Learners as Authors: Helping ESL Employees in a Canadian Bank Prepare Customer Relations and Documentation Materials

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"Do not make hypertext an end in itself but a characteristic to give to an organized body of information. Hypertext opens new avenues of access , but access is not information. Hypertext must fit the information available and the user's need to access that information. Merely adding links and points does not make a document more useful or comprehensible."[1]

Our paper raises several issues in the development of online documentation and its use by some three hundred employees in the eleven processing centres of a large Canadian bank. We will outline the technology we have used in the process but our emphasis is on learning, information exchange and user empowerment across a number of linguistic groups, several career fields and several thousand miles of a large, thriving business. We are implementing a user-based documentation process in which employees themselves augment and modify the online database of procedures by which they learn and carry out their work. We want users to write procedures and documentation which conform to the terminology and understanding of their workplace routines and practices. Further, we expect them to adapt these to conditions of their various locations and to develop 'best practices' manuals which describe details and options specific to individual sites.

If we can make 'authors' out of conventional users, employees with no previous computing or documentation experience, we want to extend that ability to a potentially larger benefit for the Bank as a whole. We want users whose first language is not English to consider preparing online documents and modules to and for members of their linguistic communities. Under the direction of the Procedures and Documentation Department's editorship, they will author and support these materials for distribution throughout the organization as culturally specific information tools and as ways of extending the Bank's influence into language areas conventionally closed to Anglocentric instruction.

We are approaching individuals whose first language is not English or French but who now work in one of these two environments to begin to prepare materials in and for their first-language constituencies. Basic 'documents of exchange' constitute over 90% of daily branch routines and some five documents make up over 90% of that activity. If we get three employees, as part of their training and documentation maintenance to develop interactive learning modules about these documents in a simple DOS format to be used on LANs in the Branches or by clients in their homes, we will have outreach materials which familiarize customers with some of the most intimidating and important aspects of their financial affairs in a strange culture. They will be able to examine complex features of banking and exchange in privacy, in a comfortable cultural context, with examples, advice and expanded explanations of every part of each document. They can then bring

their questions and results to be answered specifically at each point in the module where they require assistance.

To achieve this result we use employee volunteers who find for the first time that their primary language skills have become major assets in their careers, that they can write and express themselves with confidence to an audience with whom they are familiar and that they can develop topics in culturally appropriate ways to assist and influence fellow employees and customers within the financial world of which they are a proud part.

The organization employing this computer training methodology has several quite disparate needs. It must facilitate the rapid, accurate transfer of information about complex financial and legal issues and keep these current in all thirteen hundred Branches, coast to coast. It must adapt the technology to inform its customers of their obligations, opportunities and options and it must earn profits from the activities of its employees. To these ends, it employs a liberal policy on employee learning, providing real career guidance and support, financial aid for members taking a wide range of college and university courses and excellent management training programs at all levels of the corporate structure. It has among its more than forty thousand employees speakers of over ninety languages and it carries on its operations in one of the richest linguistic and cultural mixes in the world. It acts consistently on principles of cultural awareness and respect for others, in the workplace and towards the public it serves. And it fosters that attitude in support of education, science and the arts, by financial contributions and by the broad employee participation in all aspects of public life.

This is an encomium with no real "Yes, but . . ." The structures which support it are real and functioning and they provide a base for employee self-esteem in technology too. To that end we have begun an experiment in employee-

generated, computer-aided learning in issues of documentation management, on-site CAL generation and the development of culture-specific information for procedures and training. In many ways these principles address employee participation from a portion of the work-force at once vulnerable and motivated to take on increased responsibilities for changing Bank-customer relations. Largely female, lower salaried, seldom highly educated, they are a relatively untapped resource. This group shows high corporate loyalty, takes initiative but often finds itself insufficiently consulted in organizational planning to improve the Bank.[2] Developing personnel interested in working with customers from among this group is at once easy and eminently useful to both employees and to Bank employee development.

Our plan to make information users into document authors runs this way:

1)   Most conventional documentation is created by experts remote from the work situation. In our case, a variety of computer-based training groups.

Is it possible to have employees write procedures themselves and have these checked and standardized by management for completeness and by editors for accuracy and clarity? The results will be distributed in interactive learning modules for employees and customers by the Procedures and Documentation Department and the onsite authors.

2)   Most documentation is expressed to protect the organization legally and to be complete to the total requirements of the procedures, products or structures it describes.

Is it possible to have employees write accurate, complete procedural instructions for their specific situations, with the degree of linguistic informality

and terminology appropriate to their job requirements at that site? Can they annotate 'official' procedures to aid other users in quick insights into specific situations?

3)   Most CAL is devised by subject-area experts and design specialists who focus on the tools, displays and delivery mechanisms. A great deal of this activity focuses on mainframe systems and communications tools.

Is it possible to have users author and assess CAL appropriate to their needs and locales? Can they use the results on PCs and local LANs for their specific units?

4)   Most CAL is 'canned', designed to be 'absorbed' by learners who can move at their inclination among points of interest but who cannot 'touch' or change the materials at which they look. Viewers glean information and respond to prepared situations; they do not participate as equals with authors in designing and developing the materials or processes they are required to use as learning devices.

Is it possible to have users become participants in their own learning and to make their efforts part of the learning group's welfare and production? Can they, as equal members with the authoring-editing team, assume all the responsibilities for preparing, maintaining and evaluating the materials and assessing the value of learning from them?

Positive answers to some or all of these questions have real implications for the Bank's three major interests in CAL and technology-based learning. In the first place, the Bank already provides current, accurate information across networks, so employee-generated documentation and information is an extension of present conditions, not an innovation. The novelty here lies in trusting all employees by breaking an authorial hierarchy in which managers specify rules, editor-authors implement them and branch

employees learn and carry them out. In the new paradigm the best ideas of the entire employee base are forwarded, assessed and incorporated into Bank-wide documentation, distributed and implemented on an as-needed basis. If the employee base can generate information and expressions related to its own training, costs of preparation and maintenance will decline, the number of motivated, informed, technically capable people will rise dramatically and questions of appropriate learning, computer tools, network requirements and product design and implementation can be addressed by a more informed, more capable membership with an increased role and stake in the results.

In this model materials more accurately reflect the on-site needs of branch employees so
customer service is enhanced by better information, particularly if we can adapt it to reflect the cultural expressions and expectations of the ethnic groups whom the organization serves. In a nation as culturally diverse as Canada there is little hope of any organization, including the Government, really being able to respond in any significant way to the United Nations spectrum of languages and social expressions that make up the commerce (and richness) of our lives. One way of starting to do this, however, is to reverse a series of cultural myths. For our work, the major one is that Canadian 'English' (Canadian 'French' in Quebec) constitutes the ideal medium of exchange in all business dealings. A further presumption is that both customer and employee are most comfortable, best served in one of these two. Yet our realities are quite otherwise. Many customers, especially in major urban areas, and as second- or third-generation Canadians, spend their entire -- often happy and profitable -- lives in a language and society other than English or French. Depending on the area of the Bank, well over a third of staff can have English as a second language, some with it as a distant second.

Documentation experts know the difficulties of producing quality manuals and instruction in one language. Constant changes to most materials make more difficult the problems surrounding translation between French and English, let alone trying to extend services to even another language option. Staff with bilingual abilities are rare, almost precious, and translation requirements add to technical support, administration and their costs. Communication facilities for multimedia expand these difficulties to the point that it is easier to ignore even the possibility of multi-language information development or to purchase brief modules in a given language for very specific business needs.

We believe another alternative is possible. Technical facilities now permit easy , inexpensive authoring of documents and their linking to other tools, programs and modules. These are compact and readily transferable within DOS systems and LANs. They can be installed, expanded and modified after an initial training session of several hours and some on-site advice and support at the time of the turn-over to each group of users. Where we provide examples of useful documentation about work practices, users can begin immediately to take ownership and to modify them for their own needs.

This flies against conventional wisdom. Users modifying documentation is precisely what documentation experts and departments have been created to prevent. We want to urge a new partnership. Design and documentation expertise does exist and every writing department worth its pay cheques goes to real lengths to remain in constant, close touch with its audiences. Documentation groups in large organizations have as a cardinal obligation, the complete and correct expression of that organization's corporate role -- what it is now, has been and is becoming. They are the keepers of the words of authority and 'correct' here means 'right' as in an answer and also 'publicly appropriate' -- the vessel and

expression of the customer's trust. Of equal importance is the design and dissemination of clear instruction and practice for all levels of the company. These two concepts can be at variance. As an organization we may not want to show as 'official policy' or to a customer the highly effective learning materials and instructions which work in specific locations, for a specific audience very effectively. "Appropriate" here means that it works for our employees and this material requires both context and support.

The experienced executive knows this situation already -- and it is why experience, advice and a human voice in the actual case mean so much in every line of business. Management says "Do it this way"; and employees often would if a) they had time, b) that way worked, c) clients really wanted it that way . . . the list goes on. Authoritative documentation is a device of last resort and always will be. It is written to be 'legal', not practical, it is written by distant experts and describes the ways things should be, not the ways they are. It is written formally (in part because it requires clear structures for searching and making connections) and it has a voice of authority, not the tone of a helping friend to someone in difficulty. This lack of popularity can depress document writers at the 'authority' end too.

Yet virtually every department has its personalized 'quick reference card'; in fact it may have several for different jobs. These are seldom formal documents; they explain and resolve frequently occurring situations and problems. They seldom obtain official endorsement and they often exist without the boss even knowing. They allow things to get done. Our experiment is interested in creating elegant online versions of these.

Problems of unauthorized documentation resolve themselves into three. What seems to make sense or solve a problem in a local instance may require checking and standardization before it can be

universally applied, or even tried in any other situation. Local 'guides' cannot be kept current because they may not even be known, let alone be connected to a network to allow for up-dating. And they speak in different voices in matters of terminology, sequencing and routing. When they appear in other places they seldom announce their authorship so their folk remedies can be hard to ascribe to a source or authority. Yet they exist and sometimes thrive and they save many errors if they also cause a few. Properly assessed and distributed over a network, they are a very potent force because they almost always appear in response to a real need and they represent someone's solution to a problem, a solution which works because it had to before the document could be written. Authorship is generally by 'Anonymous'-- who sometimes needs an editor -- but the materials are relevant, informed and sincere.

We propose to encourage this process and to extend it. By using HyperView (please see "Go Ahead, Help Yourself !: User-interactive Online Help in a CAL Authoring Environment" in these Proceedings) and providing the initial instruction and support, we give employees of the Bank's Processing Centres access to a tool which actually encourages them to expand and modify all aspects of documentation on the procedures within their workplace. These changes are immediate in the specific environment and can be forwarded for assimilation and inclusion across the network to LANs in the other Centres. Employees who contribute become part of the authoring group and their views are sought on all aspects of documentation. The Bank gains writers, employees use their own initiative to expand the information they require, writers gain insights into the workplace and the organization develops a network of employee support and testing for new products and processes and some authoring authorities in Branches nationwide.

HyperView is a small C++ program which runs in a DOS environment. It permits easy authoring and linking directly from the display. Because it does not require recompiling after changes, users can make modifications directly during work sessions and sections of a module can be copied and moved to permit others to apply them to new problems in other sites. This process ignores most issues of authority and asks users to freely develop best solutions for procedures and training. Rather like LEGO blocks, parts can be linked and recombined for optimal effect. Existing electronic files on other subjects can be quickly assimilated and structured to provide information and step-through training on any subject. Because these files can be actual organization documents, training is directed onto the tools and services employees actually use and their results can become the documentation they provide in the completion of their jobs. The software permits links to other programs, so related services can run in real time and can return variables to parts of the HyperView modules for assimilation in further instruction and assessment. Files and modules can be sent to a central source for resolution and incorporation and then be dispatched to all sites as part of the Bank's procedures. Interactive graphics permit simulations of electronic forms, information on routing and personnel and overviews of equipment and processes. These too can be easily modified and used in other locations.

We have described this product as user-centered. There is certainly something of the spontaneous and personal in our intended applications. Employees come to understand it quickly in user mode and can be taught to author at a second session. A number of variations on a topic can be merged so users can add materials independently and later combine them for discussion, usability testing and release. In fact, the process encourages alternatives and multiple production,

another concept generally anathema to a 'top-down' organizational structure.

To begin to address these questions we have selected three learning teams at Processing Centre sites and supported them with training. What are often perceived at the development end as design challenges in training may become opportunities for both on-site learning and courseware design simply by reversing the presumption that employees need to be 'taught' from Head Office. If we start with a set of information-gathering exercises from the perspective of usability testing in early design, we can begin to reverse some of the negatives and limitations of online instruction.

"Empowerment" in our meaning is to pass areas of documentation, tutoring and help over to users within a flexible CAL system with easy authoring capabilities. The novel issues in our argument are not technical but rather are essentially administrative. How do we, as the developers responsible for effective documentation and training, assess user responses, initially and throughout the application of the documentation modules, to then incorporate them into structures which others at remote sites can use with recognition and confidence? How do we design 'authority' into what users see so they can proceed to learn with confidence and respond with their best thinking so we can incorporate that, with proper acknowledgment, into subsequent documentation?

Our research on the first question has been based on organization and department experience and data collection. We chose our target group for CAL development from the employees of the Bank's Processing Centres. These units are the arterial pumps of a Bank's daily activity; failures and delays here are critical to key performance drivers of customer satisfaction and operational excellence.[3] These employees have a literacy level of grade four and 40% have

English (or French) as a second language. Conventional documentation which presumes a university-based comprehension of technical, administrative and legal terminology and concepts has little chance of succeeding and, in fact, constitutes a danger where managers presume their employees must use it to accomplish their tasks on time with precision. Our department has now instituted usability testing of all print-based documentation to this audience and we have carried over the same principles and techniques to our creation of online materials. We have had to add computer literacy to a list of 'be-aware-of's as we work with other Bank departments to assimilate computer-based help with a list of other resources available across the network.

A conventional view of learning-training would urge extensive usability testing of all audience segments to determine their motivation and backgrounds before any learning module design could be undertaken.[4] Time and resources, human and machine, do not permit that luxury, nor are we convinced it would yield significant results. Grant the resources and time, such a model still reflects the research-teaching-management culture which presumes that observation, assessment of data and formal design from a hierarchical perspective will produce 'what people need'. If we apply our formula that some users are motivated, intelligent and potentially articulate about their work, then their thinking should be assessed and incorporated as closely to their experience and use as the technology allows. That turns out to be quite close. We presume the user's ability to modify and add materials to all parts of the module at the editing, display and linking levels.[5] This ability can be communicated during small-group classroom sessions and supported thereafter by CAL tutorials and e-mail to instructors within the learning system itself. Users are part of the module creation process, along with department writers, as parts of the CAL

team. They make changes, ask for opinions on materials they submit, query all standards, expressions, display features and how items are searched and presented. They are informed in the same processes as the writers of new implementations, tools and administrative developments and they have full access to all aspects of editing, source information and new CAL user needs. Critical to our theory is the user's motivation through a sense of being a full partner in the entire authoring and design processes.

Members of this group may have severe 'writing' limitations. Their ability to express themselves in correct grammar and composition may be quite limited by formal standards.[6] What they do possess is experience within the Bank, particularly around their jobs, and this is hard for professional writers to acquire by observation during site visits or short 'simulation' sessions, harder still for them to capture in convincing CAL scenarios. The CAL materials are designed to reflect the terminology, sequencing and contexts in which employees encounter and resolve issues in their daily routines. We are seeking to have writers on site express what they understand of their own experiences and to comment on and editorialize about those features of local differences which mark their site's unique ways of performing their functions. In fact, we encourage individuals to use their own names and experiences within the modules. Users must work through their group's methods of effectively finding information once it has been added, but this exercise becomes in itself a way of understanding the documentation and the ways in which Centre practices can be learned.

To take this theory to its conclusion, we have asked some twelve employees to express five basic Bank forms in the contexts of their own cultures. The point here is to reverse the pattern of English as the target language of choice and to take the concepts of the form, its language and

structure and express these in the employee's first language, along with extensive commentary on their meanings. English terms carry with them connotations, positive and negative, which may be lost to non-English speakers. If we can have Bank personnel consider these, expand on them, personalize the form's intentions in phrases, examples and contexts which convey the organization's purposes, we have developed an effective device to resolve kinds of confusion which hamper understanding and consent in the hundreds of cultural matrices of Canada's society. The cost is minimal, with little or no need for professional translators or design experts. The document remains the centre of the learning experience, its writers are the employee with language and cultural experience and a member of the Procedures and Documentation unit who is familiar with design and writing techniques. The Centre employee is empowered by the act of expressing ideas in what has to this point been a language of liability with little application to the Bank's processes. In the act of creating the learning module or lesson, he or she must think through how the document's purposes can be expressed within the first language, what elements optimize that expression and how procedures appear from the author's viewpoint.

Materials can be tested within the local Centre and among other speakers of the first language at other locations. We hope soon to introduce the process and materials to branches where employees and customers can benefit from the results. Instead of not even contemplating translations or cultural versions of English or French documentation, we can now make a learning virtue of having employees from any linguistic group prepare their own versions for illustration and discussion. All materials can be easily checked and modified by competent native speakers, who can contribute their own ideas by requests to the original authors and by actually contributing additional work themselves. There is little in this activity

of 'checking' or creating a 'corporate version' because the materials are designed to reflect the writer, to be colloquial and casually informative. They do not have official status and they are intended to be modified as they expand and take on examples, exceptions and even possibly some humour. If formal versions are forthcoming, the writers and editors of the Procedures and Documentation Department will have good working relationships with their peers, the originators from within the Processing Centres.

Our project consists of familiarizing Processing Centre employees with both the online documentation system they will consult -- IBM's IPF display of the official Processing Centre manuals -- and with HyperView as it displays the basic transactional documents for most customer interchanges. All members must learn to use online documentation at their sites; only volunteers use HyperView for their module preparation and editing. All results are incorporated in the Procedures and Documentation materials and all members will participate in the final editing and incorporation of materials for general distribution among the Centres and, we hope, among select Branches thereafter on a trial basis. All materials may then be modified by committees on each site to correspond to 'best practice' at that location. Up-dates will be filed on a monthly basis for new materials and concepts and all Centres will receive these with instructions for their incorporation. But each Centre will retain the right to use or ignore all materials. Volunteers meet to discuss the project and to consider expansions or new topics and they will be among the first to receive network access by which to work together. In a projected form we will extend successes to Branches generally and seek the help of their employees to consider other language and cultural expressions and the preparation of other relevant materials.

To conclude, the features which make this process possible are the direct authoring capabilities within the HyperView software. Easy key-board commands turn the CAL display into the authoring tool so changes and additions to modules can be made directly during the learning processes themselves. Simple methods of linking to new materials, programs, graphics and records tools make the act of learning very interactive and the editor can be set to capture user comments at each stage. There is no distinction between learning and authoring, author and user, so each participant has equal access to presenting materials for others and remains part of the authoring team and the information process.

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[1] W.K. Horton, "Is Hypertext the Best Way to Document Your Product? An Assay for Designers", **Technical Communication**, 38:1 (1991), p. 28.

[2] Confidentiality prevents our expanding on employee attitudinal surveys. Suffice it to say we have discovered a high degree of employee loyalty and a desire to learn about and participate in customer-related methods to improve understanding and service. These results convinced us to undertake our experiment in employee-based computer-aided learning (CAL). Initial volunteer responses bear out the belief that many employees are prepared to try new computer-related initiatives, to work in areas of documentation and learning previously unfamiliar to them and to undertake the preparation of culturally discreet materials for customer learning and information. We have our employee authoring base.

[3] These principles inform and develop activities across the organization. Expressed as a series of brief statements, they provide a base from which to undertake new initiatives and to assess operations on a short and a long-term basis. Here they provide a good rationale to undertake this particular project.

[4] Microsoft Development Library, Microsoft Corporation, (1992-19940, CD no 7.

[5] HyperView is described in greater detail in "Hands Drawing Each Other: CAL Authoring as a Base for CAL Instruction" in these PROCEEDINGS. A display version of this authoring software is available on request to the author, Paul Beam at pdbeam@watarts.uwaterloo.ca.

[6] Problems in ESL training are quite different from those encountered in conventional classroom language instruction. ESL learners encounter as adults new language patterns for which their original language acquisition seldom prepares them in any useful way. In fact, after age three most new language learning is an entirely different process than that of the child learner to that point. Original language patterns frequently interfere with subsequent learning and many adults never truly acquire a full complement of skills in the second language. Of more concern to us, however, is that many employees and customers have neither skill nor competency in either official language, yet they must function in a general society which expects them to have it and which judges them accordingly as they fail to display this ability.