways to capture and retain valuable knowledge within a firm. Reliance on computer-based knowledge management processes did not seem sufficient to capture the experiential knowledge of individuals. This led to discovering the writings about tacit knowledge and the fundamental study disciplines of Organizational Learning and the Resource-Based View. The quest was to determine which methods of knowledge transfer have proven efficient and, more importantly, effective to facilitate retention and sharing of experiential knowledge in the workplace.

Knowledge transfer literature is virtually devoted to assisting the learner while the teaching role is allocated to the employer. Conversely, experiential knowledge is earned and owned by the individual, and can only be shared by them. This is why this research strives to balance learning and teaching. Without the experienced individuals becoming our teachers, new employees must continually recreate those experiences by trial and error, along with any undue stress, anxiety, and lack of confidence that happens while building skills. This study attempted to find the key success factors to build and maintain an organizational teaching culture.

Chapter Two: Literature Review

Three major disciplines of study were reviewed including Knowledge Management (KM), Organizational Learning (OL), and the Resource-Based View of the

firm (RBV). Major books were sourced directly as foundational literature because they were repeatedly cited by many relevant articles. Selected peer-reviewed scholarly journals and practitioner-oriented articles were amalgamated into this study for their practical application.

The practitioner-based literature focused on the managerial utility of knowledge sharing processes. It emphasized cost-control and return on time, effort and dollar investments and it recommended expediency. For example, it recommended utilizing knowledge brokers who deftly match learners' needs with subject matter experts' knowledge, skills and abilities to facilitate *just-in-time* knowledge transfer activities.

The purpose of the literature review is to allow us to synthesize existing knowledge with the primary research undertaken in this project. Then, the best practices can be determined regarding effective and efficient experiential knowledge transfer.

Major terminology definitions are shown below:

1) Knowledge versus Information:

This study focuses on experiential knowledge. While organizational information is widely available through media such as training manuals and intranet sites, knowledge is what knowledge workers build through experience. Knowledge is created out of the fabric of information. The situation context supports knowledge, and this context is necessary for the knowledge worker to apply information in the most effective and risk-minimized way.

“Information is about meaning, and it forms the basis for knowledge. Yet knowledge goes one step farther: It encompasses the beliefs of groups or individuals, and it is intimately tied to action. Beliefs, commitments, and actions cannot be captured and

represented in the same manner as information” (Von Krough, Ichijo and Nonaka 2000, p. 27).

2) Tacit Knowledge:

In this study, experiential knowledge is assumed to be relevant to organizational goals and not obsolete. Michael Polanyi (1966) is considered the founder of the tacit knowledge concept. He defined it as a type of knowledge that cannot be directly transferred. It is difficult to articulate to others because it is internally remembered knowledge earned through the context of personal experience, perspective, belief and values. Organizationally, it is gained by on-the-job experience. In order to share this tacit knowledge with others, it must first be translated into an explicit form such as speaking, writing, or demonstrating the task. Then, as others become proficient, they internalize the tacit knowledge for themselves.

Tacit knowledge is contrasted with explicit knowledge. "We classify human knowledge into two kinds. One is *explicit knowledge*, which can be articulated in formal language including grammatical statements, mathematical expressions, specifications, manuals, and so forth. This kind of knowledge thus can be transmitted across individuals formally and easily. This has been the dominant mode of knowledge in the Western philosophical tradition. However, we shall argue, a more important kind of knowledge is *tacit knowledge*, which is hard to articulate with formal language. It is personal knowledge embedded in individual experience and involves intangible factors such as personal belief, perspective, and the value system. Tacit knowledge has been overlooked as a critical component of collective human behaviour" (Nonaka and Takeuchi 1995, p. viii).

3) Knowledge Worker:

A knowledge worker is an employee or professional whose work demands substantial autonomy in decision-making, judgment, wisdom, equity, fairness and professional skepticism. They are not limited to any specific occupation or job level, but are growing into more workfields along with the knowledge-based economy jobs.

Von Krough, Ichijo and Nonaka (2000) highlight "... the multiple talents this new worker must have. He or she needs to be a thinker, a team player, a team leader, a critic, an autonomous decision maker -- adaptable, responsible" (p. 12).

Knowledge Management (KM)

Knowledge management is sometimes considered a misnomer as knowledge is difficult to manage and measure. Von Krough, Ichijo and Nonaka (2000) dispel the idea of managing knowledge, and recommend enabling it instead. "Knowledge management is best described as a process in which information is transformed into actionable knowledge and made available to the user" (Nilakanta, Miller and Zhu 2006, p. 85 quoting Allee, 1997). It includes technological methods to record and disseminate information and the experiential knowledge that has been transformed into explicit knowledge, recorded and retained. Then, the knowledge can be shared and used throughout the organization.

This field of knowledge includes organizational memory. This refers to the storage and subsequent usage of documents and records within an organization as well as tacit knowledge of its employees. It is a broad concept that encompasses knowledge from technical to social, and is used to support decisions. Some weaknesses are

described in the knowledge storage and retrieval efforts. Knowledge storage is shown to be somewhat labour intensive and retrieval is often confusing. This knowledge is routinely being transcribed into an IT-based knowledge management system as a solution for retaining knowledge. However, Mylonopoulos and Tsoukas (2003) realistically point out the labour-intensiveness and risk of obsolescence of this process, whereby individuals tasked with recording and system data entering quickly lose interest. The knowledge is not being kept alive in this manner. Personal connectiveness is lost, and tacit knowledge becomes a batch of information data rather than a “repository of knowledge” (Nilakanta, Miller, Zhu 2006, p. 88)

There is difficulty involved in referencing and retrieving the appropriate knowledge to be used as an experiential guide for future work. In agreement, Mylonopoulos and Tsoukas (2003, p. 140) add, “...it is practically difficult and time-consuming for anyone to distance himself from the context of his work and to describe that context explicitly for the benefit of unknown potential future users of that information.” Distance makes it difficult to understand context, and users have difficulty interpreting, adopting, and applying the knowledge through IT-mechanism sharing attempts.

Organizational Learning (OL)

The organizational learning perspective “focuses on learning that occurs through interactions among members of an organization, such as cross functional teams and communities of practice” (Okes 2005, p. 26). “Organizational learning is seen as a means to develop capabilities that are valued by customers, are difficult to imitate, and hence contribute to competitive advantage” (Crossan and Berdrow 2003, p. 1089).

An encompassing view of organizational learning (OL) was comprehensively studied by Bapuji and Crossan. Their 2004 article encapsulated 123 articles which took stock of empirical research. They noted phenomenal growth in article production since the late 1990's in concurrence with strategic issues, especially associated with mergers and acquisitions. Beyond a firm's internal learning processes, they found that external learning was a major focus and summed up three types:

- 1) *Congenital learning*: from the experience of the industry as a whole
- 2) *Vicarious learning*: from other rival firms
- 3) *Inter-organizational learning*: from alliances, collaborations and joint-ventures

Experiential knowledge partners became sought for their diverse perspectives which enrich the organization as they collaborate.

Organizational learning went through an evolutionary phase of debating terminology. Eventually this type of debate was determined to be non-productive, and OL researchers arrived at a consensus on the complexities of learning. They acknowledge that complexity substantiates the measurement problem of qualitative learning and knowledge factors but adds to the richness of learning. Regarding performance, the evolving research changed from struggling to explain whether learning leads to a firm's higher performance, to focusing on when and why it does.

A contemporary author, Peter M. Senge, has successfully bridged the academic and practitioner views of OL, and is credited with popularizing the learning organization term. In "The Fifth Discipline"(1995), he describes the "basic meaning of a 'learning organization' -- an organization that is continually expanding its capacity to create its future" (p. 14). He advocates holistic systems thinking to steer personal disciplines in

strategic alignment with shared corporate vision. Team learning is the most important activity in an organization as he profoundly stated, "...unless teams can learn, the organization cannot learn." (p. 10)

In a 2003 scholastic OL article, Crossan teamed with Iris Berdrow to link OL with strategic management. They studied the Canada Post Corporation workplace which was the most similar workplace structure to the federal government agency in this study. They explained that exploitation (production) and exploration (learning) need to occur simultaneously. As workers learn on the job, their feedback is vital to determine the effectiveness of the training. These communication feedback loops detect gaps between current knowledge levels and the knowledge level necessary to meet production goals. Then, training can be improved and provided to close the gaps.

Segmenting the learning process into a pattern reminiscent of Michael E. Porter's value chain, Crossan and Berdrow (2003) created the "4 I" framework to explain the three learning levels of a firm. The individual, group and organizational levels were shown to cross-reference with knowledge transfer processes of intuiting, interpreting, integrating, and institutionalizing. The individual intuits and interprets, the group interprets and integrates, and the organization integrates and institutionalizes.

The following are the "4 I" factors:

- *"Intuiting*: experiences, images, metaphors
- *Interpreting*: language, cognitive map, conversation and dialogue
- *Integrating*: shared understandings, mutual adjustment, interactive systems
- *Institutionalizing*: routines, diagnostic systems, rules, procedures" (Crossan and Berdrow, 2003, p. 1090)

This model represents the natural progression of translating tacit knowledge into explicit knowledge to be captured and retained in an organization.

The Resource-Based View (RBV)

The resource-based view (RBV) discipline holds corporate importance as “one of the most widely accepted theoretical perspectives in the strategic management field” (Newbert, 2007 p. 121). It considers resources that flow into the production of products and services, and how the firm gains improved performance by their efficient and effective use. Two articles were reviewed. One article explained Edith Penrose’s fundamental RBV writings; the other, was a comprehensive overview of many empirical articles.

Lockett spotlighted Edith Penrose’s seminal writings which illuminated learning as a resource competency. The attributes of value, rarity, inimitability and organizational processes must be present for a firm to have a sustainable competitive advantage. Consequently, knowledge is a form of inimitability. This is especially true if a firm’s knowledge base has developed over path-dependant shared work experiences. RBV of learning is a long-term process with a purpose of strengthening internal resources for extended use. “Central to the Penrosean firm is learning” (Lockett, 2007 p. 86).

Penrose was very clear about the value of experiential knowledge and expressed that members can only learn over time by doing. Her work set the stage for subsequent development of the competencies area of study. This is relevant to the competency-based employee performance rating system currently in common use.

There is a value measurement problem in the RBV, in that no two firms are alike in their value of experience and corporate knowledge. Traditionally, this creates a situation where a firm's untapped tacit knowledge value may be overlooked because it is not directly shown on the financial statements. According to Scott L. Newbert (2007), empirical results show a competitive advantage is attained with capabilities and core competencies, not resources. Indirectly, he confirms Edith Penrose's view -- it is what you *do* with what you have that is important, and in fact, "the trend toward examining capabilities and core competencies as opposed to resources is on the rise" (Newbert, 2007 p. 137).

Von Krogh, Ichijo and Nonaka (2000) described the payoff. "Knowledge enabling involves a mix of deliberate decisions and going with the flow. Although managers can certainly influence the process, they may need to reassess their own work style and social interactions. But there *is* a payoff -- long-term growth, sustainable competitive advantage, and the kind of culture of innovation that can ensure a company's future..." (p 17).

Developing and Maintaining a Teaching Culture

A workgroup needs to be supportive of collaboration, empowerment and action-taking to develop a teaching culture. Culture can cause an innovation barrier, especially if the artifact is tradition. It may be difficult to change when the workers feel they have always done something a certain way, feel it has worked for them, and see no reason to expend the effort to change. "An organization's culture is the combination of a shared history, expectations, unwritten rules, and the social mores that affect the behaviour of everyone involved. ...A culture is that set of underlying beliefs, and while difficult to

articulate exactly, they are always there to influence knowledge-sharing actions and communications” (Preston D Cameron, 2002 p. 21).

Caring about others is a vital component of creating a teaching culture.

According to Von Krogh, Ichijo and Nonaka (2000, p 9), “...knowledge creation has to happen in a caring atmosphere, one in which organizational members take an active interest in applying the insights provided by others.” The authors expanded on the concept of care by encompassing the vital components: "mutual trust, active empathy, access to help, lenience in judgment, and courage” (p 49).

Verna Allee (2000) concurred with the value of socialization for long-term benefits. She advised companies to make the subject matter experts more visible. That way, other members of the firm can recognize and contact them to share experiential knowledge. The author also suggests building and continually updating an expertise and learning profile of the community of experts and knowledge seekers.

Preston D. Cameron (2002) discussed that “learning and sharing knowledge are social activities” (p. 22). The reasons for teaching were on a continuum from repaying an obligation to gift-giving. For instance, as an individual gives and takes knowledge, they will feel a mutual obligation to continue the learning and teaching as it builds their team success. Therefore, Cameron’s article recommends the reciprocity of teaching *and* learning. In order to improve an organization’s knowledge sharing culture it is important to develop collaborative relationships. Also, leadership needs to be provided based on mentoring and inspiring instead of command-and-control.

In the article by Scott E. Bryant (2005), the author gave reasons why an individual would be willing to mentor a peer when this behaviour is voluntary and not directly

rewarded or included in performance evaluations. He discussed organizational citizenship behaviours (OCBs). This is provided as the reason why employees go the proverbial extra mile in their work efforts. It is related to satisfaction with their job, their organization and their leaders. Also, it occurs when the individual is intrinsically satisfied with their work. Although this seemed to describe the situation surrounding teaching activities, it did not appear to explain the core reason why individuals teach.

Cameron recognized that “The source has to be *generous* enough to devote the time the recipient needs to truly understand, adapt to, and implement the practice” (Cameron, 2002 p. 22), but also fell short in explaining what would cause this generosity. This leaves the reader to presume that the reasons are as unique as each teacher.

Barriers to Experiential Knowledge Transfer

In the article, *The subtle art of learning through alliances*, Mary Crossan and Andrew Inkpen (1995) discussed the learning transfer between two joint-venture firms, one Japanese and one American, and explained barriers to organizational learning. This study was selected because it translates well to inter-departmental experiential knowledge transfer processes. The authors indicated that knowledge workers miss experiential learning opportunities by discounting views that are in conflict with their existing set of beliefs. They poignantly remind us that people will see things when they believe it.

Non-receptiveness to learning indicates reluctance to admit there is a knowledge gap. In Crossan and Inkpen’s study, the American firm president argued irrelevancy, even though the firms produced virtually identical products and established the project to learn from each other. The difference in skill levels created an ambiguous environment.

The two cultures were unprepared to find a common frame of reference in order to learn from each other.

Another barrier to experiential learning was caused by the American firm's prior success in goal-oriented independent enterprise and their consequent narrow perspective. The American firm assumed the Japanese would learn from them, not vice versa. Although they expected quick fixes, the American firm members were surprised by the Japanese firm's philosophy of simplicity and continual improvement. While elusive home-run projects are the high-impact favorite, the often overlooked incremental performance improvement projects are the long-term knowledge capacity builders.

In "Enabling Knowledge Creation", Von Krogh, Ichijo and Nonaka (2000) listed many barriers to experiential knowledge transfer. The main barrier is the confusion between information and knowledge. An effort to overly-control knowledge keeps it in the form of information and does not encourage innovation to creatively problem-solve or allow the sharing of justified true belief. Information-technology tools often constrain the focus on the process instead of the purpose of the task. The trade off for speed and consistency with computerized methods is the loss of "creativity, insights, and the forging of necessary social links" (p 28). Their profound quote is "the toolbox is secondary to the carpenter" (p 28). Further barriers were hypercompetitiveness (the opposite of enabling and caring) and the consequential hoarding of knowledge.

In "The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation", by Ikujiro Nonaka and Hirotaka Takeuchi (1995) the authors recommend a consideration of the Japanese view of experiential knowledge transfer, instead of the scientific and mathematical-based Western philosophy. They consider

over-reliance on manuals, books and lectures to be a barrier to experiential knowledge transfer. As a solution, they recommend balanced attention to subjective insights, intuition and informally transferred experiences.

Methods that Facilitate Experiential Knowledge Transfer

In Mary Crossan and Andrew Inkpen's article, the two joint-venture firms ran head-on into the tacit knowledge transfer conundrum as they tried to learn from each other. The authors suggested a method to share tacit knowledge. Each worker, as they are learning, could be concurrently preparing themselves to teach. They recommended that a learner will be more aware of the learning event if they know they will be responsible to teach it later. The learner would be motivated to listen intently, ask questions, and document the learning in order to successfully transfer it.

In the interview article with Beth Scofield (2000), Robert Sutton recommended combining learning with doing. This will better ensure the learner has gained the skill and will later *use* the knowledge when faced with a different or more complex problem. He labeled some passive learning as a perfunctory training exercise; it is a loss when there is no change in the learner's behaviour. His training process encourages learners to journalize their experiences at the end of each day, provide feedback to their coach, and collaborate with other learners by e-mail. With feedback, the trainers were able to offer advice based on their own experiences. Also, this contact increased understanding among the learner group as they could collaboratively read and respond to each other.

A similar view by Walter Swap et al (2001) linked learning by both thinking and doing. The article recommended vibrant case studies to accelerate the experiential

learning process through vicarious experience. This enables interpreting and sense-making. This cognitive knowledge sharing process was described as organizationally-aligned “storytelling”. Metaphors and analogies are used for clarity and memorable learning. As groups learn in this manner, they develop shared experiences and philosophies. It is helpful for future work. Learners recognize the patterns of the scenarios and when they are faced with them again they more effectively determine their plan of action. This form of facilitating experiential knowledge transfer is recognized as mental models which will influence action.

Further to the article by Walter Swap et al (2001), their second recommended method of transferring knowledge in the workplace is mentoring. The authors suggest refining the mentorship function to ensure the teacher and learner partnership is effectively matched. They recommend the knowledge levels between the two to be a definite level difference; not so vast for the mentor to lose patience in the learner, but close enough to share a frame of reference and for the mentor's advanced knowledge to be a credible source. Blending the methods of mentorship and storytelling, the authors advise that a lesson taught in conjunction with an experiential story is more believed by the learner than just the factual directive.

Storytelling and mentorship is also recommended by Albert (2000) as he quoted Pfeffer and Sutton (2000), “... most of the knowledge that is actually used and useful is transferred by the stories people tell to each other, by the trials and errors that occur as people develop knowledge and skill, by inexperienced people watching those more experienced, and by experienced people providing close and constant coaching to newcomers” (p. 20).

Several best practice recommendations were provided. Experiential knowledge sharing methods include lateral job transfers, small groups, and self-managed work teams. Further, member interactions were cited as vital to learning, in “cross-functional teams and communities of practice” (Okes, 2005 p. 26). The term *communities of practice* was described as a network by Albert (2006). “The dialogue process, coupled with the HR manager’s supportive and facilitative behavior, provided a fertile climate for communities of practice to grow” (p. 19).

Muthusamy, Wheeler, Simmons’ 2005 article succinctly proposed self-managed work teams as one of the best methods for experiential knowledge transfer. They prescribe this as a method of commitment-building which leads to a culture of involvement. They quoted Senge (1990) about the benefits of tacit knowledge capture as “Self-managed work teams are considered one of the effective mechanisms to tap the tacit and experiential knowledge of individuals because they offer the motivational incentives, organizational flexibility, and dynamism required for learning and sharing knowledge.”(Muthusamy, Wheeler, Simmons, 2005 p. 61).

A contrasting study accomplished by Simone Kauffeld (2006), challenged the effectiveness of self-directed work groups and compared it with traditional work groups. Although self-directed work groups demonstrated greater methodological competence as they developed their results-oriented work style, they incurred increased conflict regarding task delegation, deadlines, and fair remuneration.

In their 2000 book “Enabling Knowledge Creation” (p.5), Von Krogh, Ichijo and Nonaka describes five *knowledge enablers*-- (1) instill a knowledge vision, (2) manage conversations, (3) mobilize knowledge activists, (4) create the right context, and (5)

globalize local knowledge. They suggest that extended conversations and relationships help determine tacit knowledge value and utilization. Further, they specify “...organizational knowledge creation involves five main steps: (1) sharing tacit knowledge, (2) creating concepts, (3) justifying concepts, (4) building a prototype, and (5) cross-leveling knowledge (p. 7).

Ikujiro Nonaka and Hirotaka Takeuchi (1995) recommend all employees be treated as a knowledge worker and as a valued member of the crew. They recognize the usefulness of ambiguity, and provide the following knowledge creation methods:

Three Characteristics of Knowledge Creation:

- 1) “First, to express the inexpressible, heavy reliance is placed on figurative language and symbolism.
- 2) Second, to disseminate knowledge, an individual’s personal knowledge has to be shared with others.
- 3) Third, new knowledge is born in the midst of ambiguity and redundancy” (Nonaka and Takeuchi, 1995 p. 12).

Ambiguity is embraced. It leads to fresh ways of thinking as “new knowledge is born out of chaos.” (Nonaka and Takeuchi, 1995 p. 14). Also, repetition is effective for learning with frequent and familiar dialogue.

In summary, tacit knowledge is a product of experience. It is held within the mind of the experienced knowledge worker. In order to be shared and retained in an organization for improved competitive advantage and to accelerate the competency level of the organization, the knowledge needs to be translated into an explicit form. The knowledge needs to retain the context through transmission, so the learner will recognize

the pattern of when to apply it appropriately. Based on the literature review, in the following primary data research this study will attempt to determine the most effective and efficient experiential knowledge transfer methods, and endeavor to determine the factors necessary to develop and maintain an organizational teaching culture. Mainly, the following topics will be explored in the primary research process:

- previous experiential knowledge and its' relevance
- difficulty in translating tacit knowledge into explicit form to enable knowledge transfer
- current collaboration within communities of practice, cross-functional teams, and with external knowledge sources
- belief in the value of sharing experiential knowledge across similar and different work levels
- competitiveness as a potential barrier to knowledge sharing
- proximity to retirement and its effects on competitiveness and the tendency to mentor or teach others
- level of dependency on information technology as a potential substitute for experiential knowledge transfer
- level of caring for others as it influences knowledge sharing

Chapter Three: Methodology

The primary research was conducted by four methods:

- 1) Employee survey
- 2) Training Coordinator interviews
- 3) Manager questionnaire-based interviews
- 4) Training Facilitator focus group

The survey (Appendix 1) was conducted in the researcher's workplace among peers and co-workers. This work is highly knowledge-based and requires analytical skills, effective interactive communication, and time management to administer and enforce legislated policy and procedures. Employees at all levels exercise independent logical reasoning and fair decision-making. Senior positions include the most complex accounts with legal implications.

All surveys were hand-delivered with a brief conversation explaining the study purpose and confidentiality measures. A complementary coffee coupon was offered at the outset, regardless of survey completion. The survey spanned two weeks in December which is a non-peak operational season. The survey questions were designed to determine the level of impending retirement, experiential knowledge held by individuals, and knowledge transfer currently happening in the workplace.

Experiential knowledge was measured by years of employment and work in multi-departments, other assignments and committees. Questions were asked to find out why and how people share their experiential knowledge. Formal and informal methods of knowledge transfer were investigated, such as mentorship and cross-divisional

collaboration. Conversely, questions were asked about barriers to teaching in order to find ways to mitigate them.

Immediately after the survey was completed, the Training Coordinator interviews (Appendix 2) were conducted. Training Coordinators were interviewed for their unique perspectives on organizational learning needs, knowledge uses, challenges and successes. Questions focused on the effectiveness of efforts to facilitate experiential knowledge transfer. Technology-based methods were questioned, including computer-based-training and intranet. Also, informal knowledge sharing activities were discussed. The research goal was to discover what methods are effective and where knowledge transfer gaps exist.

Later, Management interviews (Appendix 3) were conducted to supplement the employee survey. As managers support employees' learning and determine relevant methods to gain proficiency in accordance with the Resource Based View, their opinions add valuable insights to this research. This was a questionnaire-assisted interview and the questions and response request were sent by electronic mail. The managers were asked about technology, the effectiveness of experience-based learning transfer methods, barriers to knowledge sharing, the effect of change, and the effects of sharing knowledge across multiple job levels. Responses were received in a combination of return e-mail and interview meetings based on the availability of the participants.

The Focus Group meeting was the final primary research event (Appendix 4). Participants were selected based on their prior training experience and interest, and they were invited to the focus group meeting by e-mail. They were informed of the topic, but not the specific questions before meeting. Various media forms such as word-mapping

and brainstorming were used to inspire candid dialogue for subsequent questions. The core questioning stream was to determine why people teach, in order to understand how best to develop a teaching culture in an organization.

Limitations:

The success of experiential knowledge transfer is difficult to quantify, so results may be prone to subjectivity. To reduce bias, the researcher has utilized a diverse literature base, large survey sample and additional independent interview responses from a variety of sources.

The timing of the survey, interviews and focus group spanned three months. Each research event was completed before initiating the next. The survey was completed within a two week response timeframe in December. The Learning Coordinator interviews were completed after the survey. Then, an unavoidable delay occurred due to an internal job posting. The researcher postponed the managerial interviews and focus group meeting to avoid any potential conflict of interest during the selection and hiring process. Consequently, the latter research events were held during a peak operational season spanning February and March which apparently caused lower participation. However, a reasonably supportive sample size was still obtained.

Advancements:

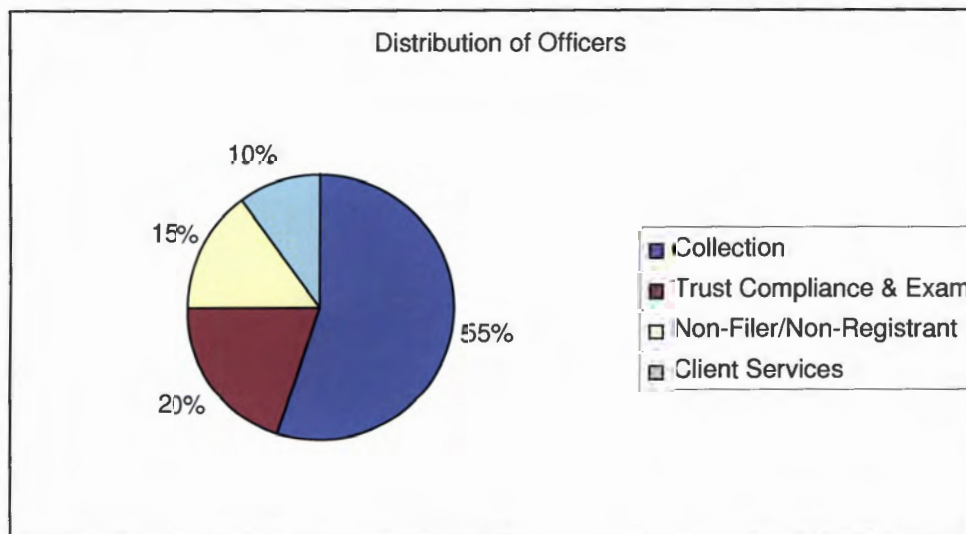
This project attempts to facilitate a more effective and efficient learning environment by discovering applicable, innovative ways to transfer tacit experiential knowledge.

Chapter Four: Analysis

1) Survey

The survey response rate was 92.4%. 61 surveys were completed from a survey base of 66 available employees. According to the survey results, the average length of time participants worked at the agency division was 6.84 years. The shortest time since hiring was one year, and the longest time was 16 years. The participant group spans four work sections. As shown in Figure 1, 55% of participants are Collection Officers, 20% are Trust Compliance or Trust Exam Officers, 15% are Non-Filer/Non-Registrant Officers, and the remaining 10% are Client Services Officers.

Figure 1. "Distribution of Officers"



Three work levels were included in the Programme Administration (PM) field and the division is as follows: 59% employed as PM1, 36% are PM2, and 5% are at the PM3 level.

There is a wide mix of work experience as many officers have worked on special assignments, other work sections, and some other offices and agencies. 67% of all

participants worked on assignment in the last two years. At any time in the past, 61% of the participant group has worked in other work sections, 15% of employees have worked in other Tax Service Offices and 28% have worked for other Federal Agencies.

Combining all Federal Government employment, the average working time is 9.35 years. 98% of respondents felt their Tax Agency experience was beneficial when sharing knowledge, but only 76% felt their previous work experience was. Concurrently, 54% of surveyed employees participated in committees within the last 3 years which enriches their experiential knowledge of agency-supported activities.

The level of pending retirement is high. 22 people, or 36% of the entire division, plan to retire within the next 10 years. Table 1 shows this group total divided into two columns: "In 5 years" plus "6 to 10 years" until retirement. Coincidentally, the same number of people are in a career-development stage and are more than 10 years away from retirement. Table 1 signifies this group in the row marked, "Yes" in the career development stage and in the column "Over 10 years" until retirement.

Table 1. "Retirement timeframe and career development phase matrix"

<i>Retire</i>	In 5 years	6 to 10 years	Over 10 years	Total
<i>Develop</i>				
Yes	0	3	22 (36%)	25
Maybe	3	5	10	18
No	7	4	7	18
Total	10	12	39	61 people

22 people, or 36%

Although no participants supervise any others, the level of mentorship is high. 46% of participants, 28 people, are involved in mentoring 47 others in the workplace.

When asked if they mentor formally or informally, only one was an exclusively formal mentor, 24 people are informal mentors, and 11 people are both, for a total of 36 mentors. Subtracting the 28 previously identified *workplace* mentors, the survey concludes that 8 people are in a mentorship role outside of the workplace environment. 33% of PM1s, 55% of PM2s, and 100% of PM3's self-identify as a mentor. PM3's are formally tasked with providing technical advice for the development of all others, so this undoubtedly contributes to the 100% score.

Regarding technology in the workplace, the participants were asked how greatly they believed they were freed from routine work by the intranet and macros. (Macros are software programs that locate pre-defined information fields and gather specific data. This eliminates many keystrokes and screen searching for the worker.) The average response was 6.08 on a scale of 1 to 10; 10 being the greatest. The next survey questions involved definitions. Out of 10 descriptive words for effective facilitator characteristics, the top three favorites were well organized, patient and open-minded. The lowest-ranked characteristics were bright and empathetic.

When asked if they share experiential knowledge with co-workers, 100% of respondents said they do within their team. The scores decreased to 90% within their department, and diminished to 70% across different departments. In a subsequent question, 10% of participants said they do not advise others about their work. Since 100% share experiential knowledge, 10% appear to consider that sharing to be non-advisory. 23% of participants do the majority of advising with 10 times or more per week. Multiplying the times advice was given by the number of participants, there are 240 to 320 incidents per week of advice-giving in this workplace.

This advice-giving does not always increase the confidence or decision capability of the knowledge recipient. 13% of respondents believe the learners always became more confident in their work because of the teachers' shared experience. 71% were believed to be confident sometimes, and 16% were not sure. Whether the learner made better decisions after being advised was equally ambiguous, with only 7% always sure, 72% sometimes, and 21% not sure.

The survey participants' own confidence about workplace skills, abilities and knowledge scored high for the majority. The average was 7.82 on a scale of 1 to 10 with 10 being the highest. The lower score outliers were one person for the score of 3, one for 4, and one for 6. The high outliers were 2 people who scored 10. 92% of respondents scored their confidence within 7, 8 and 9.

Next, the value of sharing experiential knowledge was tested with a series of three 5-point Likert scale questions. Participants were asked how valuable it was for them to teach and to learn from 1) peers, 2) co-workers of a higher job level, and 3) co-workers of a lower job level. In all cases, the respondents said it is more valuable to learn from others than to teach them by a marginal difference of 1) 13% for peers, 2) 16% for co-workers of a higher job level, and 3) 10% for co-workers of a lower job level. The average of all three levels show 48% of respondents believe it is *extremely valuable* to learn from others and an average of 37% thought it was extremely valuable to teach others for a marginal difference of 12%.

The reasons why people teach others were further explored by two differently styled questions as shown in Table 2. The first was a ranking exercise of six different reasons why the respondent might provide experiential knowledge to others. Space was

provided for any other reasons to be written in, but only a trace responded to that information field so it was disregarded for analysis. The second question involved a rating scale for each reason on its own. Although the wording of each answer was equivalent, (the second question had slightly abbreviated answer phrases) the results were different.

Table 2. "Knowledge sharing reasons"

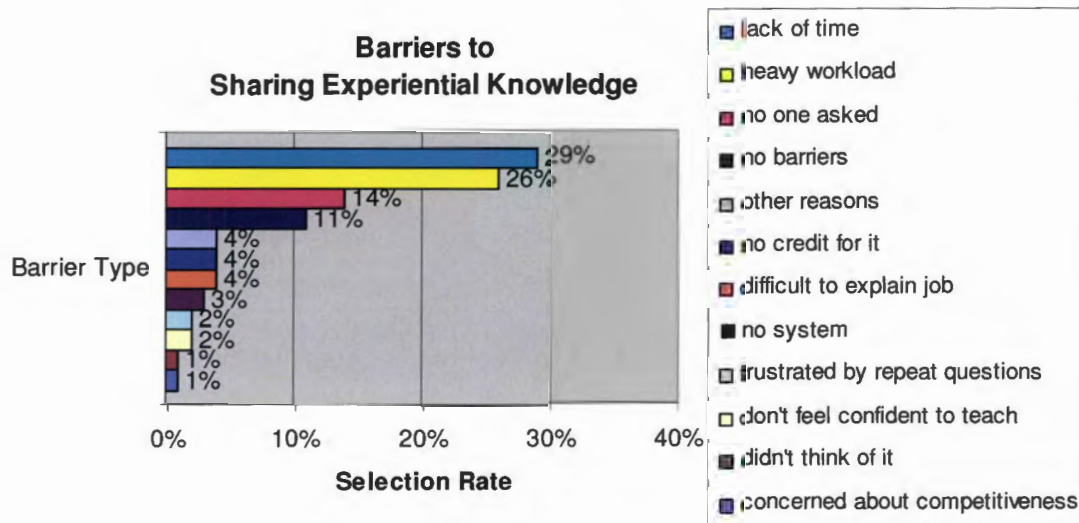
Importance of Knowledge-Sharing Reasons: Two Measures		
Order of Importance:	Ranking Measurement Response	Scale Measurement Response
1st Place (most important)	Collaborate with others	Build own work skills
2nd Place	Build own work skills	Everyone does correct work
3rd Place	Enjoy giving help to others	Collaborate with others
4th Place	Everyone does correct work	Enjoy giving help to others
5th Place	Benefit the organization	Benefit the organization
6th Place (least important)	Social interaction	Social interaction

The next two questions isolated the factor of *caring*. Again using Likert scale questions, participants were asked if they provide experiential knowledge to 1) people they care about, and 2) people they don't care about. This question was designed to determine if caring is a vital component of sharing experiential knowledge. The results were wide-spread. 50% of participants *always* provide experiential knowledge to those they care about while only 33% always provide to those they don't care about. This difference represents a 34% margin. At the other end of the scale, 7% of respondents *rarely* provide to those they don't care about. Responses did not reach this low when the respondents cared for others.

Barriers to sharing experiential knowledge were explored and the responses are represented in Figure 2. Respondents were encouraged to check all factors that applied to them. 11% of participants claimed to have no barriers. The highest three ranking

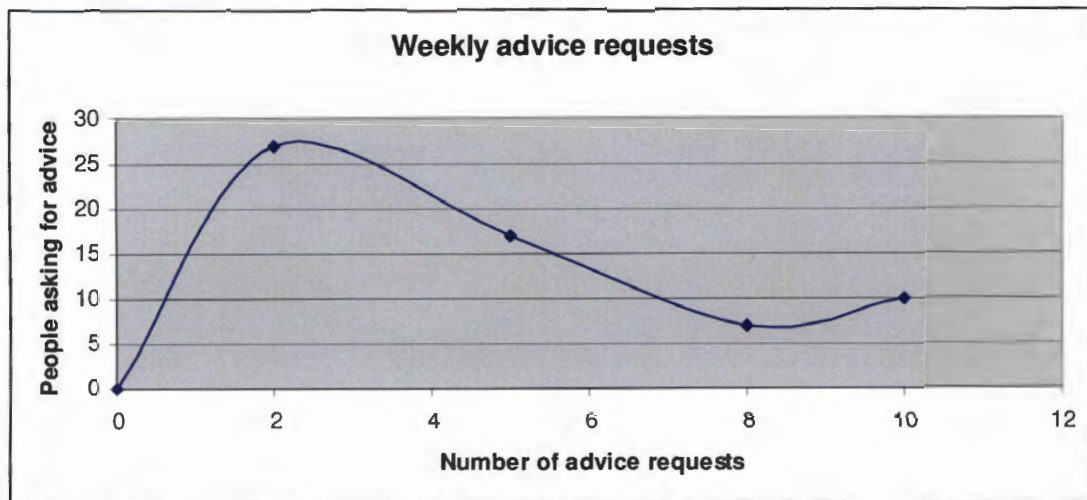
barriers were (1) lack of time, (2) heavy workload, and (3) no one asked them. Other barriers that participants added in the comments section related to not being appreciated for their experiential knowledge and others not being receptive to the knowledge they offer.

Figure 2. “Barriers to sharing experiential knowledge”



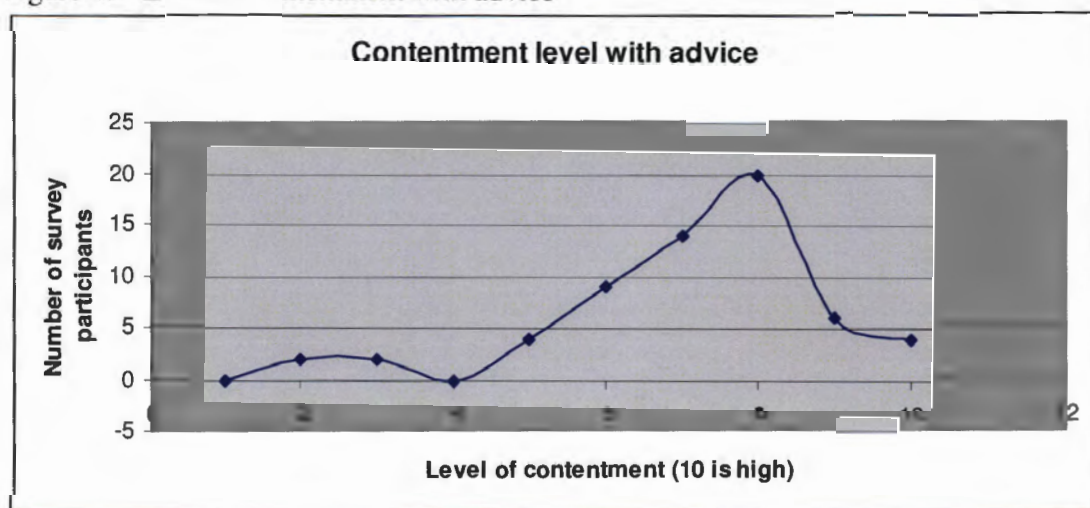
The final questions were about the advice the participants *received* from others. All participants ask for some advice during an average work week, and the majority asks others for advice between one and three times. Figure 3 indicates the amount of people who ask others for advice on the Y-Axis and the number of times they ask for advice on the X-Axis. Multiplying the times people ask for advice by the number of people, there is a total of 295 instances of advice requests per week. The purpose of this question was not to indicate any need to reduce the number of requests for advice, because this is vital to an individual's quest for knowledge and work improvements, but rather to determine if communication channels may need streamlining. This study aims to find efficiencies in knowledge transfer methods.

Figure 3. "Weekly requests for advice"



The final question involved a 10-point rating scale to determine how satisfied the advice-seekers were with the responses they received in the workplace. Figure 4 illustrates that 87.5% of survey participants rated their contentment level at the high side of the spectrum between 6 and 10 points. Almost half of the entire group, 49.5%, was in the 8, 9, and 10 point range. 12.5% of participants rated their contentment level at 5 points and below. The average contentment level was 7.03 points.

Figure 4. "Level of contentment with advice"



The survey results were then analyzed to find relationship patterns. The results were sorted into 4 groupings: (for groupings, see Tables 4-7)

- 1) Employees planning to retire within 5 years
- 2) Employees planning to retire within 6 to 10 years
- 3) Employees planning to retire after 10 or more years
- 4) All employees who are in their career development stage

Group #4 contains some of the same members as groups #2 and #3, but is used as a cross-reference.

As shown in Table 3, the purpose of this sorting was to determine what group does most of the mentoring, which groups enjoy helping others, which groups teach others for career-development purposes, and which groups perceive they have the fewest barriers to share their experiential knowledge. The goal was to determine the attributes of informal teachers in this organization.

Group #1 ranked the enjoyment of helping others in 5th place, and preferred to collaborate with others to share experiential knowledge. 20% of Group #1 mentor others. Group #2 enjoys helping others above all other groups, ranking this reason in 1st place compared to the other groups who ranked it in 4th and 5th place. Group #2 also contained the most participants who claim to have no barriers to share experiential knowledge at 33%. Their 50% involvement rate in mentoring others was commendable. Yet, Group #3 and #4 exceeded that mentoring involvement rate at 51% and 64% consecutively. Group #4 claimed an equivalent 32% lack of barriers. The main difference was their reason for sharing experiential knowledge. It was to collaborate with others. Referring back to the difference between question #28 and #29 on the survey, #28 was answered by

the majority of all participants to be, "It is important to collaborate with others".

Question #29, when asked a slightly different way, was "to build work skills." These answers are closely related as knowledge workers blend collaborative learning with competence building.

Table 3. "Group teaching factors and reasons"

	Group 1 5 yrs or <	Group 2 6 - 10 yrs	Group 3 >10 yrs	Group 4 Developing Career
Amount of people	10	12	39	25
Developing career	0	3	22	25
% with no barriers	20%	33%	20.5%	32%
% who mentor others	20%	50%	51%	64%
#1 reason to share experiential knowledge	Collaborate	Enjoy helping others	Collaborate	Collaborate
Rank (1-6, 1 is high) Enjoy helping others	5th place	1st place	4th place	5th place

2) Training Coordinator Interviews

The interview response rate was 100 %. 3 interviews were completed with all available Training Coordinators. Each of the three experienced training coordinators had similar definitions for coaching, facilitating, sharing knowledge, teaching and training. *Coaching* is guiding someone to identify their goals, *facilitating* is leading a group discussion session on a particular topic, *sharing knowledge* is an informal and more experiential transfer, *teaching* is a formal process and is associated with the qualified teaching profession, and *training* is a hands-on learning experience to attain a specific goal.

The importance of mentorship and coaching for effective learning transfer was high, averaging 32.5% each. Learning circles ranked 15%. Some found the meetings

highly effective, and others not. Casual conversations were ranked at a 12.5% importance. 7.5% importance was placed on formally sharing experiential knowledge.

The participants became Training Coordinators for several reasons, including being a life-long student, and having the desire to be involved in the learning landscape of the office. They found technology beneficial but with trade-offs. Information is readily available on intranet, but learners seem to gain more knowledge from interactive person-to-person sessions.

There is strong employee support and response for learning events, and it is not difficult to obtain course attendees or find people willing to teach courses. On a scale from 1 to 10 with 1 being the highest interest, Training Coordinators ranked learner participation as 3. A similar ranking was asked about people sharing their experiential knowledge when asked, and that ranked 3.67 on a scale from 1 to 10 with 1 being the least difficulty.

When experienced workers are asked to teach and it is a reasonable request, they usually will. They take time away from their regular workloads to facilitate coaching or workshop sessions and contribute additional energy for the benefit of their co-workers. Because of this contribution, those who teach require support from their workplace and co-workers. Especially, their time needs to be respected.

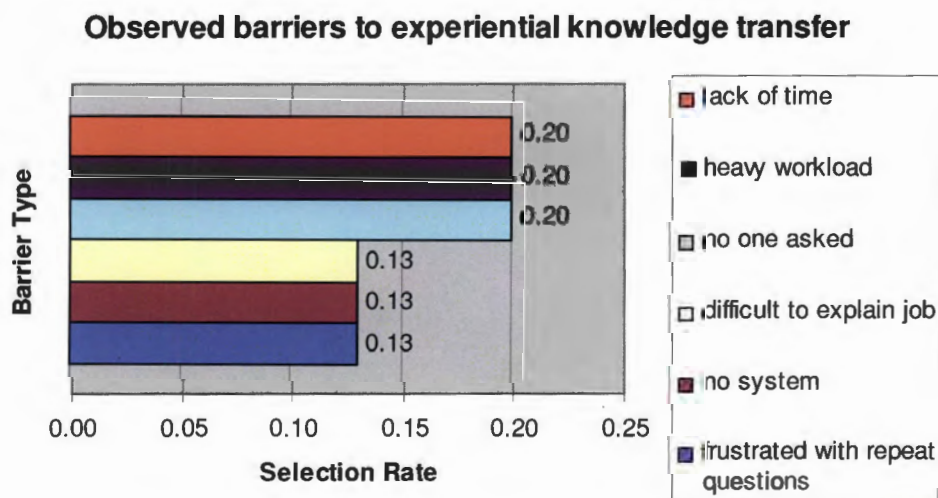
Feedback from learners can be improved. Evaluation forms are used, but minimally effective. Conversation provides better feedback. For instance, Team Leaders often advise Training Coordinators regarding noticeable performance improvements. The methods that are found effective for experience-based learning transfer include the following: discussions for guidance, coaching, hands-on practice, and just-in-time

mentoring and coaching. These methods are mainly driven by learners who identify and request solutions for their own learning needs.

Some knowledge is provided from external sources, as governmental departments meet for regional sessions, or host departmental representative speakers. Subject matter experts are known by the Training Coordinators, but there is no defined formal contact process for systematic knowledge sharing.

As shown in Figure 5, observed barriers that prevent employees from sharing their experiential knowledge with others are similar to the employee survey for the first three reasons. These are: lack of time, heavy workload, and no one asked.

Figure 5. “Barriers according to Training Coordinators”

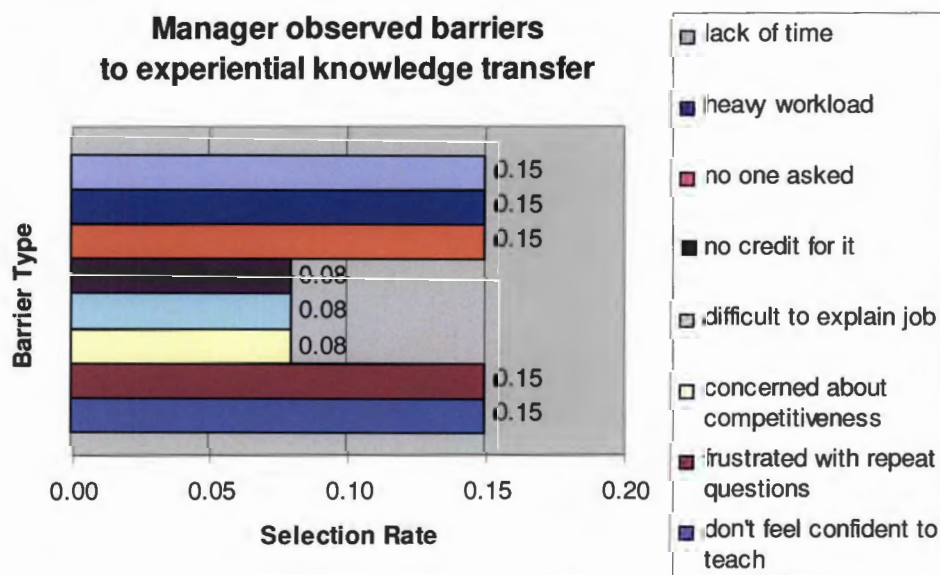


Peer-to-peer experiential knowledge sharing was thought to be beneficial and successful. However, knowledge sharing between differing work levels was thought to be just as effective as peer-to-peer. Individuals from all work levels are effective teachers because they often bring relevant experiential knowledge from a prior work section or prior career. In all cases, learners' specific needs must be matched appropriately with teachers' skills.

3) Manager Interviews

The interview response rate was 37.5 %. 2 interviews and one e-mail response were completed from a base of 8. Few managers were available during the peak tax-filing season, but a representative managerial perspective was provided. The observed barriers that prevent employees from sharing experiential knowledge with others are shown in Figure 6.

Figure 6. "Barriers according to Managers"



The survey and both interview groups all show the top barriers are lack of time, heavy workload, and that no one asked the employee to share their knowledge. Managers are highly aware of the time and budgetary constraints affecting production targets and learning needs as they work to support both. They work to ensure that learning is provided to those who need the knowledge first and that it should be provided based on a person's individual plan, not only their current work position. Pre-scheduled formal courses still prevail, but an emerging trend is to have shorter workshops or ad-hoc

knowledge sharing groups. This provides knowledge that is relevant and responsive to the imminent learning needs of many.

Peer-to-peer experiential knowledge sharing is seen as a great benefit to the organization based on the office history and shared culture. The office began as a small unit and the employees always worked together. They continue this sharing because they understand the struggles of gathering knowledge. Deservingly, the peer-to-peer method needs guidance to ensure that peers are sharing accurate knowledge and transferring effective habits. Experiential knowledge transfer between employees of different job levels is very relevant. The teacher-peer needs to be recognized as a credible, knowledgeable source for the most effective learning results. Also, employees bring a wealth of knowledge from their life outside the agency and the diverse learning experiences are appreciated.

4) Focus Group

The focus group attendee response rate was 35.7 %. There were 5 attendees from a base of 14 workplace teachers. Many were unavailable due to the peak tax-filing season. The focus group questions were designed to discover methods to transfer experiential knowledge and to determine what factors help develop and maintain a teaching culture.

Experiential knowledge discussion:

The focus group participants were experienced facilitators or coaches. They found the most effective ways to transfer knowledge was to have learners immediately practice what was learned. Instruction is best received in group interaction or discussion

when it involves basic, relevant situations. If the material is realistic or the case situation is “live”, it is more interesting and engaging for the learners. Also, memory reinforcement techniques like worksheets or quizzes are helpful.

The participants sometimes teach by using personalized stories about their experiences. They found this successfully highlights relevant topics and helps gain learners’ attention. It helps to describe what worked in a situation, and what mistakes to avoid. An example of memorable teaching was shared. One participant worked next to a subject matter expert from the banking industry. Through time, the banking experiential learning was transferred by repetitive conversation. The expert explained her teachings in a step-by-step manner which guided the learner to work through the process.

Knowledge transfer is difficult to define. A whole group consensus could not be made to define coaching, facilitating, sharing knowledge, teaching and training. The widest definition gap was between facilitating and teaching. Facilitating was defined by some as structured formal knowledge sharing in a classroom setting. Others saw it as an informal way to guide learners. The same people who saw facilitating in a formal way, saw teaching as more informal. They viewed an effective teacher as someone who asks many questions in order to draw answers and opinions from their students. In this way, they help students formulate their own thoughts.

Experience-based learning transfer was specifically discussed. The participants were asked what methods were most effective. A resounding 90% importance was placed on casual conversations. A participant said teaching is more effective “if the learner asks” rather than if knowledge is offered. The purpose is to determine how *interested* the learner is. There was strong consensus that people will offer their time to

teach someone who demonstrates sincere interest in the topic. The remaining 10% importance was placed on coaching and learning circle meetings in their current state. Meetings must be well managed in order to be effective with a clear purpose such as a specific topic or file to discuss and should be kept on track. A participant concisely said, “No one has time for an unproductive meeting.”

To remove barriers that prevent classroom participants from sharing their experiential knowledge, it is important to allow all class participants to have a voice in group dialogue. It can be challenging to involve all participants, but experienced group facilitators can encourage all group members to share their knowledge in a safe non-critical environment with mutual trust. Conversely, if a person's confidence is diminished by another's comments, they will not continue to share knowledge or ask questions. For example, a conversation will be swiftly shut down if the learner hears or perceives, “You should know that by now.” To keep the learning environment productive, learners need to feel comfortable and that their questions are welcome.

Participants have found the learning process has changed over the last five years from formal workshop settings to more informal learning on the job. This reflects the higher experience levels and the on-the-spot experiential knowledge-transfer needs that are more in demand. Peer-to-peer experiential knowledge transfer events were discussed. It is effective if all members have a say and no person dominates the group. Learning occurs through constant contact, and members adopt a similar working style. However, it was highly favored to have a work group of multiple job level employees. All workers benefit when a junior worker works next to a senior worker to whom they eventually transfer complex files. The mix would be especially effective if the senior level worker

wants to teach and the junior worker has a “thirst for independence, and they can’t be too reliant.”

Learning circle meetings are more effective if the attendee group is comprised of a multi-job level mix, not a homogeneous group. This way, individuals can learn what the other job levels need. It is of practical benefit to teach co-workers in a junior job level. That way, when a complex account is transferred to a senior officer, the senior officer benefits by receiving a better quality file.

Teaching culture discussion:

The focus group participants teach others on a day-to-day basis at their workstations. They welcome questions from their peers and co-workers as long as the questions are insightful and they can see the learner is trying to stretch their knowledge. Occasionally the interruptions are distracting for some.

Participants were asked why they teach, in order to determine what factors are involved in a teaching culture. Some had prior teaching experience and enjoyed it. In one case, teaching was encouraged by a team leader, so one participant became involved. Another participant had been asked to be a facilitator and accepted. There was a desire to improve learning events. Another person has taught all through life and said you have to enjoy it or you cannot teach. One profound answer was, “It’s about passion. It’s just neat to see the lights go on!” The participant described how fulfilling it was to share knowledge, then see the learner’s eyes brighten as they smile and understand. “Even after the learning event, it is fun to watch the learner utilize the knowledge you imparted.”

Empathy was shown. The teachers understand the struggles the learners have because they have lived through the same struggles. A tone of frustration was expressed regarding students' lack of attention during learning events. This indicated they were not trying to learn.

There was a balance between the preference to learn or teach. Two participants preferred teaching over learning, two preferred learning, and one preferred both equally. Later in the group discussions, however, a participant acknowledged the gain of more learning *while* teaching, so both events happen concurrently. As a teacher prepares to teach or advise, they research the topic. It is through the researching that the teacher is the self-directed learner. The teacher also learns when students discuss their experience and life skills.

Areas for improvement:

A weakness was uncovered about feedback methods. After a teacher provides knowledge, there is a large gap in knowing if this knowledge was successfully transferred. In formal courses, the evaluation sheets are disliked and not usually completed by the students. With informal experiential knowledge transfer, some learners will say "that made sense", or "You mentioned this...", so the teachers receive some verification that knowledge transferred. However, feedback appears to be an area that is largely neglected in the learning process.

Chapter Five: Implications

A learning organization culture needs to be balanced with a teaching organization culture. Learners need to be encouraged to share what they learn with the whole organization. Many individuals have earned and possess a vast experiential knowledge

base. Often, they simply need to be asked and appreciated in order to share that wealth of knowledge.

An organization does well to be learner driven, but not necessarily learner focused. An equal appreciation needs to be forthcoming to the generous souls of teachers. The fact that the word “teacher” has fallen out of usage and is replaced with facilitator, mentor or coach, is one indicator of that diminishing spotlight. Clearly, the opposite of learning is teaching and both must exist concurrently.

Knowledge Management:

Knowledge management procedures help keep track of knowledge workers with high experience levels, and create an inventory of existing experiential knowledge. For tacit experiential knowledge to be captured, retained and shared, it must be translated into explicit form. There is an urgency of loss as knowledge workers retire, so their case documents need to be captured now. Also, it is important to build case-based learning material as the live-situation cases are being solved. They already exist, and just need to be documented on the spot. With vibrant and relevant case stories, the readers can learn from others. They can experience not only by doing, but by visualizing and learning. They can be involved by debating the case scenarios in groups. Then, learners can more easily and quickly recognize patterns of when to apply the technical processes and procedures. Cases need to be structured. They need a beginning, middle, conclusion, and the moral or implications of the story. This will give the reader the reason *why* the case solution was effective and the lesson will be more memorable.

Tacit knowledge is transferred by cases. The cases need to be provided by teachers, or mentors as they see a need for them in the learner. They would be less

effective solely as internet-based reading material, because this is passive. Also, it would be less vivid and memorable if it is just read face-to-screen. The cases need to be kept alive, by personally providing them to learners to struggle with and imagine the happenings. They need to be discussed with a mentor or a group of learners to learn by thinking and speaking about. Then, the cases form part of shared learning experiences, and part of the culture of the organization. The values, and implications exalted in the stories can align the thinking of the members as they improve their craft and skill. These shared experiences are the culture of the organization. The learners will initially share vicariously, but as they advance into these types of situations, they will recognize the learned patterns, and will have an ability to apply their work more skillfully than if it was an unfamiliar experience.

It is valuable to build a database of subject matter experts and know the skills, knowledge and abilities that are present in the current workforce. This way, the organization will have a skills inventory which makes it more efficient to match the teaching skill when there is a learning need. The learners need to drive the contact to ensure knowledge is supplied in a timely manner.

Organizational Learning:

Organizational Learning is the basis for the following recommendations which build a *system* of experiential knowledge transfer. To determine if a learning event was successful, the learner needs to provide feedback to the teacher. This is the double-loop knowledge transfer process. The feedback process will help ensure if the learner is more confident and able to make better decisions after the learning event.

Where gaps exist, the teaching can be continually improved. Also, the system of organizational learning needs to be internal, cross departmental, and external to the workplace.

Regarding micro-communities of practice, "The tacit knowledge held by individual participants has to become shared in an atmosphere of high trust." (Van Krough, Ichijo, Nonaka 2000, p 129) A close team environment fosters this trust. Knowledge workers between 5 and 10 years before retirement could train new hires as they enjoy helping them and can share their experiences. Those who are in career development stage would be best placed with those within 5 years of retirement for work collaboration. Day to day interaction and conversation management will increase by locating different job-level workers beside each other to collaborate and strategize their work. For example, PM3's could work within the vicinity of several PM2's for collaboration. PM1's could collaborate with PM2's so they learn the result of their work actions as accounts are transferred to the senior worker. If questions cannot be solved within the learner's micro-community team, their question could be e-mailed to their team leader. Then, it could be dispatched to a Subject Matter Expert (SME). These experts would be listed by the Learning Advisor who acts as a knowledge broker. When the team leader dispatches a question to a SME who is willing to be coach, an appointment would be set to prevent interruption. This enables time efficiency, response quality and effectiveness. Frequent topics can be discussed in group settings as needed.

Cross-functional virtual teams can learn from each other's "external" worksection experience. Knowledge workers can form virtual teams for e-mail account support, and to strategize the solution of a shared account. External knowledge sharing can occur by

videoconferencing with other offices. This is especially beneficial for smaller offices to gain diverse points of view. In this method, front-line knowledge workers can share their experiences and build on them through relevant case study discussions.

Resource-Based View:

The next considerations involve the Resource-Based View of learning in the organization. Management involvement and support ensures success of the individual learner. Survey comments have acknowledged this support is strong and active. As team leaders continue to discuss learning needs with their employees, they keep the learning events aligned with the organization's strategic goals.

Innovation is built by knowledge workers creatively solving problems. When management provides the learning time and creates the environment to manage work conversations, the workers can provide the innovative solutions in the form of an organization's competitive advantage.

Survey respondents said their lack of time and heavy workload are barriers to sharing experiential knowledge. Therefore, the learners need to organize and categorize their questions for time efficiency. This will allow the teachers to manage their time, answer similar questions in batches, provide full information while knowledge sharing and increase learners' satisfaction with the answers.

Teaching Culture:

The survey and focus group revealed two diverse reasons for teaching. The first is the enjoyment of helping others. The second reason is to collaborate. The teaching culture in an organization recognizes these different motivations and works with them. Mentorship and coaching is the realm of the first teaching group. These teachers can

assist new hires to gain confidence and efficacy more rapidly and are vital to the resource-based view of organic skills growth within an organization. Collaboration is the realm of the second teaching group. Here, the co-workers effectively intertwine the teaching culture and core competencies. With collaboration, teaching is aligned with production goals. Collaborators teach in order to learn, build, and strengthen their own career skills while contributing to the core competencies of the organization.

Chapter Six: Recommendations

First, create an inventory of skills, knowledge, abilities and experience by listing the subject matter experts. Then, match employees with questions to the appropriate teacher, by having the learner categorize their own question into a technical matter, collaboration need, or coaching need. Dispatch the learner to the appropriate teacher who agrees to contribute their time. Track the topic trends in order to determine if formal training may be required for individuals or groups.

Create a physical environment that motivates people to teach conversationally by diverse workspace arrangements.

1) Employees who prefer to share experiential knowledge because they enjoy teaching:

- to work adjacent to new hires, including employees transferred from other sections
- job-levels to be equivalent or one level apart to maximize dialogue relevance
- this creates day-to-day *mentorship and coaching* opportunities

2) Employees who prefer to share experiential knowledge by *collaborating*:

- to work adjacent to differing job-level employees for day-to-day knowledge sharing

- those in a career development stage to work adjacent to senior employees to amplify the learning experience

Provide time for experienced knowledge workers to create case study documents from actual work situations. This can be done in the form of reflection and journaling. These are to be retained electronically and subsequently used for learning aids and group discussions.

Virtual cross-functional work teams can be arranged by e-mail and phone. All worksections need to be on the same method of work allocation, so the teams can be grouped for long-term teamwork collaboration. This way, accounts can be more effectively worked in a holistic manner. Additionally, team members can learn from each other's repetitively shared work experiences.

External experiential knowledge can be shared by videoconferencing with a purposeful agenda including case studies. This will assist knowledge workers to give and gain diverse perspectives and share best practices from other office work groups.

Time will need to be invested in the initial reorganization, continual case study documentation, and as needed for purposeful group meetings. Team leaders' managerial expertise and time will be called upon if dispatching learners to the appropriate teacher. The long term benefits will be retention of experiential knowledge by documentation and conversational sharing. Equality of learning will be gained by all with access to case studies and allocated teachers. A systematic teaching culture will evolve as learners share their experiential knowledge in collaborative, reciprocal knowledge sharing relationships.

Finally, a feedback system needs to be continuously utilized. The learners need to provide feedback to their teachers to demonstrate how they used or considered the knowledge they received. This will allow the teachers to continuously improve by knowing what was effective and what knowledge may not be relevant to the learner's specific situation.

By investing the attention and effort to implement these recommendations, efficiencies will be found in saved time. Interruptions will diminish, new hires will learn quicker, and day-to-day collaboration will improve with streamlined communications. Effectiveness will be captured by sharing experiential knowledge before workers retire. The work environment that welcomes collaborative conversation will naturally foster the teaching culture necessary to balance the learning organization.

Chapter Seven: Conclusion

Tacit knowledge is gained by experience. When individuals make their tacit knowledge explicit and share it with their co-workers, organizational knowledge increases. This sharing will minimize the loss incurred when employees retire. Experiential knowledge transfer is most effectively and efficiently facilitated when knowledge workers naturally share conversation during work processes. It is also expediently supported by information technology. Consistent knowledge management processes such as case study documentation and retrieval, and dispatch systems that match learners with appropriate subject matter experts provide equal access to knowledge. This way, all workers are enabled to meet their specific learning aspirations.

A teaching culture is fostered by appreciative regard for all workplace teachers, whether the teaching is supplied by formal or informal methods such as coaching, mentoring or facilitating. While a learning organization benefits by being learner-driven to attain knowledge, it needs to be balanced between being learner-centred and teacher-centred. This way, knowledge workers will be inspired to learn and teach concurrently and collaboratively.

Several areas for future research were considered. The factor of caring for others, including dispute resolution program effectiveness could be further studied as it relates to experiential knowledge transfer in the workplace. Also, a cost-benefit analysis project could be done regarding implementation of experiential knowledge transfer methods.

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Appendix 1: The Survey
Background Section (will NOT form part of circulated spreadsheet):

1) How many years have you worked for NBC&Y Tax Service Office? _____

2) What is your substantive worksection ? (please check one)

- ___ Client Services
 ___ Collections
 ___ Non-Filer/Non-Registrant
 ___ Trust Compliance/ Trust Exam

3) What is your substantive level? PM1____, PM2____, PM3_____.

4) Have you worked any acting assignments in the last 2 years? Yes____ No____

5) Not including your substantive worksection, have you worked in any other NBC&Y worksection? Yes____ No ____

If yes:

Which section:				
How long:				
When:				

6) Have you worked in any *other* TSO or TC? Yes____ No ____

If yes:

Which section:				
How long:				
When:				

7) Have you worked in any other Federal agency? Yes____ No ____

If yes:

Which section:				
How long:				
When:				

8) What type(s) of employment have you held prior to working at this agency?

Example: retail, professional, clerical? (please specify)

9) Are you, or have you been in the last 3 years, a member of a CRA committee or group other than your work-team? Yes____ No ____

If yes:	Most Current:	Previous:	Previous:	Previous:
Which committee or group ?				
How long have you participated?				
What is/was your role? (chair? member? other? please specify)				

Main Questionnaire Section (WILL be part of spreadsheet available for viewing)

10) Are you in a career-development stage; for instance, if a job posting came up in the next substantive level from yours, would you apply? Yes____ No ____ Maybe____

11) Please check one response:

Are you within 5 years of retirement? _____

Within 6-10 years? _____

More than 10 years from retirement? _____

12) Currently at NBC&Y TSO, do you supervise anyone?

Yes____ No ____ How many people?____

13) Do you mentor anyone in the workplace?

Yes____ No ____ How many people?____

If yes,

14) Do you mentor anyone formally (example: where your employer assigns learners to you), or informally (example: where you naturally developed a mentorship with others) ?

Formal____ Informal____ Both ____.

15) On a scale from one to 10, one being the least and 10 the most:

How greatly, if at all, do you believe the intranet and macros have freed you of routine work. (please circle a number)

1 2 3 4 5 6 7 8 9 10

**This next section involves knowledge gained by experience,
not by anything you can look up on the intranet or in technical manuals:**

16) What word do you most prefer to use regarding the sharing of **experiential** knowledge: (for the purpose of this questionnaire, the words have been used interchangeably) (please circle **one** word)

Coaching Facilitating Sharing Teaching

17) In your view, what 5 characteristics must an effective facilitator have?
Please circle **5** things:

bright detailed empathetic
factual fun
inspirational open-minded patient
subject matter expert well organized

18) Not including information you can look up on the intranet, or in technical manuals, in your day-to-day work, do you share **experience-based** knowledge with co-workers?

- within your team Yes___ No___
- within your department Yes___ No___
- across different departments Yes___ No___

19) How confident do you feel about your workplace skills, abilities, & knowledge?
1 being totally insecure, 10 being completely confident (please circle a number)

1 2 3 4 5 6 7 8 9 10

20) In an average week, how many times do you advise others about their work?

None___, 1-3 times___, 4-6 times___, 7-9 times___, 10 times or more___

21) Do you believe your CRA work experiences are beneficial when you share knowledge with others? Yes___, No, ___ , Not applicable___, I am not sure___

22) Do you feel your work experience prior to joining CRA is still relevant and beneficial when you share knowledge with others?

Yes___, No, ___ , Not applicable___, I am not sure___

23) After you teach others from your experiences, do you believe others are more confident in their work?
Always____, Sometimes ____, I am not sure____, Rarely____, Never____.

24) After you teach others from your experiences, do you believe they make better decisions?
Always____, Sometimes ____, I am not sure____, Rarely____, Never____.

25) How valuable (if at all) do you believe it is for you to share experiential knowledge with your peers?

i) to teach them

Extremely Valuable ____, Very ____, I am not sure____, Not Very____, Not Valuable at all ____.

ii) to learn from them

Extremely Valuable ____, Very ____, I am not sure____, Not Very____, Not Valuable at all ____.

26) How valuable (if at all) do you believe it is for you to share experiential knowledge with co-workers with a **higher** substantive level than yours?

i) to teach them

Extremely Valuable ____, Very ____, I am not sure____, Not Very____, Not Valuable at all ____.

ii) to learn from them

Extremely Valuable ____, Very ____, I am not sure____, Not Very____, Not Valuable at all ____.

27) How valuable (if at all) do you believe it is for you to share experiential knowledge with co-workers with a **lower** substantive level than yours?

i) to teach them

Extremely Valuable ____, Very ____, I am not sure____, Not Very____, Not Valuable at all ____.

ii) to learn from them

Extremely Valuable ____, Very ____, I am not sure____, Not Very____, Not Valuable at all ____.

28) In your view, what order of importance should the following factors be in?
Reasons why you do (or you would) provide experiential knowledge to others:

Please rank these sentences in order of importance:

(1 being most important, 6 being least important)

___ It is important that everyone does their work correctly.

___ It benefits the organization when I teach others.

___ It is important to collaborate with others.

___ It helps me build my own work skills.

___ The social interaction component is important to me.

___ I enjoy giving help to others.

If you have a different reason why you provide knowledge to others, please specify?

29) How important (if at all) are the following knowledge sharing reasons to you?

Reason
1 being not at all important ----- 10 being
very important

for everyone to work correctly	1	2	3	4	5	6	7	8	9	10
benefit the organization	1	2	3	4	5	6	7	8	9	10
collaborate with others	1	2	3	4	5	6	7	8	9	10
to build work skills	1	2	3	4	5	6	7	8	9	10
social interaction	1	2	3	4	5	6	7	8	9	10
enjoyment of helping others	1	2	3	4	5	6	7	8	9	10
other: (if you had a different reason)	1	2	3	4	5	6	7	8	9	10

30) Do you provide experiential knowledge to people you care about?

Always____, Sometimes ____, I am not sure____, Rarely____, Never____.

31) Do you provide experiential knowledge to people you *don't* care about?

Always____, Sometimes ____, I am not sure____, Rarely____, Never____.

32) What barriers (if any) have you experienced that prevent you from providing your experiential knowledge to others? (Please check all factors that apply to you)

___ No barriers

___ Lack of time

___ Heavy workload

___ No one asked me

___ I didn't even think about it

___ I don't believe I receive any credit for it

___ There is no system in place to do so

___ I know my job, but have a hard time explaining it in words

___ I am concerned about my competitive position in job postings/processes

___ I am frustrated with people asking me the same questions over and over

___ I don't feel confident enough in my work to be able to teach someone else

___ Other reason (please specify)_____

Regarding your learning:

33) In an average work-week, how many times do **you ask others for advice** ?

None____, 1-3 times____, 4-6 times____, 7-9 times____, 10 times or more____

34) In general, to what extent (if at all) are you content with the advice you receive from those you ask? (1=not at all content, 10 = completely content)
(please circle a number)

1 2 3 4 5 6 7 8 9 10

(The comments below will be kept confidential, and will not be shared on the compiled edited spreadsheet. Some comments might be quoted in the MBA report, but will not be linked to identifying information)

35) Please **comment** on what happens when you ask others for advice?

For example:

- How do you feel about asking?

- Were the responses you received useful and applicable to your work?

36) Please add any other **comments** you may have about informal, day-to-day workplace learning and teaching?

Thank you for your participation ~

Myrna Giese

Appendix 2: Training Coordinator Interviews

Interview with Training Coordinator:

1) What is your definition of :

Coaching _____

Facilitating _____

Sharing knowledge _____

Teaching _____

Training _____

2) How did you decide to become a Training Coordinator?

3) How has technology affected workplace knowledge transfer during the term of your position as Training Coordinator: (Campus Direct, Intranet manuals): _____

4) What feedback (if any) have you received about the effectiveness or ineffectiveness of the technological methods? _____

Regarding Learners:

5) When knowledge sharing opportunities are offered, what is the response from the target group of learners? (1 is overbooking, 10 is no interest at all)

1 ... 2 ... 3 ... 4 ... 5 ... 6 ... 7 ... 8 ... 9 ... 10

6) What methods have been used to gain feedback from learners after knowledge sharing sessions?

Experiential Knowledge Transfer

**This next section involves knowledge gained by experience,
not by anything you can look up on the intranet or in technical manuals:**

7) Regarding work knowledge, skills, and abilities gained through experience:
What methods (if any) have you found to be most effective for experience-based learning transfer? ...and why?

Mentorship? ___ % Formal ___ Informal ___

Coaching? ___ % Formal ___ Informal ___

Learning Circle Meetings? ___ %

Casual conversations? ___ %

Other _____ ? ___ %

8) What methods of sharing experiential knowledge have you been involved in as Training Coordinator? _____

9) Are there any experiential learning programs established in coordination with *external* organizations? (DOJ? Conferences or other knowledge networking with other offices?)
ADR training with Canada Border Services Agency?)

If so,

i) How is this learning received, implemented and utilized in our workplace?

ii) How does our office provide experiential knowledge to others?

iii) Is external networking maintained on a continuous basis?

10) When employees have relevant skills, knowledge and abilities from their work experiences prior to joining this agency, in what ways (if any) has this knowledge been captured and shared with other CRA members?

11) When you determine that a knowledge transfer session is needed, what responses have you obtained in getting employees to facilitate those sessions ?

12) On a scale from 1 to 10 (1 being no effort at all, and 10 being impossibly difficult) How easy or difficult is it to find employees willing to share their experiential knowledge when you ask?

1 ... 2 ... 3 ... 4 ... 5 ... 6 ... 7 ... 8 ... 9 ... 10

13) What barriers (if any) do you think prevent employees from sharing their experiential knowledge with others? (Please select the top 5 items that apply)

☐ No barriers

☐ Lack of time

☐ Heavy workload

☐ No one asked them

☐ They didn't even think about it

☐ They don't believe they receive any credit for it

☐ There is no system in place to do so

☐ They know their job, but have a hard time explaining it in words

☐ They are concerned about their competitive position in job postings/processes

☐ They are frustrated with people asking them the same questions over and over

☐ They don't feel confident enough in their work to be able to teach someone else

☐ Other reasons (please specify) _____

14) Do you see any changes happening in how people choose to share their experiential knowledge?

If so, please describe the changes,

& when did you begin to notice these changes?

15) What is your opinion on the effectiveness or ineffectiveness of Peer-to-Peer experiential knowledge sharing?

16) What is your opinion on the effectiveness or ineffectiveness of multi-level knowledge sharing (for instance, a PM2 or 3 sharing knowledge with PM1, or a PM3 sharing knowledge with a PM2)?

Thank you for participating !

Myrna Giese

Appendix 3: Management Interviews

Interview with Manager:

1) How has technology affected workplace knowledge transfer since you became a manager? _____

2) What employee feedback (if any) have you received about the effectiveness or ineffectiveness of the technological methods?

Experiential Knowledge Transfer

This next section involves knowledge gained by experience,
not by anything you can look up on the intranet or in technical manuals:

3) Regarding work knowledge, skills, and abilities gained through experience:
What methods (if any) have you found to be most effective for experience-based learning transfer? ...and why?

Mentorship? _____ % Formal _____ Informal _____

Coaching? _____ % Formal _____ Informal _____

Learning Circle Meetings? _____ %

Casual conversations? _____ %

Other _____ ? _____ %

4) What barriers (if any) do you think prevent employees from sharing their experiential knowledge with others?

___ No barriers

___ Lack of time

___ Heavy workload

___ No one asked them

___ They didn't even think about it

___ They don't believe they receive any credit for it

___ There is no system in place to do so

___ They know their job, but have a hard time explaining it in words

___ They are concerned about their competitive position in job postings/processes

___ They are frustrated with people asking them the same questions over and over

___ They don't feel confident enough in their work to be able to teach someone else

___ Other reasons (please specify) _____

5) Do you see any changes happening in how people choose to share their experiential knowledge?

If so, please describe the changes,

& when did you begin to notice these changes?

6) What is your opinion on the effectiveness or ineffectiveness of Peer-to-Peer experiential knowledge sharing?

7) What is your opinion on the effectiveness or ineffectiveness of multi-level knowledge sharing (for instance, a PM2 or 3 sharing knowledge with PM1, or a PM3 sharing knowledge with a PM2)?

Thank you for participating !

Myrna Giese

Appendix 4: Focus Group Questionnaire

Focus Group for Facilitators/Trainers :

1) How often have you facilitated training sessions in the last 2 years? # _____
In the last one year? # _____

2) What methods have you found most effective for students to remember your presentation?

3) Has your previous work or career experience been an asset in teaching others?
How?

4) Do you teach others on a day-to-day basis at your worksection? Y or N
- your department? Y or N
- across departments? Y or N

5) Do you teach others from your own experience-based knowledge? Y or N
- in what topics, areas? Open

CRA workplace experience:
Previous career experience:

6) Does your facilitation include personalized stories about your experiences?

7) How did you decide to become a facilitator? _____

8) How do you feel about facilitating training? Open

9) What motivates you to teach others? Open

10) Do you intend to continue facilitating training? Y or N

11) What do you enjoy most? Teaching or Learning? Teaching / Learning / Both
equally

12) Can we reach a group consensus to define the following:

Coaching _____

Facilitating _____

Sharing knowledge _____

Teaching _____

Training _____

13) What feedback (if any) have you received about the workshops or presentations that you have delivered? Prompt: Have you received feedback on how this knowledge transfer was received, implemented and utilized in the workplace?

Experiential Knowledge Transfer

Regarding work knowledge, skills, and abilities gained through experience:

14) What methods (if any) have you found to be most effective for experience-based learning transfer? ...and why?

Mentorship? ___ % Formal ___ Informal ___

Coaching? ___ % Formal ___ Informal ___

Learning Circle Meetings? ___ %

Casual conversations? ___ %

Other _____ ? ___ %

15) What methods (if any) of sharing experiential knowledge have you been involved in as a facilitator?

16) What apparent barriers (if any) have you noticed in your classroom participants that prevent them from sharing their experiential knowledge with others?

Prompts:

___ No barriers

___ Lack of time

___ Heavy workload

___ No one asked them

___ They didn't even think about it

___ They don't believe they receive any credit for it

___ There is no system in place to do so

___ They know their job, but have a hard time explaining it in words

___ They are concerned about their competitive position in job postings/processes

___ They are frustrated with people asking them the same questions over and over

___ They don't feel confident enough in their work to be able to teach someone else

___ Other reasons (please specify) _____

17) Do you see any changes happening in how people choose to share their experiential knowledge?

If so, please describe the changes,

& when did you begin to notice these changes?

18) What is your opinion on the effectiveness or ineffectiveness of Peer-to-Peer experiential knowledge sharing?

19) What is your opinion on the effectiveness or ineffectiveness of multi-level knowledge sharing (for instance, a PM2 or 3 sharing knowledge with PM1, or a PM3 sharing knowledge with a PM2)?

Thank you for participating !

Myrna Giese

Appendix 5: Survey Raw Data

Background Section (will NOT form part of circulated spreadsheet):

1) How many years have you worked for NBC&Y Tax Service Office?

Average 6.7 years. (Total 408 yrs / 61 survey participants)

2) What is your substantive worksection ? (please check one)

<input type="checkbox"/> Client Services	6 people. 10% of group
<input type="checkbox"/> Collections	33 people. 55% of group
<input type="checkbox"/> Non-Filer/Non-Registrant	9 people. 15% of group
<input type="checkbox"/> Trust Compliance/ Trust Exam	12 people. 20% of group

3) What is your substantive level? PM1 36, PM2 22, PM3 3 people

59% 36% 5% of group

4) Have you worked any acting assignments in the last 2 years? Yes 41 No 20 people

67% 33% group

5) Not including your substantive worksection, have you worked in any other NBC&Y worksection?

Yes 37 No 24

If yes:

61% 39%

Which section:	varied			
How long:				
When:				

6) Have you worked in any *other* TSO or TC?

Yes 9 No 52

If yes:

15% 85%

Which section:	varied			
How long:	total 44.2 years			
When:				

7) Have you worked in any other Federal agency?

Yes 17 No 44

If yes:

28% 72%

Which section:	varied			
How long:	total 118.3 yrs			
When:				

Government work: 408 + 44.2 + 118.3 = 570.5 yrs / 61 = average 9.35 yrs per participant

8) What type(s) of employment have you held prior to working at this agency?

Example: retail, professional, clerical? (please specify)

varied

9) Are you, or have you been in the last 3 years, a member of a CRA committee or group other than your work-team? Yes 33 No 28

54% 46%

If yes:

Most Current:

Previous:

Previous:

Previous:

Which committee or group ?	varied			
How long have you participated?				
What is/was your role? (chair? member? other? please specify)				

Main Questionnaire Section (WILL be part of spreadsheet available for viewing)

10) Are you in a career-development stage; for instance, if a job posting came up in the next substantive level from yours, would you apply? Yes 25 No 18 Maybe 18

40% 30% 30%

11) Please check one response:

Are you within 5 years of retirement? _____ 10 people. 16% of group.

Within 6-10 years? _____ 12 people. 20% of group.

More than 10 years from retirement? _____ 39 people. 64% of group.

12) Currently at NBC&Y TSO, do you supervise anyone?

Yes___ No 100% How many people?___

13) Do you mentor anyone in* the workplace? Yes 27* No 33 How many people? 47

44% 54% (1 person error)

If yes,

14) Do you mentor anyone formally (example: where your employer assigns learners to you), or informally (example: where you naturally developed a mentorship with others) ?

Formal 1 Informal 24 Both 11 = 36

36 - 27* = 9 people mentor others outside of workplace.

15) On a scale from one to 10, one being the least and 10 the most:

How greatly, if at all, do you believe the intranet and macros have freed you of routine work. (please circle a number)

Scale Average = 6.08

2 2 6 4 9 5 14 12 4 2 people
1 2 3 4 5 6 7 8 9 10

This next section involves knowledge gained by experience,
not by anything you can look up on the intranet or in technical manuals:

16) What word do you most prefer to use regarding the sharing of experiential knowledge: (for the purpose of this questionnaire, the words have been used interchangeably) (please circle **one** word)

9 people	4 people	45 people	3 people
Coaching	Facilitating	Sharing	Teaching

17) In your view, what 5 characteristics must an effective facilitator have?
Please circle **5** things:

6		28		3
bright	34	detailed	27	empathetic
28	factual	40	fun	41
inspirational		open-minded		patient
	39		54	
	subject matter expert		well organized	

18) Not including information you can look up on the intranet, or in technical manuals, in your day-to-day work, do you share *experience-based* knowledge with co-workers?

- within your team	Yes 61, 100%	No 0
- within your department	Yes 55, 90%	No 6
- across different departments	Yes 43, 70%	No 15

(error 3)

19) How confident do you feel about your workplace skills, abilities, & knowledge?
1 being totally insecure, 10 being completely confident (please circle a number)

Scale Average 7.82 7, 8, 9, 10 = 95%.

0 0 1 1 0 1 16 28 12 2 people

1 2 3 4 5 6 7 8 9 10

8, 9, 10 = 70%.

20) In an average week, how many times do you advise others about their work?

None	6, 1-3 times	22, 4-6 times	16, 7-9 times	2, 10 times or more	14 (error 1 person)
10%	37%	27%	3%	23% of group	

21) Do you believe your CRA work experiences are beneficial when you share knowledge with others? Yes 60 , No, 0 , Not applicable 0, I am not sure 1

22) Do you feel your work experience prior to joining CRA is still relevant and beneficial when you share knowledge with others?
Yes 47 , No, 7 , Not applicable 1, I am not sure 6

23) After you teach others from your experiences, do you believe others are more confident in their work?

Always 8 , Sometimes 43 , I am not sure 10 , Rarely 0 , Never 0 .
13% 71% 16%

24) After you teach others from your experiences, do you believe they make better decisions?

Always 4 , Sometimes 44 , I am not sure 13 , Rarely 0 , Never 0 .
7% 72% 21%

25) How valuable (if at all) do you believe it is for you to share experiential knowledge with your peers?

i) to teach them 38% 50% 12%

Extremely Valuable 23 , Very 31 , I am not sure 7 , Not Very 0 , Not Valuable at all 0 .

ii) to learn from them

Extremely Valuable 30 , Very 25 , I am not sure 5 , Not Very 0 , Not Valuable at all 0 .

(error 1 person) 50% 42% 8%

26) How valuable (if at all) do you believe it is for you to share experiential knowledge with co-workers with a **higher** substantive level than yours?

i) to teach them 31% 46% 18% 3% 2%

Extremely Valuable 19 , Very 28 , I am not sure 11 , Not Very 2 , Not Valuable at all 1 .

ii) to learn from them

Extremely Valuable 26 , Very 27 , I am not sure 7 , Not Very 0 , Not Valuable at all 1 .

(error 1 person) 43% 44% 11% 0 2%

27) How valuable (if at all) do you believe it is for you to share experiential knowledge with co-workers with a **lower** substantive level than yours?

i) to teach them 41% 51% 8%

Extremely Valuable 25 , Very 31 , I am not sure 5 , Not Very 0 , Not Valuable at all 0 .

ii) to learn from them

Extremely Valuable 30 , Very 25 , I am not sure 5 , Not Very 0 , Not Valuable at all 0 .

(error 1 person) 50% 42% 8%

28) In your view, what order of importance should the following factors be in?

Reasons why you do (or you would) provide experiential knowledge to others:

Please rank these sentences in order of importance:

(1 being most important, 6 being least important)

4 It is important that everyone does their work correctly.

5 It benefits the organization when I teach others.

1 It is important to collaborate with others.

2 It helps me build my own work skills.

6 The social interaction component is important to me.

3 I enjoy giving help to others.

If you have a different reason why you provide knowledge to others, please specify?

29) How important (if at all) are the following knowledge sharing reasons to you?

Reason	Total Score:	% of total:	Rank (1 st place is most important)
for everyone to work correctly	508	17 %	2
benefit the organization	494	16.5 %	5
collaborate with others	505	16.9 %	3
to build work skills	528	17.6 %	1
social interaction	387	12.9 %	6
enjoyment of helping others	497	16.6 %	4
other: (if you had a different reason)	77	2.6 %	7
	2996	100 %	

30) Do you provide experiential knowledge to people you care about?

Always 30*, Sometimes 28 , I am not sure 2 , Rarely 0 , Never 0 .
 50% 47% 3%

(error 1 person)

31) Do you provide experiential knowledge to people you **don't** care about?

Always 20*, Sometimes 35 , I am not sure 2 , Rarely 4 , Never 0 .
 33% 57% 3% 7%

*30:20 = 34% difference

32) What barriers (if any) have you experienced that prevent you from providing your experiential knowledge to others? (Please check all factors that apply to you)

Rank: # of people:

11 4 15 No barriers

29 1 40 Lack of time

26 2 36 Heavy workload

14 3 19 No one asked me

1 8 tie 2 I didn't even think about it

4 5 tie 5 I don't believe I receive any credit for it

3 6 4 There is no system in place to do so

4 5 tie 5 I know my job, but have a hard time explaining it in words

1 8 tie 1 I am concerned about my competitive position in job postings/processes

2 7 tie 3 I am frustrated with people asking me the same questions over and over

2 7 tie 3 I don't feel confident enough in my work to be able to teach someone else

4 5 tie 6 Other reason (please specify) Other reasons related to non-appreciation

100%

Regarding your learning:

33) In an average work-week, how many times do **you ask others for advice** ?

None 0 , 1-3 times 27 , 4-6 times 17 , 7-9 times 7 , 10 times or more 10

34) In general, to what extent (if at all) are you content with the advice you receive from those you ask? (1=not at all content, 10 = completely cont

(please circle a number)

0	2	2	0	4	9	14	20	6	4 people
1	2	3	4	5
0		3%		3%	0	6.5%	15%	23%	33%

Average 7.03

1 - 5 = 12.5%

6 - 7 = 38%

8, 9, 10 = 49.5%

End of Raw Data Report

Table 4-7 Reasons to share experiential knowledge

Table 4

10 people within 5 years of retirement						
work correctly	benefit the org	collaborate	build work skill	soc'l interact	enjoy helping others	
4	2	3	5	6	1	
5	3	1	2	6	4	
6	5	1	2	4	3	
5	2	3	4	6	1	
1	2	4	5	6	3	
1	4	3	2	6	5	
4	6	2	3	5	1	
1	4	3	2	6	5	
1	3	2	4	6	5	
3	1	4	2	6	5	
31	32	26	31	57	33	
2	4	1	3	6	5	

Table 5

12 people within 6 to 10 years from retirement						
work correctly	benefit the org	collaborate	build work skill	soc'l interact	enjoy helping others	
6	5	1	4	3	2	
1	5	3	4	6	2	
6	4	2	3	5	1	
4	1	5	2	6	3	
6	1	3	4	5	2	
5	4	1	2	6	3	
6	1	4	3	5	2	
5	4	1	3	6	2	
1	3	5	4	6	2	
1	2	3	5	6	4	
6	5	4	2	3	1	
2	4	5	3	6	1	
49	39	37	39	63	25	
5	3	2	4	6	1	

Table 6

39 people with greater than 10 years to retirement						
work correctly	benefit the org	collab- orate	build work skill	soc'l inter- act	enjoy helping others	
5	6	4	2	1	3	
4	1	5	2	6	3	
6	4	5	3	2	1	
1	3	5	2	6	4	
2	1	5	4	6	3	
5	4	1	2	6	3	
1	4	3	2	6	5	
1	5	2	3	6	4	
1	5	3	2	6	4	
5	4	3	2	6	1	
4	6	5	2	3	1	
1	4	2	3	5	6	
3	5	1	2	6	4	
1	6	5	2	4	3	
2	3	4	5	6	1	
2	1	3	4	5	6	
1	2	3	4	6	5	
4	3	1	2	6	5	
6	5	4	3	2	1	
6	5	1	4	3	2	
1	5	3	2	4	6	
5	4	1	3	6	2	
4	1	2	6	5	3	
1	4	2	3	5	6	
6	1	2	4	5	3	
5	6	1	4	2	3	
3	2	5	4	6	1	
1	2	3	5	6	4	
2	1	6	4	5	3	
6	5	1	2	4	3	
5	4	2	1	6	3	
1	3	2	4	6	5	
2	4	1	3	6	5	
6	5	1	2	3	4	
1	5	2	3	6	4	
2	1	3	5	6	4	
5	6	1	2	4	3	
117	136	103	112	182	127	
3	5	1	2	6	4	

Table 7

25 people in career development stage						
work correctly	benefit the org	collab- orate	build work skill	soc'l inter- act	enjoy helping others	
5	6	4	2	1	3	
1	3	5	2	6	4	
1	4	3	2	6	5	
1	5	2	3	6	4	
1	4	2	3	5	6	
1	6	5	2	4	3	
2	1	3	4	5	6	
1	2	3	4	6	5	
5	4	1	2	6	3	
6	1	4	3	5	2	
6	5	1	4	3	2	
1	5	3	2	4	6	
4	1	2	6	5	3	
6	1	2	4	5	3	
5	6	1	4	2	3	
3	2	5	4	6	1	
2	1	6	4	5	3	
5	4	2	1	6	3	
1	3	2	4	6	5	
2	4	1	3	6	5	
1	5	2	3	6	4	
5	6	1	2	4	3	
2	4	5	3	6	1	
67	83	65	71	114	83	
2	5	1	3	6	4	