

CHAPTER 7

7.1 Introduction

7.2 Conclusions

- 7.2.1 Converging Beliefs**
- 7.2.2 Beliefs and Challenges**
- 7.2.3 Beliefs and Compatibility**
- 7.2.4 Conflicting Beliefs**
- 7.2.5 Changing Beliefs**

7.3 Methodological Considerations

7.4 Recommendations for Educational Practice

7.5 Recommendations for Educational Research and Development

7.6 Conclusion

CHAPTER 7

The Teacher as Explorer: Conclusion

We shall not cease from exploration and the end of
all our exploring will be to arrive where we started
and know the place for the first time. T.S. Eliot
(1974)

7.1 Introduction

One version of *Vendredi ou les limbes du Pacifique*, describes Crusoe's attempts to rediscover his island (Tournier, 1978). Crusoe returns to Holland after many years of exile on the island of Speranza. He reestablishes himself there but, even after some decades, longs to return to Speranza. He embarks on a journey across the ocean in search of his island. After many attempts, and in spite of all efforts, he cannot find the island and thus abandons hope of ever again setting foot on Speranza. He returns therefore once again to Holland. In conversation with a friend, he understands why he could not find the island. Like Crusoe, the island had aged and changed over the years. He was looking for the image of the island he remembered from many years ago. That image no longer existed. Crusoe returns once again across the ocean in search of the island. This time, he forces himself to alter his perception and he finds his island. He settles there, content to live out his days until his death.

The lesson to be learned from Crusoe's experiences is an appropriate and useful one and comes at a time when it has considerable meaning for education. Crusoe's search for the island was a difficult one because he had overlooked the fact that the island had changed. Yet, Crusoe himself had changed for, he too, like the island, had aged. What this experience reveals is the way that change works and how, just as one's environment changes, so too do the individuals in the environment because they form an integral part of it. By analogy, we can apply this understanding of change to education. Change affects all aspects of the learning environment including those who are a part of it. Change is a process of adaption and of accommodation whereby the learning environment and those who form part of it interact, affect each other and change together.

Traditional learning environments have provided considerable stability to teachers. They are predictable and relatively immune to perturbation, to change and even to outside influences. In contrast, OLEs represent radically different environments that often challenge traditional ways of learning and of knowing. As the beliefs in this study have shown, for some teachers, their encounters with OLEs have resulted in experiences that have suited their beliefs or that have encouraged them to change and shift their beliefs in order to accommodate the new environments. For these individuals, the environments for learning represent strange or even brave new lands which they have been able to approach with a sense of adventure and discovery. They have found support for their beliefs in the new online learning environments and have been

able to define new maps, chart new directions, explore new possibilities, change along with the environment and adapt to it.

This study has profiled the beliefs of a broad selection of teachers. It has also attempted to understand how these beliefs reflect the evolution of teaching and use of technology. What conclusions can be drawn from these findings and what are the implications for educational practice and for educational research? The pages that follow explore this question. Understanding the implications can provide insight for teacher education programs, for professional development sessions and for researchers. Ultimately, the understanding of beliefs in this study can assist in the process of bringing about positive change in teaching and learning. This chapter will also look at further directions for research and suggestions will be made for refinement of this study's research methodology.

7.2 Conclusions

The findings of this study explored responses to two research questions. Chapter 5 presented a description of the beliefs uncovered in this study. Chapter 6 presented an interpretation of these beliefs. This chapter takes the analysis of the findings one step further and presents the dominant themes identified from the findings. These themes are as follows: converging beliefs; beliefs and challenges; beliefs and compatibility; conflicting beliefs; changing beliefs. The theme of converging beliefs considers the relationship or convergence between the official theories related to language learning on one hand and the implicit theories or beliefs of teachers on the other. The second theme considers the findings of this study which suggest that there are beliefs particular to FSFL that present certain challenges to effective use of OLEs. The theme of beliefs and compatibility considers how certain beliefs about computers are more compatible with particular uses of the computer. As its name suggests, the theme of conflicting beliefs describes the different dimensions of conflict between beliefs uncovered in this study. Finally, the theme of changing beliefs focuses on the ways in which the beliefs articulated in the course of this study appear to be evolving or changing.

7.2.1 Converging Beliefs

We can assume that teachers' implicit theories or beliefs are affected by official theories i.e. that there is a certain convergence between the two. Thus, we can assume as well that official theories have an important role to play in evolving teachers' implicit theories. In terms of the evolution of approaches and of technology use in the teaching of FSFL, some of the beliefs that were uncovered in this study reflected earlier stages in the evolution, while others reflected stages that corresponded to the vision of language learning outlined by this study. Some beliefs reflected principles of CLT which parallel the principles of constructivism. Others reflected the principles of the Direct Method or of Audio-Lingualism which are based on a behaviourist philosophy. Whether the beliefs reflect a constructivist or a behaviourist philosophy may well determine how individuals conceive of OLEs, how they perceive their value in teaching and learning and, ultimately, the uses they make of them. How the teacher conceptualizes her role, learning and knowledge will determine whether OLEs will be able to provide support for her beliefs.

However, the difficulty inherent in any attempts to evolve the beliefs of teachers of FSFL through theories or philosophies of learning is that, traditionally, constructivist epistemology and philosophy have not figured prominently in second-language pedagogy which has been preoccupied instead with discussions and debates about methods and approaches. Earlier sections of this study made references to the influences on teachers' methods or practices. Stern (1983) argues that changes in methods reflect social, economic, political, or educational circumstances as well as changes in language and psychological theories. At the same time, he posits that to evolve and improve language teaching, what is needed is, not a method or approach, but a more deliberate interpretation of language teaching in terms of educational theory. Theory, explains Stern "is implicit in the practice of language teaching" and underlies practice, planning, routines, value judgements and day-to-day decision making (Ibid., p. 23). In spite of the theorizing that may have taken place, as Stern notes, much of this has not been very productive. In fact, argues Stern, "...highly relevant developments in general educational theory have been completely overlooked by language pedagogy" (p. 519). Audio-Lingualism and the Direct Method both had firm roots in behaviourism. CLT broke with this tradition and reflected a more student-centered humanistic philosophy but lacked any firm footing in a philosophy that could provide a foundation or explanation for its tenants. The lack of an adequate theory to underlie language teaching led Stern to lament on the resulting state of language teaching: "The rapid turnover of ideas on language teaching, the long history of the method battles, the so-called discoveries and 'breakthroughs' and the subsequent disenchantment, all form a sad but telling cavalcade of theorizing through the ages" (p.24).

It might be argued by some that CLT with its emphasis on authentic materials, meaningful and purposeful contexts for learning and the teacher as facilitator provides the basis needed for the teaching of FSFL. However, CLT is not a theory. It has its roots in a humanistic philosophy but this philosophy is not adequate in terms of providing an epistemological framework or even in terms of providing an adequate conception of learning. It does not provide answers to fundamental questions related to learning such as: What is knowledge? How do learners come to know what they know? An understanding of and appreciation for knowledge construction, knowledge sharing and for the social-negotiation of knowledge can help teachers appreciate the types of learning that can be best supported in OLEs. In the sub-category of beliefs related to resources and information, teachers expressed their appreciation for the value of OLEs to provide them with authentic materials. Use of authentic materials in the context of knowledge construction and sharing reflects the vision of learning espoused by this study and is consistent with the principles of constructivist learning. Yet Communicative Language Teaching does not rely on the principles of knowledge construction or sharing. Instead, it is essentially premised on the concept of communication which is meant to drive all activities and approaches. Thus, beliefs which reflect CLT such as the importance of authentic materials do not necessarily reflect those that will be supported by learning in OLEs.

Ultimately, effective use of OLEs for the teaching of FSFL may come only once theories of language learning and teaching begin to reflect principles of constructivism. If we think in terms of a hierarchy of beliefs, in terms of beliefs that are core and others that are secondary or more peripheral, we would need to begin with the most fundamental beliefs which would be

epistemological ones. What teachers believe about knowledge and knowing will significantly affect other beliefs related to teaching and learning. The belief that knowledge is like a commodity or object that is given to us by others (such as by teachers) would be replaced by the belief that knowledge is individually and socially constructed and negotiated in a process of interaction with one's environment. Teaching as telling and as knowledge transmission would be replaced by teaching as a facilitative and collaborative intervention designed to support the learner. Learning as the product of being told, absorbing and remembering would be replaced by learning as an active process of making sense of one's environment through knowledge construction, interpretation, negotiation and sharing.

Professional development that aims to provide teachers with technical skills has a role to play in getting teachers comfortable with the technology. However, technical skills alone will likely leave teachers ill-equipped to teach in OLEs. Even training in navigation skills and effective searching techniques or providing them with suggestions for activities and sites will give them little more than a false sense of security that can result in little more than old wine in new bottles. Senge (1995) argues that "We do not describe the world we see; we see the world we can describe". In this sense, language theory founded in current theories of learning could provide teachers with a foundation on which to build their own professional theories. Knowledge construction, knowledge collaboration, learner control, interdisciplinary learning, meta-cognition, real-world learning, situated learning: these represent but few of the concepts so important to constructivism. To assist in the evolution of beliefs, current theories of second and foreign language teaching could provide teachers with an understanding of how some of these concepts relate to the process of language learning.

7.2.2 Beliefs and Challenges

Ultimately, what teachers believe about learning will influence their reaction to OLEs. These beliefs about learning will affect teachers in all subject domains and not only in the areas of FSFL. However, the findings of this study suggest that there are beliefs particular to FSFL which present certain challenges to effective use of OLEs. These beliefs relate to the prevalence of the English language on the Internet. Online, students have access to materials in both French and English. However, they often have access to more English sites than to French ones and the English sites are more easily accessed by them than are the French ones. This dominance of English on the Internet appears to result in beliefs that may discourage some teachers from using OLEs.

The type of beliefs that may present a challenge are:

1. The Internet is dominated by the English language. (e.g. There are not enough French sites for students to use);
2. Students prefer to access sites in their native tongue. (e.g. Teachers have to spend considerable time monitoring and controlling to ensure that students use only French sites because they try to sneak in English sites);
3. The level of French in OLEs is too difficult. (e.g. Students do not have the word recognition skills or the necessary vocabulary to take advantage of sites);

4. Learning language skills and computer skills simultaneously is unproductive. (e.g. Problems become compounded when students are using a language not their own to work online).

These challenges may not play as great a role in the case of study in other areas such as English as a second language or in the study of other subject areas such as Math or Science. If we consider as an example the case of Chinese students learning English, concerns about students accessing Chinese sites as opposed to English sites are less likely to surface because of the present-day comparative domination of the Internet by English. Teachers who are preoccupied with students' use of English sites may either avoid incorporating use of OLEs or they may constrain students' use through a highly didactic preselection of sites which will limit students' control and realization of their own goals for learning. Such restrictions may prove to be both unfortunate and unnecessary. In the category of beliefs related to the advantages of use of OLEs, many of the excerpts emphasized the large number of sites which teachers believe are available for use in the teaching of French. Yet, why do other teachers believe there are insufficient sites? Should teachers be concerned that students will access or "sneak in" English sites instead of French ones? Teachers' underlying beliefs related to language acquisition which may be influenced by the Direct Method may result in unnecessary restrictions on the use of English. Is it more effective to allow some use of English rather than limit online use altogether because of a concern that students may not always use French? It is not the purpose of this study to provide answers to such questions. However, teachers' beliefs about the use and presence of English in OLEs might, no doubt, benefit from further investigation to ensure that teachers are not evolving beliefs that will actually prevent them from effectively exploiting OLEs.

Studies in this area might assist in the development of an understanding of the impact of the use of English sites by students of FSFL as they work online. What happens when we constrain students' use to French only? Likewise, in what ways, in what contexts and in what amounts will use of the students' native language in OLEs negatively affect development of FSFL skills? Once we have some answers to these questions, professional development sessions might address the issue of students' use of their native language while learning French in OLEs. Other ways in which the challenge of use of English online may be dealt with would be through the creation of intranets or learning environments for dedicated use by FSFL teachers and students. This study considered teachers' beliefs about teaching FSFL in OLEs. However, further studies might wish to explore teachers' beliefs in relation to the teaching of FSFL using intranets.

7.2.3 Beliefs and Compatibility

The metaphor of the computer as a generator of reality is an important one in the context of this study. This metaphor conceptualizes the computer, not as a teaching machine, but as providing access to realities from outside the classroom, to realities that are not necessarily didactically designed. Some of the beliefs uncovered in this study were more compatible with metaphors of the computer as tool, tutor, or teaching machine. To be compatible with these metaphors, what is important is that the learning environment be didactically structured and organized. Those who hold these metaphors will likely value computer environments that provide controls, structures

and an organization similar to the traditional learning environment over use of environments that are loosely structured, decentralized, and organized in the same way as are OLEs.

While OLEs provide support for beliefs that are centered on learning, they do not always provide the same support for beliefs that are centered on teaching. As generators of reality, OLEs contrast sharply with TLEs and are not always accommodating of beliefs that are more focused on the process of instruction than on learning. Beliefs that emphasize such challenges or obstacles as loss of time, interference with the curriculum, competition with students' attention, information overload and lack of control may be based on the metaphor of the computer as a teaching machine. Resistance to use of OLEs may arise as a result of their inability to effectively provide a teaching environment. Beliefs in the importance of being learner-centered, of allowing individual paths for learning may be more compatible with use of OLEs. These beliefs are more likely to suit the circumstances and conditions of a learning situation or environment that has few boundaries, is flexible, differentiated, changing and largely unpredictable.

7.2.4 Conflicting Beliefs

In some cases, teachers' beliefs may be conducive to effective use of OLEs and yet there may still be barriers to use of OLEs. These barriers take the form of conflict. Conflict, inconsistencies or, what Nespor (1997) terms as "non-consensuality", are not uncommon features of belief systems. These features can be explained by the fact that while knowledge systems are open to evaluation, beliefs are not (Ibid.). One of the conclusions of this study is that, in some, if not many cases, teachers' beliefs about use of OLEs for the teaching of FSFL conflict with other beliefs. Four forms of conflict were noted in this study:

1. Conflict with one's own system of beliefs; (e.g. the teacher believes in the value of OLEs in the teaching of FSFL but also feels that she does not have the time to use them because she also believes in the importance of accountability and of being an efficient manager who covers the curriculum);
2. Conflict with institutional and systemic conventions; (e.g. a teacher wants to use a more project-based approach but constraints related to scheduling means she does not have the time to take this approach);
3. Conflict with beliefs of colleagues; (e.g. a teacher is moving towards a constructivist epistemology but colleagues believe in knowledge transmission);
4. Conflict with beliefs of students; (e.g. a teacher wants to be a facilitator but students prefer teacher-directed instruction).

Some beliefs profiled in this study suggest that, although the teacher felt the need to change and to evolve her practices, the beliefs of the teacher's own belief system, of students, of teachers or of systemic conventions, practices and norms were not consistent with this change. It is not clear what may result from such conflicts beyond what Taylor (1990) terms as "cognitive perturbation" (p.25). For example, what happens when systemic conventions and the beliefs of others reinforce and provide support for beliefs that emphasize knowledge transmission while the individual teacher's beliefs may be moving towards an approach that emphasizes knowledge construction? Does the individual abandon the new beliefs? Does she compromise? Are the teacher's beliefs

weakened as a result? What happens as a result of the conflict may depend on whether the systemic conventions and the beliefs of others are perceived as immutable external constraints, on how resilient the teacher's beliefs are, or on the centrality of the belief in terms of the individual's own belief system.

Whether the conflict is resolved so that the teacher's new beliefs translate into a transformation in practices may well depend on if there is a reconciliation between the different beliefs. Reconciliation may be achieved through a process of negotiation which, according to Taylor (1990), occurs at a number of levels through a process that is both private and public: "At the classroom level there is the individual teacher's self-negotiation, or reflection on, her personal beliefs and practices" (p.26). The teacher's reconstruction of beliefs can be helped by a process of self-negotiation but, as well, social negotiation. Inconsistencies between an individual's beliefs and those of colleagues or of students may be resolved or reconciled through a process of social negotiation whereby explicit public articulation, discussion and examination assist in the process of consensus building and of reconciliation. Finally, the negotiation process must also occur at a more public level. Teachers' participation in the development of school-based as well as district-wide policies, in school-improvement initiatives, and in the formulation of policies and decisions that affect the larger school community will provide opportunities for reconciliation, consensus building and, hopefully, for the implementation of new and transformed practices.

The findings of this study point to the need for a better understanding of the issue of conflicting beliefs. Which types of are more likely to conflict? Which situations give rise to such conflict and what processes might provide the most effective means of reconciling beliefs? Are there certain beliefs that can be more easily reconciled than others? Which beliefs are more likely to conflict with other beliefs? In terms of students' beliefs, which ones are more likely to conflict with those of teachers? Is it those which relate to roles? These are just some of the questions that can be explored in relation to this aspect of beliefs.

7.2.5 Changing Beliefs

If we think of teachers' beliefs as their own implicit theories, then we can affirm with some certainty that evolution in teachers' beliefs evident in this study support the findings of the Cognition and Technology Group at Vanderbilt (1996) that, while changes in theories of learning affect uses of technology, so too do new technologies affect theories of learning. In this case, technology appears to be affecting the implicit theories of teachers. A common theme or conclusion in the literature about teachers' beliefs is that changing them is a complex, perhaps even, mysterious, process. Nespor (1987) argues that beliefs are static, and Brousseau et al. (1988) posit that beliefs are resistant to change. Many of the beliefs profiled in this study suggest otherwise. If we refer back to this study's metaphor of the teacher as traveler or explorer of new uncharted lands, we can affirm, as a result of the findings in this study, that some teachers have adapted effectively to the new environments for learning. They have evolved new maps for the new territory. They have changed some of their beliefs.

Others have not yet adapted to the environments, but are in a transition. Their beliefs are undergoing a process of transformation as a result of being in new environments. They are

beginning to reevaluate their beliefs as a result of exposure to what Dwyer et al. (1991) term the "altered context" such as that provided by technology. For these teachers, technology serves as what Bracey (1993) refers to as "a catalyst for change" forcing teachers to rethink their practices and beliefs. Their beliefs are undergoing what Woods (1996) describes as a "deconstruction of beliefs" whereby a change in beliefs is facilitated by the construction of another set of beliefs. Some of the beliefs uncovered in this study also indicate that not all teachers are adapting as well. Their maps correspond only partially, and in some cases, not at all, to the new territory. Faced with the newness of this environment, these teachers rely on the maps which they have already and which are representations of the world of the classroom. These maps or beliefs reflect pedagogies, methods and approaches that do not mesh well with OLEs and are not well supported or accommodated by them.

Some teachers in this study indicated that their beliefs were changing as a result of their experiences with OLEs. Others, however, expressed their frustration with the inability of these environments to meet their needs. They held beliefs that were not supported by OLEs. It is not clear why some teachers appear to be evolving or have already evolved their beliefs while others have not done so. We can hypothesize as to why but more research on this issue specifically might provide an understanding that can then be used to directly intervene in order to assist teachers to shift their beliefs. Do some beliefs about use of OLEs shift more easily than others? Which beliefs are more resistant to change? What sort of direct intervention, for example in the form of professional development sessions, would be best suited to affecting beliefs? Collaborative action research projects may be particularly well-suited to understanding the dynamics of change in beliefs while, at the same time, providing an impetus to actually effectuate change. Such projects may wish to explore the role that might be played by key individuals such as educational leaders, teacher mentors and exemplary teachers.

7.3 Methodological Considerations

Chapter 4 outlined the study's methodology. Information was provided pertaining to the design of the study, the procedures, and participants, as well as to the challenges inherent in studying beliefs. The purpose of this section is to highlight some of the strengths and weakness related to the method of data collection used in this study. As well, suggestions are made in terms of different approaches that could be taken to studying teachers' beliefs on this subject.

With the exception of the questionnaire, the methods used to collect the data represented an experiment with new and innovative research techniques. The online discussion list proved to be an effective means of promoting teacher talk and reflection. It also proved to be quite a learning experience for the researcher. It was enlightening to read about people's experiences and their beliefs. It was interesting to observe commonalities in spite of geographic differences. However, what made this experience even more of a learning experience were all the unforeseen occurrences in the course of the discussion.

One of the first surprises encountered was the intrusion in the CREO list of messages which were not sent by subscribers and which did not relate to the intention of the list. Information about

CREO as well as the e-mail address for subscribing were listed online at a site which provided a repertoire of French lists. The inclusion of the address of the list meant that it could be easily incorporated into the automated mail-out lists of companies or individuals wishing to advertise products or services online. As a result, during the course of the study, members of the CREO list began receiving e-mail messages inciting them to visit sites of an explicit sexual nature. Some participants were understandably surprised by the messages. A message to the service provider of the CREO list promptly resulted in the list being closed so that only those who were subscribed could post to it. The incursion of the "unwelcomed message" into CREO raised the issue of the lack of censorship and of boundaries on the Internet. Participants reacted to the incident and expressed what they believed about the "open" nature of the Internet. What followed was a long discussion about the issue of the control and monitoring of students while they are working online.

Besides monitoring to ensure that there were no incursions such as the one described above, maintaining the discussion's momentum also became an important preoccupation. Some topics appeared to invite more reaction and discussion than others. One suggestion provided by a member likely encouraged greater participation. This individual suggested that all e-mails sent out to members have an identifying "flag" so that messages from CREDO and CREO could be easily and quickly distinguished from their other messages. The suggestion was a useful one particularly in the case of members who were subscribed to a number of different lists who may receive many messages in the course of one day. The service provider was able to change the format of all messages forwarded to the list so that the subject line first included the name of the list either CREDO or CREO. Another feature which the service provider was able to add the list was an automatic "reply to all" feature. Without this feature, participants' responses to a posting would go only to the individual who posted the message unless the responder expressly chose to reply to all. With the feature added, all responses automatically went to all members of the list unless the sender expressly chose to do otherwise. These added features greatly improved the efficiency of the discussion list as a means to collect data on teachers' beliefs.

In spite of the efficiency of the service provider in adding features to the list, there were some problems related to the technique over which there was little or no control. While use of computers and the Internet in the collection of data represents an effective and efficient technique, it is nonetheless susceptible to the inconveniences of computer viruses. The *Happy99.exe* virus or worm is a program that, when opened by the user, launches several files that monitor to whom e-mails are sent, keeps them in a file and then sends them a second message with the file attached. One of the members of the CREDO list unknowingly infected other members of the list with this virus during the course of the study. Thus, when participants posted a message, a second message automatically followed since their computer was infected. Members were alerted and those who were infected were provided with information on removing *Happy99.exe*.

In spite of these inconveniences, the list proved to be an effective means of generating meaningful discussion. Compared to the questionnaire where answers were often short, where there was little or no opportunity for follow-up or further questioning or clarification, the

discussion list allowed for rapports to be established between the participants and the researcher on one hand and between participants themselves on the other. The discussion allowed for the generation of issues and questions by the participants as well as by the researcher. It allowed for a rich environment for reflection, communication, exchange, deliberation and discussion.

In terms of some of the challenges to using this approach, there is the lack of control, the large volume of material that the researcher needs to sort through in order to uncover the beliefs and the logistics of managing the list on a day-to-day basis for a ten- month period. In relation to the issue of control, a discussion list relies on the technique of multiloguing. This means that the discussion is, to a large extent, decentered. The researcher does not always control the topics, the depth of treatment or the length of time that is spent on one issue. There were issues which participants could have discussed in greater detail (for example the issue of evaluation and assessment) but sometimes participants did not appear interested in particular topics. This is why the dialogues were so important. The dialogues were controlled or driven more by the interests and agenda of the researcher than by the participants. The dialogues made it easy to focus on particular issues even though the method was more contrived and perhaps less likely to get at the very tacit beliefs. One way in which a researcher might exert more control over the range of topics discussed in a discussion list would be to narrow the scope or range of the study and to limit participation from one program area (i.e. Core French or French Immersion) and/or from one grade area (i.e. primary, elementary, etc.).

The questionnaires on the other hand were much easier to manage. At the same time, it took considerable effort to get people to return them. Some of the questionnaires were returned with few comments. Compared to the discussion comments which were so rich, varied and lengthy, the responses in the questionnaire were frequently short, sometimes unrevealing, sometimes absent. A further disadvantage with use of the questionnaire as compared to the discussion list was that the questions were determined in advance by the researcher thus limiting the range of issues which a participant might comment on. Nonetheless, the questionnaires did provide the contrast with the responses of discussion participants. Thus, they served their intended purpose.

The dialogues with the five questionnaire participants were often more revealing than the questionnaires. All of the dialogue participants lived in remote and isolated areas. Some were located in small communities in Labrador where, for many months of the year, an Internet connection represents the only means of access to the outside world besides the coastal boat. For some of these individuals, when the phone lines were good and they could get and afford access, online access meant that they could benefit from the same type of virtual travel as could people in the capital, St. John's. The discussions with these individuals highlighted the value and importance of the Internet for people in remote communities.

From a more general point of view in terms of the study, the scope was very broad and allowed for an initial foray into an area about which little is known. The findings provide a general insight into beliefs on teaching and learning FSFL in OLEs. Some of the beliefs uncovered in this study pointed to a need for a more focused study with a narrower scope in order to provide a opportunity to focus on specific beliefs. Instead of focusing on OLEs in general, future research into specific areas or aspects of OLEs would prove useful. For example, researchers may wish to

consider investigating beliefs of teachers of FSFL in relation to e-mail, chat rooms, web publishing, MOOs or MUDs to mention but some of the tools that teachers use in OLEs. Research into the potential of OLEs to promote the development of listening and speaking skills would prove to be of practical use to teachers of FSFL. The findings of this study also indicate that there needs to be a better understanding of issues related to online navigation by students and teachers. What skills and strategies prove more successful than others? In general, the issue of professional development needs to be given greater attention in order to determine how it might better meet the needs of teachers in terms of preparing them to work in environments that do not support traditional pedagogies. In this regard, research will also need to differentiate between the different levels of primary, elementary and high school. Some of the beliefs in this study suggest that use of OLEs by primary teachers and their students may present particular challenges which need to be addressed by a separate research agenda.

Other areas not addressed by the methodology include the beliefs of students. The present study focused exclusively on the beliefs of teachers. However what many of the beliefs uncovered in this study remind us of is that beliefs are developed and modified through a process of social negotiation. To understand how they might be changed, we need first to understand how they relate to larger systems of beliefs such as those of students. Studies might also investigate the beliefs related to an entire school in order to explore how school policies and conventions, beliefs of administrators, teachers, parents, and students influence, effect and compare with each other.

Researchers need to continue as well to develop innovative and effective ways to study beliefs. The discussion list used in this study provides an example of the type of instrument and approach that can be used to encourage teacher talk and reflection. Refinement of the procedures related to use of the discussion list could result in the development of an instrument and technique that is highly effective for investigation of different aspects of beliefs specifically and thought processes in general. Nonetheless, regardless of the type of instrument or approach used to study teacher beliefs, there will always be the challenge of trying to encourage teachers to reflect about and relate their experiences. It appeared, at many times in the course of the study, that teachers did not always have the language to express their beliefs nor did they appear accustomed to reflecting on, or talking about issues related to teaching and learning. However, this study did make some contribution by providing teachers with a forum to do more reflecting and 'talking'. At the end of the study, a number of the discussion list participants sent messages of appreciation for the opportunity to share their experiences and to learn that others were struggling no less or succeeding no more than they were.

7.4 Recommendations for Educational Practice

In an earlier section of this study, a rationale was presented for the need to investigate teachers' beliefs about teaching and learning FSFL in OLEs. An important part of this rationale was to be able to provide teachers with professional development sessions that build on their existing beliefs. A further rationale was to provide a starting point from which teachers could be assisted in evolving their beliefs. The following recommendations are intended to assist in the realization of these goals.

1. The findings of this study indicate that teachers' beliefs about teaching and learning FSFL in OLEs are heterogeneous and thus reflect a wide range in terms of the evolution of approaches and technology use. Professional development sessions will therefore be useful in order to provide all teachers with opportunities to evolve their beliefs so that they might be more compatible with teaching and learning in OLEs.
2. The findings of this study suggest that teachers' fundamental beliefs about knowledge and about learning may play a pivotal role in their conception of OLEs and in the uses which they make of these environments. Teachers may need to be provided opportunities for exposure to beliefs that provide alternatives to knowledge transmission and to teacher-centered pedagogies.
3. Professional development sessions can address the issue of students' use of their native language while learning French in OLEs.
4. Technical training can be integrated with professional development opportunities to develop an understanding of the nature of OLEs and the types of learning and teaching styles that they best support.
5. Conflict in teachers' beliefs may be reconciled through opportunities for reflection on and examination and discussion of their beliefs.
6. Inconsistencies between an individual's beliefs and those of colleagues or of students may be resolved or reconciled through a process of social negotiation whereby explicit public articulation, discussion and examination assist in the process of consensus building and of reconciliation.
7. Public negotiation of beliefs can be accomplished through teachers' participation in the development of school-based as well as district-wide policies, in school-improvement initiatives, and in the formulation of policies and decisions that affect the larger school community.

7.5 Recommendations for Educational Research and Development

The present study had a broad scope. As such, it did not allow for investigation into particular aspects or types of beliefs. It did not allow for investigation into the beliefs of particular groups or individuals. Instead, this study aimed to profile the beliefs of teachers of FSFL in general. However, the findings of this study indicate that our understanding about this subject might be deepened through investigations that are more focused than this study. At the same time, some of teachers' beliefs uncovered in this study reveal that there are many areas related to use of OLEs for the teaching of French about which we know little and which would merit investigation. What follows are some areas which might be explored by researchers.

1. While some teachers' beliefs indicated a comfort level with use of OLEs in spite of the present dominance of the Internet by English sites, other beliefs highlighted problems and concerns related to the use of OLEs because of the presence of English. Beliefs on this subject of use of English in the teaching of FSFL using OLEs might therefore be investigated further.

2. Many beliefs reflected a low comfort level with the openness of OLEs, for example, in relation to control and monitoring. Research could be conducted into beliefs related to the use of Intranets for dedicated use by FSFL teachers and students.
3. Collaborative action research studies might highlight the experiences of those who have been successful in their attempts to exploit OLEs for the teaching of FSFL so that teachers can have concrete examples of ways in which particular pedagogies combine with FSFL in online learning environments.
4. Investigators can explore the types of beliefs that are more likely to conflict, the situations which give rise to conflict as well as the processes that provide the most effective means of reconciling beliefs.
5. Longitudinal studies of groups of teachers exposed to OLEs may provide insight into dynamics of beliefs. Do some beliefs shift more easily than others? Which beliefs are more resistant to change? What sort of direct intervention, for example in the form of training, would be best suited to affecting change in beliefs?
6. Collaborative action research projects may be particularly well-suited to understanding the dynamics of change in beliefs while, at the same time, providing an impetus to actually effectuate change.
7. Research into the potential of OLEs to promote the development of listening and speaking skills might prove to be of practical use to teachers of FSFL.
8. There needs to be a better understanding of issues related to online navigation by students and teachers. What skills and strategies might prove more successful than others?
9. Research can also differentiate between beliefs at the different levels of primary, elementary and high school. Some of the beliefs in this study suggest that use of OLEs by primary teachers and their students may present particular challenges which need to be addressed by a separate research agenda.
10. Research into the beliefs of students may provide more information to assist and support teachers in the social negotiation of their beliefs.
11. Investigations of the beliefs related to an entire school may assist in determining how school policies and conventions, the beliefs of administrators, teachers, parents, and students as a whole effect and compare with each other.

7.6 Conclusion

One of the conclusions of this study was that teachers of FSFL might benefit from opportunities to develop an understanding of constructivist epistemology and philosophy. Adopting a constructivist philosophy may not represent a large shift in thinking. In spite of the fact that it may be a theory, philosophy and epistemology, constructivism still represents a view of learning that is essentially intuitive in nature. It is not surprising that one of the leading spokespersons of constructivism, von Glasersfeld, once argued himself that "Constructivism does not claim to have made earth-shaking inventions in the area of education; it merely claims to provide a solid conceptual basis for some of the things that, until now, inspired teachers had to do without theoretical foundation" (von Glasersfeld, 1995b, p. 15).

In essence then, all constructivism does is attempt to make us aware of something that we know intuitively. To evolve their beliefs so that they might work more effectively in OLEs, teachers must be like the explorer in the excerpt from the poetry of T. S. Eliot at the beginning of this chapter. They need to return to where they started and revisit their common sense notions of what it means to learn. OLEs can help them in this process because they provide an altered context that provides support for a philosophy that equates learning with what we know it to be intuitively - a process of sense-making. Teachers need not be like strangers in a strange land in online learning environments. They need to let themselves be guided by an intuitive notion of what it means to learn. Their belief in learning as a process of making sense and of coming to understand the world will provide them with the most important map which they will need to guide them as they venture into new landscapes for learning in the 21st century.