An Ethnographic Study of the Use of Translation Tools in a Translation Agency:

Implications for Translation Tool Design

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by

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DEDICATION

To my parents Lawrence Samuel Asare and Margaret Asare for the sacrifices they made
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CHAPTER 1

INTRODUCTION

A translation tool can broadly be defined as any computer application used by translators and translation agencies to facilitate the translation process. Translation tools play a central role in the translation process; they have significant impacts on translation speed, productivity, profitability, and translation quality. Translation tools include Translation Memory Systems, Terminology Management Systems, Localization Workbenches, and Machine Translation Tools.

These tools are often used in the social-organizational setting of the translation agency. A translation agency is a business organization that accepts translation service requests from clients and performs these services either in-house or by relying on a network of service providers (external actors). The agency setting connects clients, translators, editors, project managers, and others in a network of social relations that shape and constrain the business processes, tasks, and information workflows of the agency. To be optimally useful and usable, translation software, like any other kind of complex software, should be designed in such a way that users and their actual organizational settings are accounted for and their expressed and unexpressed organizational needs met.
Some researchers in software development have argued that a major factor hampering the development of useful and usable software is the lack of adequate and relevant usability research during the software development process (Uldall-Espersen et al. 2874). “Usability” in the context of software development refers to software design approaches that put users at the center of the design process (e.g., user-centered design, contextual design, and participatory design among others). The argument is that the development of high quality software, including translation tools, is contingent upon the availability of meaningful and actionable data derived from end users. If user data are actionable, they can be implemented in the software application to improve its usability. Meaningful user data reflect the social/organizational context of the software use, and account for the actual business processes, tasks, and workflows the software is meant to serve. They account accurately for the actual interactions of users with their tools and with one another through the tool. However, it is clear that many software systems fail to meet their users’ needs because designers do not pay sufficient attention to these issues, what Hughes and his colleagues have called the “social context of work” (Hughes et al., Moving Out 429).

Technical teams often make important design decisions either without user-centered research or based on feedback obtained from non-user sources. For example, an internal knowledge base software application failed because system developers failed to consult all the potential users of the system. They reportedly consulted all first and
second shift workers but failed to consult night shift workers because the developers worked from 9 am to 5 pm. When the system was finally deployed in the organization, the night shift workers were resistant to the application and did not find it as useful as they could have because their views were not taken into account when the system was being developed. The system ended up being used by only two-thirds of the organization’s workforce (Diaper 31). In the absence of actual, socially-situated user data, designs are created from abstractions or projections of user needs, workflows, and processes, and thus there is always a disconnect between the ideal work situation captured in the software and the actual work situation in which it is implemented.

The failure to conduct adequate usability research and to account for the actual context of work in software design has a number of detrimental effects. Thus, Mike Sharples has argued that “the way designers intend technology to be used very often differs from the actual user’s behavior. The technology fails to function as expected and the groups adapt systems to their particular needs and situations or resist or fail to use them at all” (67). A major objective of this study was to investigate the above hypothesis within the context of a translation agency.

According to James Spradley, ethnography is “the work of describing a culture” (Ethnographic Interview 3). Spradley and McCurdy have defined culture as “the knowledge people use to generate and interpret social behavior” (Cultural Experience 8). In the context of this study, the focus of culture is more restricted: e.g. I was interested in
describing organizational culture, interlocutors’ understanding of organizational processes, workflows and tasks to be performed. Ethnography involves spending time with people in the field, participating in their daily lives and writing about their culture. Bronislaw Malinowski stated that the main goal of ethnography is “to grasp the native’s point of view, his relation to life, to realize his vision of his world” (25).

Within the context of software design, the aim of ethnography is “to develop an understanding of current work practices as a basis for the design of computer support (Simonsen and Kensin 82). Ethnography has its origins in anthropology; however, the method has also been used in many different fields including sociology, workplace studies, human computer interaction (HCI), software development and market research among others. According to anthropologist Harry Wolcott, “An ethnographic account focuses most often on some particular group of people, such as the Tikopia or Children of the Sanchez, but it may also focus on some human process, such as communication or divorce” (xi). Daniel Neyland also argues that ethnography can also focus on things and processes not only on people (30). Ethnography typically focuses on a small number of cases (Hammersley 2-3) and it is conventionally single sited, but it can also be multi-sited (Marcus 95-96). Just like the case study approach, ethnography allows for an in-depth examination of cultural phenomena (Murchison 200). Harry Wolcott’s *The Man in the Principal’s Office* is an example of an ethnography that focuses on an individual;
however, it does take into account the broader context in which that individual lives and works (Wolcott xi).

This dissertation is based on my fieldwork in a translation agency. The study focuses on a description of the use of translation tools and technologies by a small group of actors working in the agency. The study documents the organizational workflow within the agency and presents interlocutors’ perspectives on the usability of translation tools. The dissertation also presents findings from two microethnographic case studies conducted within the framework of the broad study. The case studies investigate in a detailed manner how discrete features of translation tools are used by the interlocutors in the agency. Furthermore, the case studies also investigate reasons for the use and non-use of the features of the tools, as well as problems/challenges related to the use of translation tools.

Microethnography often has different names in the literature. It is referred to as microethnography (Mehan, *Study of Social Interaction*; Streeck and Mehus), ethnographic microanalysis (Erickson), and constitutive ethnography (Mehan, *Learning Lessons*). Microethnography is an approach and a perspective that employs “fine-grained sequential analysis (akin to that of conversation analysis […] to examine interaction as constitutive of particular settings and activities (e.g. classrooms and lessons).” (Mehus 51)
Microethnography and conversation analysis are both grounded in sequential analysis but the main difference between them is that microethnography focuses on “aspects of bodily communication, such as gaze, gesture, postural configurations, and interactions with artifacts and the built environment” (Mehus, *Coordinating Care* 73-74). Software applications could certainly be considered artifacts and a microethnographic approach to translation tools would consist of detailing user software interactions and eliciting user commentary/perspectives on the use of tools. In this study, I used a microethnographic method to investigate the use of translation tools in a translation agency.

The present study is based on participation observation. The study occurs in a naturalistic setting and it describes aspects of the culture of a small group of people in an organizational setting. Furthermore, the study presents perspectives from interlocutors in the field and uses detailed description and in-depth interviewing. Although this study draws heavily on ethnographic methods, it is not considered to be a full-fledged ethnography because it is not of monograph length, and the fieldwork was carried out in a period of ten months (less than a year). According to anthropologist Wolcott “ethnography must be of monograph length; anything less substantial than that … can be ethnographic but cannot be ethnography” (*Art of Fieldwork* 56). This study is a microethnographic study that focuses on certain aspects of organizational culture. The study is based on data obtained primarily from three interlocutors who may be referred to
in this study as I1, I2, and I3 or simply as an interlocutor to protect their identities. The interlocutors are project managers working in the agency. I focused the present study on a translation agency because of the pivotal role translation agencies play in the translation process. Translation agencies are presumably users of a wide variety of translation tools.

It is known that there can be a disjunction between ideal culture and actual culture in complex organizations (see Boglarsky & Kwantes 1). In the present study my concern was to investigate possible disjunction between an idealization of organizational practice by tool designers and the actual practices of the client organization. The study was based on the hypothesis that there could be a discrepancy between how the tool users understand their processes and execute their workflows (culture and behavior) and the way the tool designers conceptualized the processes ... that is the tool designers projected or predicted a set of processes and subsequent workflows. So the “ideal business processes” were matched against the “actual business processes.” It is important to note that the ideal culture - actual culture mismatch was not perceived or expected to be within the translation agency itself, but rather between the agency’s culture (processes/workflows) and the designer’s culture (processes/workflows). The study is also based on the hypothesis that there could be differences between the workflow presumed by the tool itself and the actual use of the tool by its users (in an organizational workflow). The present study investigated the existence or otherwise of such discrepancies, and where necessary postulated their causes.
One way to improve usability studies and to account for the actual social context of work in the design of translation tools is to investigate new methods or approaches to conducting software usability studies in translation agencies. These methods should focus on documenting and describing how translation tools are actually used in the agencies, by whom, and for what purposes. The methods should expose the social-organizational relationships of the tool users with others in the social network of the organization and provide detailed descriptions of the ways in which the tool is used to carry out the business processes and tasks central to the agency’s functioning.

The main argument in this dissertation is that ethnographic approaches, which provide an apparatus for detailed description and which focus on the social and cultural dimensions of the work that the software design is supposed to enable, can make a significant contribution to improved translation tool design.

**Purpose of Study and Research Questions**

This dissertation focuses on the ethnographic description of translation tool use in a single translation agency. The findings will be used to investigate (1) how aspects of ethnography can be fruitfully applied to usability studies of translation tools and (2) how ethnographic results can best be documented and disseminated for use in translation tool design. Microethnography is used to investigate how specific features in the translation
tools are being used by the actors in the agency and the reasons for the use or non-use of these features.

**SIGNIFICANCE OF THE STUDY**

I have already discussed the widespread problem of gathering usability data that are adequately reflective of the real context of work in which software is to be used. This problem has been discussed by many researchers. (c.f. Hughes et al. *The Role of Ethnography*, 2; Goguen 194; Suchman 151; Andrei and Guran 293)

I have proposed that ethnographic description can play a useful role in improving access to user data by focusing on the organizational relationships of tool users and, further, by allowing the differentiation of ideal or idealized work practices and actual work practices. However, even if meaningful usability data are successfully gathered, there is still the problem of how to translate that data into software design. As I stated earlier, user data must be both meaningful and actionable. There is ample evidence in the literature to suggest that many software designers find it “extremely difficult to translate ethnographic reports into design requirements” (Sommerville et al. 9; Beynon-Davies 536; Harper 7; Ronkko et al. 210).

In translation studies, in the area of translation software design, there have been very few published usability studies, ethnographically-based or otherwise. A perusal of the literature reveals that in spite of the critical role played by translation technology in
the translation process, little attention has been focused on the actual, socially-situated use of translation tools. Michael Cronin has observed that while there is a considerable amount of literature on the description of translation tools, relatively little attention has been paid to describing the relationship between translators, their tools, and what he calls the *technosphere* (10). The term technosphere coincides with the notion of “context of work” discussed earlier and is defined as the technological environment of the translator.

In fact, my review of the literature indicates that ethnographic description does not appear to have ever been used as a method to inform the design of translation software tools or to study their uses in organizational settings. The failure to conduct field-based research has some potential negative implications. In the absence of grounded, ethnographic studies of actual tool use, the assumption must be that translation tool design is based primarily on idealized conceptions of work practices, e.g., tool designers predicate ideal patterns of translation workflows and translation agency business processes and base their software designs on those abstract models, models that have not been assessed against the actual context of work.

On the other hand, outside of the translation technology arena, over the past decade there has been some significant progress in adapting and utilizing ethnographic approaches in business process design and software development. For instance, in 1998 Lloyd and Deasley employed an ethnographic approach to improve communication in the design of business processes in the construction industry. In 2000, Graham Button
provided a broad overview of the intersection between ethnography and design. In 2007, Nanda Surendra demonstrated how an ethnographic research process known as the Strip Resolution Process (SRP) can be used to determine user requirements and support agile methodologies in system development (55). Jeni Pay and others in 2008 investigated the role that ethnography can play in the development of human-computer user interfaces. This dissertation strives to successfully introduce a form of ethnographic description (microethnography) into the translation tool design process.

It is no surprise that ethnographic methods have not been used in translation tool design. These methods have rarely been employed in translation studies generally. I found only a few ethnographic studies, such as the work of Kaisa Koskinen in 2006 and 2008 within the Finnish office of the European Union. Her studies, and the few like them, such as the study of Alain Désilets and his colleagues’ on the ways in which translators use tools and resources to resolve translation problems, provide some guidance in understanding the use of ethnographic methods to study translators and their work practices in their organizational contexts.

The present study is significant in several respects. First, it represents a first attempt to extend the use of ethnographically-based methods emerging in the area of business process and software design to translation tool design. Second, it will stand as a study of the use of a specific set of translation tools in a discrete social-organizational context, adding to the literature on translation tools. Finally, in a discipline where
ethnographic methods have been rarely employed, it may function as a preliminary model for future applications of ethnography and microethnography in translation studies research.

**Overview of the Dissertation**

This dissertation is organized in six chapters. Chapter 1 discusses the purpose, research questions and significance of the study. It also defines ethnography and microethnography, and discusses their value in addressing the problems identified in the study. Chapter 2 presents the conceptual framework of the research and defines key terms used in the research. Chapter 3 focuses on methodological concerns: discussing the use of ethnographic methods in the field of Computer Supported Cooperative Work (CSCW), a field that brings together researchers from different disciplines. Chapter 3 continues the discussion on microethnography and describes the specific data gathering methods used in the study. Chapter 4 provides background information about the translation agency in which the study was conducted. This chapter also describes the organizational structure of the agency as well as the organization’s business processes and organizational workflows and how they are supported by translation tools. In particular, this section tracks the movement of translation information and translation objects (e.g., source and target texts and auxiliary material such as translation databases) through the different
steps in the workflow, and discusses some problems that may occur in the process. The tracking is done using the agency’s translation project management system; the actual tracking data highlight some discrepancies between established (idealized) workflow and actual workflow, as for instance when certain processes are set aside or skipped in the workflow. Chapter 5 presents the main findings of the study. It presents a general overview of translation tool use in the agency and microethnographic case studies of the use of specific translation tools in the agency by two interlocutors/actors. The findings of the case studies are analyzed and implications for translation tool design are drawn.

Chapter 6, the concluding chapter, presents a synthesis of the findings of the study and a set of recommendations for the improvement of translation tools; it also presents the limitations of the study and future directions of the research into the design and use of translation tools.
CHAPTER 2

CONCEPTUAL FRAMEWORK

“Theoretical ideas are not created wholly anew in each study but they are adopted from each other, related studies, and refined in the process, applied to new interpretative problems” (Geertz 27).

The term *conceptual framework* has been used in many different ways in the literature; I will begin this chapter by defining the use of the expression in this dissertation. Miles and Huberman have used the term to refer to “the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them” (28). In this chapter, I will discuss “the main things to be studied” in the present research and define the key terms used in this dissertation. I have included some broad descriptions of concepts in the problem domain (translation agencies); those descriptions are not necessarily applicable to the particular translation agency in which this study was conducted.

The ethnographic description will focus on the translation agency in which translation tool-user behavior was observed (socio-cultural setting); the professionals (actors) working within the setting; the tools and technologies used by the actors in the
agency, and the translation objects in the agency: these are the texts and auxiliary materials received and produced in the agency (source texts, target texts, translation memories, and terminology databases). These components and the relationships between them are explained below.

As I mentioned in Chapter 1, a translation agency is a business organization that accepts translation service requests from clients and performs these services either in-house or by relying on a network of service providers (external actors). For instance, a manufacturing company in the US seeking new markets for its products may request a translation agency to translate product labels from English into French, Spanish and German. When the request is received the agency prepares a quote for the project. If the job requester accepts the quote; the requester enters into an agreement with the translation agency for the labels to be translated into the specified target languages. This business process is fully described in Chapter 4 under production workflow. Outsourcing is a common practice in modern businesses, including translation agencies. Outsourcing is the transfer of a business function or service to an external entity. A translation agency may outsource any of its services.

In most cases, translation agencies use the services of a network of language service providers. This group includes freelance or independent translators and other professionals who perform actual translation tasks for the agency. These external actors are also known as sub-contractors or service vendors. As a result, actual translation of
documents may not occur on the premises of the agency especially if the agency does not have in-house translators. This study focuses on the use of translation tools by project managers within the agency and not on translators.

As I mentioned in Chapter 1, translation agencies rely on tools and technologies in their day-to-day operations. These tools and technologies enable much if not most of the agency’s workflow to occur in a “virtual office” context where not all participants in a workflow are in the same physical and geographic location. Typically, a translation agency will have an office where its salaried personnel are located, access to a network of participating external actors, and a website-technology complex which enables it to communicate virtually with those actors and with its clients. The translation agency is the encompassing organizational and socio-cultural context of this research. Within this context, the socially-constrained flow of information within the agency as it passes from actor to actor in organizational workflows will be the primary object of study. There are also professionals who work within and for the agency. These actors are in most cases also users of translation tools. They may include chief executives or managing directors, project managers, translators, editors, terminologists, localizers (people responsible for the linguistic and cultural adaptation of products and services), desktop publishing personnel, and other users of translation tools in the agency. Some of these actors are not directly involved in the actual translation of documents e.g. desktop publishing staff, but they contribute in different ways to the success of translation projects. It is important to
note that roles are important in organizational settings. A role is a function performed by someone (an actor) in a given setting. Within the context of a translation agency, an actor may fill different roles at different times as need be. For example, a translator can fill the role of an editor and a project manager can fill the role of a proofreader.

The different technologies and technological artifacts or tools used in the agency will also be examined. It is appropriate at this juncture to define my use of the term technology in this study. Kelsey and Pelto have used the term to refer to “the body of knowledge for the performance of practical tasks” in the organization (43). Kelsey and Pelto also point out that the products of man’s technical knowledge are called “artifacts or material culture” (43). Technology may also refer to information technology or IT, defined in the Dictionary of Computing as “any equipment or technique used by people to handle information” (“Information Technology” def. 1).

A translation agency has a set of business processes and workflows. A workflow is a specific temporal sequence of tasks entailed by the processes. Workflow tasks may be supported by tools, that is, specific software used in carrying out the task. It is important to note that the particular translation agency, in which the study was conducted, like many users of software, has not designed and developed its own tools, based on its workflow, but has purchased commercial off-the-shelf software (COTS) to meet its needs. COTS are ready-made tools sold in the market. COTS tools may be based on workflows that differ in significant ways from those of the purchasing entity.
A business process is a sequence of activities or steps an organization takes that is aimed at achieving a particular result. It is a routine or routinized practice that is well enough established that it may serve as a guide or template for the progress and transformation of objects that move through the organization. A major aim of the present study is to observe the routine practices or processes that form part of the culture of actors in the translation agency. Processes are manifested in workflow. Workflow is “concerned with the automation of procedures where documents, information, or tasks, are passed between participants according to a defined set of rules to achieve, or contribute to an overall business goal” (Hollingsworth 6).

Leymann and Roller perceive the dimensions of workflow in a similar way: process logic (the-what dimension), organization (the-who dimension) and IT infrastructure (the-which dimension) (8). According to them, the process logic (the-what) dimension represents what needs to be done or which activities need to be performed, as well as the sequence of those activities. They note that workflow activities may be sequential or parallel. The organization (the-who) dimension stands for the departments, roles and people responsible for performing various activities within the organization.

The IT or information technology infrastructure dimension represents which IT resources are needed to perform activities. Here, they explicitly introduce the technology/tool component, e.g., the “automation of procedures” noted by Hollingsworth. They note that the “execution history of a process is thus a sequence of triplets (activity,
user, IT resource)" (9). Leymann and Roller have also created a useful typology of workflows. As shown in Figure 1, they identify four types of workflow: collaborative workflow, production workflow, ad hoc workflow and administrative workflow (10). Their typology is based on business value and repetition.

Although the other types of workflow may be of interest in this study, I will focus mainly on production workflow, and how it is supported by translation tools. Flowcharts can be used to show how actors, tools, and processes interact over time to create workflow, and how actors and tools interact to complete tasks.

A workflow is a temporal construction (e.g., it exists during a specific span of time), but it is also a social one. Workflows are enacted or carried out as a sequence of tasks accomplished by one or more actors in the organization. If the task requires
computer assistance, then the actor is also a tool user. Of particular interest in this research is the match between the tool’s “user interface” and the tool’s proffered functionality with the organization’s actual workflows and needs. As I have already stated, the software application generally represents an idealization or “model” of generic workflows and user expectations envisioned by the tool vendor when the tool was originally developed. It is an abstract projection, often uninformed by socially situated studies of actual work. An examination of the actual context of use as compared with the idealized context of use represented in the user interface and functionality of the tool is an important part of this study.

Closely related to the concepts of tool and tool user is the concept of usability. Jakob Nielsen views usability as having five quality attributes: learnability, efficiency, memorability, error-tolerance, and user satisfaction (26). Learnability refers to the ease with which a tool user can learn to use a tool. Efficiency in this context refers to how quickly tasks can be performed with the tool. An efficient system generally reduces the amount of time, effort, money or raw materials needed to perform a task in an organization. Memorability refers to the ease with which a user remembers how to use a tool. Error-tolerance refers to the capacity of the tool to tolerate the errors of the user. For example a tool may allow a user to recover lost data resulting from unsaved work, or accidentally deleted files. Satisfaction refers to the overall ability of the tool to meet the needs of the user and how pleasant the user finds the use of the tool. These are subjective
attributes. However, they allow for a better understanding of the concept of usability and will be useful in this study.

Campbell and Aucion describe usability as “the relationship between tools and their users” (172). It is important to note that examining the relationship between actors and their tools is a key part of this study because the investigation could provide answers to specific usability questions such as whether or not actors are satisfied with their tools, whether they find them suitable and effective in the accomplishment of workflow tasks, whether they encounter specific deficits or problems with the tools relative to workflows, as well as what actions actors take to mitigate those problems when they occur. By answering usability questions using ethnographic description, meaningful and actionable data could be generated that could lead to improved designs and solutions to those problems identified during the investigation.

Of no less importance in this research are the “translation objects” which comprise the source texts, target texts, and text-related information (translation memories, terminology databases) that are acted upon by business processes. These objects are dynamic and not static. They are created, acted upon, and transformed by organizational actors performing tasks using specific technology and software tools under the control of workflows. Each of the specific states of an object, or more precisely each change of state of the object, is the outcome of a specific, and in this case, computer-assisted task.
The importance of studying these objects for an organizational ethnographic study such as this one cannot be overstated. Harper for example has suggested that documents (as an example of a translation object) are crucial to organizational life, and they are “a vital component of any attempt to comprehend organizations” (13-14). Thus, documenting the life cycle of these objects in the organization is also a major aspect of this dissertation. In particular, I am interested in how the translation objects “move” in a flow from actor to actor, how they are transformed by sets of organizational practices or processes, and how the use of specific technologies and tools intersects with the objects as they are transformed at the level of the discrete task.

As I have indicated, a translation workflow can be seen as a sequence of tasks. In other words, tasks are the “smallest” unit of workflow, a discrete intersection of actor, time, translation object, and tool governed by a process. Generally, a task has a limited scope, must be done within a specified time frame, and can always be associated with a discrete primary objective or function. In Chapter 1, I broadly defined a translation tool as any computer application used by translators and translation agencies to facilitate the translation process. I provided examples of these tools. At this juncture, I will briefly describe the tools mentioned in Chapter 1, and how they are used to support the translation process.

A translation memory tool or a TM stores texts and their corresponding translations (source and target text segments) in a special local or online database, for use
in future translation projects. Examples of this tool are SDL Trados Translator’s Workbench, Wordfast and STAR Transit NXT among others. Translation memory tools may be combined with terminology management tools. A terminology management tool enables a user to store terms and term-related information in a database for use in future projects. The stored terms can be automatically retrieved during interactive translation, which helps to ensure consistency in the use of terms and to improve translation quality. Examples are SDL MultiTerm and STAR TermStar NXT.

A localization workbench is a specialized tool used primarily for software and website localization. Localization is the linguistic and cultural adaptation of products for specific markets. Examples include SDL Passolo and Alchemy Catalyst. A machine translation tool is used for the automatic translation of texts. Examples are Systran Business Translator, Babel Fish, and Google Translate.

I have elaborated a conceptual framework of actors/users, processes, workflows, tasks, tools, and translation objects so as to provide a perspective on the phenomena I sought to document during fieldwork in the agency. I have also provided descriptions and examples of the translation tools likely to be found in a translation agency. To the extent that I have focused on observing behaviors associated with process-oriented workflows and the computer-assisted tasks within their scope, I will not be describing behaviors outside of this framework, e.g., the tasks associated with other business operations such
as accounting, computer maintenance, sales and marketing, and human resources management.
CHAPTER 3

METHODOLOGY

Workflows and tasks, as discrete, observable behaviors occurring in an organizational context, can be studied ethnographically. The use of tools by actors can also be studied ethnographically. The tool-using behavior of actors can be understood and interpreted in a broader socially meaningful context. Three books contributed in different ways to the conceptualization of certain aspects of the present study: Richard Harper’s study of the IMF entitled *Inside the IMF: An Ethnography of Documents, Technology and Organisational Action*, Daniel Neyland’s *Organizational Ethnography*, and Kaisa Koskinen’s *Translating Institutions: An Ethnographic Study of EU Translation*.

Harper’s work contributed to my understanding of technology and documents from an ethnographic perspective. Harper traced what he calls the “document career” (68) within the IMF. He used the term “document career” to refer to the movement of documents in the organization. He states that his main concern in that study was to “report on how ethnographic findings can be used to improve the design of organisational work practice and supporting technologies” (*Inside the IMF*, ix).

Similarly, in his book *Organizational Ethnography*, which I see as a useful handbook on ethnographic studies in modern organizations, Neyland argues, as noted in Chapter 1, that ethnography need not focus just on people, but rather on things such as
documents, technologies, and the processes upon which organizations base their day-to-day operations. Neyland points out that:

Ethnographic research can be all too easily restricted by the assumption that it is focused on culture or cultural variables or social issues which can often be taken to mean people not things or technology. Of course an ethnographic study cannot draw such stark boundaries. From the traditions in anthropology we find tribes studied as people, but also through their material artefacts. In the same way most modern organizations would make little sense if they were studied without the range of things, technologies, processes, documents and so on upon which the organization’s day-to-day operation is focused (30).

Similarly, Paul Atkinson and Sara Delamont suggest that “the study of material goods and artifacts, technology, and other aspects of material culture deserve systematic attention in many ethnographic contexts” (292). Harper’s and Neyland’s ideas have been integrated into the conceptual framework articulated in the previous section. To their focus on processes and documents (which I expand to translation objects) I have added an emphasis on the particular behaviors associated with the “supporting technologies,” e.g., software tools that act upon those objects.

This focus, which drills down all the way to the description of the use of discrete software functions is a very finely detailed, or microethnographic one. In Chapter 1, I
described microethnography (ethnographic microanalysis, or constitutive ethnography) as an approach that attempts to understand certain aspects of organizational culture (e.g. tool use) by examining small details of tool using practice and eliciting user commentary/perspectives on the tool use. While microethnography has been used as a technique in the study of human speech and social interaction (see the work of Frederick Erickson), I believe it can also be used to study the interaction of translation tool users with translation software applications and, by extension, with the “process-workflow abstraction” tool manufacturers posited during the software design process. Erickson, for example, makes the following claim:

Ethnographic microanalysis (which has also been called the microethnography of social interaction) is both a method and a point of view. Using videotapes or films of naturally occurring interaction, the microanalyst looks very closely and repeatedly at what people do in real time as they interact. From this approach to analysis comes a particular perspective on how people use language and other forms of communication in doing the work of daily life. (328)

With only a slight change of perspective, this technique can be adapted to the study of a kind of displaced interaction, e.g., the tool-user is not interacting directly with another human being, but is interacting with a kind of behavioral proxy. That is, the software user interface is an idealization of a behavioral sequence enacted in the software
by its designer. The interface manifests certain assumptions about typical tool users, their workflows and encompassing processes. During actual task performance tool users are interacting with that idealization and their actual behavior may not be consonant with the idealized behavior posited by the software. Microethnography, because it focuses on the behavioral details of the “communication” of the tool user with the absent designer through the interface, could provide valuable situated information about the appropriateness and effectiveness of the software in an authentic context of work.

A context of work is a very small unit of study. It is a unit focused on a particular set of tasks within a specific workflow. The context of work is, of course, embedded in larger more overarching contexts. For instance, in her study of Finnish translators in the European Union (EU), Koskinen presented a three-level context that moved from the more global institutional framework of the EU to the more immediate context of the social group composed of the translators working in the Finnish section of the EU, and ended with the local operational sphere of the texts that they translated within those encompassing social contexts (113). The model provided a useful mechanism for examining how the overarching organizational and social frameworks impacted the processes and products of translation. In this study I have focused on the most local and operational context, what I have been calling the “context of work.” Even such a small context fits the definition of a “social situation” and is therefore a suitable object for (micro) ethnographic study.
According to Spradley, an ethnographic study is the study of a social situation. He has defined a social situation as a “stream of behavior (activities) carried out by people (actors) in a particular location (place)” (Participant Observation 86). A social situation is, then, a particular convergence of activities, actors and place. In the present study, within the overarching context of a translation agency, I focus on just such a convergence, a translation workflow and its associated tasks and translation objects.

I have suggested that ethnography, in particular microethnography, can be used to study the behavioral details of user interface interaction. Ethnography is to be a means to gather meaningful and actionable user/usability data from an organizational setting such as a translation agency.

**Ethnographic Methods**

Paul Willis and Mats Trondman have characterized ethnography as a “family of methods” emphasizing direct, sustained contact with actors and descriptions of the encounters (5). Ethnography allows the use of multiple data-gathering methods. These include participant observation, non-participant observation, informal interviewing and listening, intensive interviewing, historical and content analysis, questionnaires, and inspection of physical materials. Microethnography, in particular, has been associated with the videotaping of interaction. Thus, ethnography offers qualitative researchers a wide range of data acquisition modes. The choice of a data gathering method must be
driven by the research problems at hand and also by conditions on the field of research. No matter what data gathering method is used, ethnography relies heavily on direct observation. Werner and Schoepfle have pointed out that observation is the “mainstay of the ethnographic enterprise” (257).

**Role of Ethnography in CSCW**

Ethnography has been extensively used especially in the field of CSCW to study the nature and context of work, and especially to investigate how computer systems and software applications are used to support work. There is also some literature on attempts to use ethnography in system development, although these have not been without problems. In Chapter 1, I mentioned the extreme difficulty of translating ethnographic findings into design specifications (Sommerville et al. 9; Hughes et al., *Presenting Ethnography* 33; Beynon-Davies 536; Ronkko et al. 210), but there is also a major concern about the prolonged time traditional ethnographic approaches take (Sommerville et al. 2).

Hughes and others have identified four different roles for (or types of) ethnography in CSCW (Hughes et al., Moving Out 433-436; Harper *The Organization* 260). The four “ethnographies” differ in terms of the time they could be expected to take and when they are deployed:
Concurrent Ethnography aims at using ethnography to concurrently support system development, e.g., ethnographic information is acquired and factored into the analysis and design stages during the systems development cycle. Concurrent field studies last 12-14 months. “Quick and dirty” Ethnography is an intensive ethnographic approach which aims at providing “valuable knowledge” about the organization in a relatively short time—the study lasts 2-3 weeks and is conducted generally after development, during prototyping, or during testing, but can also be carried out during the analysis phase. Evaluative Ethnography is a post hoc approach which aims at finding out how already created systems are being used; evaluative ethnographies are not prolonged studies, and are generally focused on the post-release phase to provide information about user problems, inform feature upgrades, and the like. Re-assessment of previous studies aims at re-examining previous ethnographic studies of the workplace with a view to finding out any changes that have occurred. Such studies can also be important in deciding about features to be adopted in new releases of software.

Hughes and his colleagues view “quick and dirty ethnography” as a potential solution to the problem of what they perceive to be unacceptably long times for the conduct of traditional, concurrent ethnographic studies. According to them, the method is intended to inform system designers about key problems emerging from the use of software systems in the field (Hughes 432). While they are not optimal studies, given the timetables and deadlines in place for most software projects, short ethnographic study
times are in many cases preferable and have a better cost-benefit ratio. This of course
depends on the purpose of the study.

The present study aims at investigating *how* existing translation tools are used in
actual work settings and describing any problems related to their use. In this respect, it
serves an evaluative function. The study is also intended to help improve the translation
tools used in that setting by investigating both the expressed and unexpressed needs of
actors using translation software in the field. To achieve these objectives a longer time
frame for research was needed beyond the time usually taken by the “quick and dirty”
and evaluative approaches. The study also aims at proposing a useful mechanism for
analyzing the findings of the ethnographic research and presenting them for use in
translation software design.

**Data Gathering Methods**

This study used participant observation, interviews, user interface walkthroughs,
and case studies as the main data-gathering methods. I will discuss each of these methods
and how they are used to accomplish the goals of the study.

According to Russell Bernard, participant observation involves “experiencing the
lives of the people you are studying as much as you can […] immersing yourself in a
culture and learning to remove yourself every day from that immersion so that you can
intellectualize what you’ve seen and heard, put it into perspective, and write about it
convincingly” (344). Participant observation was used by Malinowski in his study of the
culture of the natives in the Trobriand Islands. Malinowski lived among the people of the islands, learned their language and participated in their daily lives. He stated that as the natives saw him every day, they ceased to be bothered or alarmed by his presence (7-8).

Bernard has identified three different roles in fieldwork: the complete participant, the participant observer and the complete observer (347). Each of them implies a different level of involvement on the part of the researcher in the activities in the field. I reviewed all these forms of participation and picked the most viable and ethical.

For instance the complete participant approach involves the use of deception. It presupposes that a researcher would participate as a full member of the group and even conceal his or her identity as researcher. I considered this approach to be unethical and unsuitable for this study. The complete observer records the behavior of people and has little or no interaction with them. This implies the lowest level of involvement on the part of the researcher in the activities in the field. A participant observer gets involved in the activities in the field while concurrently conducting research. According to Bernard, participant observers can be insiders observing and recording some aspects of life around them (observing participant) or outsiders participating in some aspects of life around them and recording what they can (participating observers) (347).

I conducted the present study as an outsider participating in some aspects of the lives of the interlocutors. I did not work in the agency and did not play any other role beyond the role of researcher. Atkinson and Hammersley have observed that “in a sense all social research is a form of participant observation, because we cannot observe the
social world without being part of it. From this point of view, participant observation is not a particular research technique but a mode of being-in-the-world characteristic of researchers.” (249)

I supplemented participant observation with interviews, user interface walkthroughs and detailed descriptions of user interface usage. I asked the actors to show and tell what they do with the tool. I also pointed to specific commands and features in the user interfaces of tools and asked them questions about how those specific features were being used. The interface walkthroughs were used mainly to gather data for the case studies or microethnographies. Murchison defines case studies as “detailed examinations of specific individuals, groups, or events chosen as exemplars worthy of close examination; often chosen to represent a larger whole” (223).

The case study approach was chosen for two main reasons. First, it has been argued that a distinctive characteristic of microethnography is its “focus on case studies rather than collections of instances from multiple interactions” (Mehus 74). Furthermore, a case study can focus on individuals or small groups and it has advantages when combined with the ethnographic approach. Murchison has observed that “case studies highlight the comparative dimensions of ethnographic work and have the added benefit for providing space for concentrated, detailed examination of specific examples with a specific purpose” (200). I provide a detailed description of the design and findings of the microethnographic case studies in Chapter 5.
I analyzed the data after each interview or field observation. In the original research design and prospectus I considered the use of a video recorder and screen recording software; however, there were slight changes to the original design at the request of my interlocutors in the field. As a result, I recorded interviews and field observation data exclusively using a digital audio device and a pen and paper. Such adjustments are to be expected in ethnographic research, and did not affect the direction and findings of the study.

**Duration of the Study and Field Observations**

After the completion of the negotiation of access process, my fieldwork lasted ten months. Fieldwork began in March 2010 and ended in December 2010. I conducted field observations about once or twice a week depending on the schedule and availability of my interlocutors. Field visits and interviews lasted between one and three hours on each day. Analyzing the findings, cross-checking information with my interlocutors, and writing up the final ethnographic report were done concurrently with and continued after the completion of fieldwork.

On the days of field observation, my aim was to find out what the actors actually did when they came to work. I looked at their work schedules to get an idea about their assignments for each day of observation. I paid attention to conversations among them, especially those relating to translation tool use. Data integrated in this dissertation were
gathered through many field visits and interviews with three interlocutors in the agency. Throughout the fieldwork, I spent time conversing with my interlocutors. Our discussions centered mostly on the translation tools used in the agency. We also discussed the current translation projects the agency was working on and problems related to those projects. We discussed newly received requests for quotes (RFQs). On days when I did not go into the field, I sought updates from the interlocutors on the status of ongoing translation projects, and tracked their evolution through the different phases of the workflow. In some cases, ongoing projects could be tracked using the agency’s translation project management system which is discussed in the next chapter.

The Major Phases of the Ethnographic Research

The fieldwork had three major phases; it evolved from a broad to a more specific focus. This seems to be a validation of David Fetterman’s argument:

The acquisition of ethnographic knowledge and understanding is a cyclical process. It begins with a panoramic view of the community, closes in to a microscopic focus on details, and then pans out to the larger picture again - but this time with a new insight into minute details. The focus narrows and broadens repeatedly as the fieldworker searches for breath and depth of observation. (47)
My investigation of the use of translation tools in the agency roughly followed this path.

**Phase One of Fieldwork**

During the first part of the study I sought to learn as much as I could about the translation agency and build rapport with the interlocutors. This phase enabled me to achieve a greater understanding of the social setting and roles and relationships of the people working within it. During the initial phase of fieldwork, I learned about the organizational structure of the agency, the different roles in the agency, and identified the actual users of translation tools within the organization. This “initiation phase” of the study was valuable; aside from helping me build closer links with my interlocutors in the agency, it yielded background information that led to the design of subsequent parts of the study. During this phase I obtained information mostly through informal interviews, and inspected internal documents such as letters and training materials. I also explored the organization’s website for information.

During this period, I participated in a modest way in the life of the organization. I was invited to and participated in a meeting that discussed the current use of translation tools in the agency as well as plans to upgrade them. The conference was facilitated by a consultant and was attended by all members of the staff. This was a major event in the course of the fieldwork and shed useful light on the agency’s use of its tools.
Phase Two of Fieldwork

During the second phase of the field work, I focused on the study of the agency’s workflows and how they were supported by translation tools. During this phase of the research, I learned more about the agency’s business operations, its clients, and the types of projects it undertook. I also learned about its plans for expansion and discovered more about the organization’s mission and culture.

Workflow was studied using internal documents (including diagrams), direct field observations, and interviews granted by different interlocutors in the agency. Based on the information obtained from these sources, I prepared a flowchart representing the production workflow. The production workflow chart made it easier for me to track the movement of translation objects from actor to actor in the organization, and it also depicted the different translation tools used at different stages in the workflow to support the business operations of the organization. The production workflow diagram does not only provide an overview of the agency’s core operations but, more importantly, it allows for the quick detection and discussion of problem areas related to translation tool use in the agency. The diagram allowed me to target specific aspects of the agency’s operations for study. I sent the draft workflow diagram to my collaborators in the agency for their comments and suggestions. The validated and finalized flowchart is presented in Chapter 4. The information obtained from the study of the production workflow led me to focus
the study on the use of specific translation tools in the agency by two actors. During the second phase of the study, I prepared an inventory of all the translation tools/software owned and used in the agency and described the extent to which they were being used.

**Phase Three of Fieldwork**

Based on the tool inventory and the production workflow, I designed and conducted two microethnographic case studies within the main study to find out how the project managers in the agency used translation tools. As noted earlier, details of the design of those studies and their findings are presented in Chapter 5, the main discussion chapter. The microethnographic case studies were designed to investigate specific research concerns identified in the dissertation such as the reasons for the use or non-use of specific features of the translation tools and the identification of workarounds. The word *workaround* refers to any creative solution to problems encountered by the actor while using the tool or to any method used by the actor to circumvent a problem that prevents the accomplishment of a particular task.
CHAPTER 4

A DESCRIPTION OF THE TRANSLATION AGENCY, TRANSLATION TOOLS AND PRODUCTION WORKFLOW

“One of the first conditions of acceptable ethnographic work certainly is that it should deal with the totality of all social, cultural and psychological aspects of the community, for they are so interwoven that not one can be understood without taking into consideration all the others” (Malinowski xvi).

The Translation Agency

I conducted the present study in a single translation agency. For reasons of confidentiality, I will refer to it in this dissertation as Breeze Language Associates, BLA, or the agency. As much as possible, I have used pseudonyms and I cite roles rather than proper names throughout this dissertation to protect the identities of my research collaborators or interlocutors.

BLA is a translation agency. The translation agency has three offices manned by permanent staff of the agency. Like many translation agencies, BLA uses the services of
many translators, editors, proofreaders, localizers and other language service providers. A localizer is a person who adapts products to meet the linguistic and cultural conventions of a specific target market. The process may include translation. Typically products are localized by specialists based in the countries where the products will be used. These persons are “external actors” and are referred to in the agency as “freelancers,” “service vendors” or “contractors.” The agency’s staff and contractual workers live in different parts of the world. As a geographically dispersed organization, the translation agency relies heavily on software tools and communications and internet technology. It has established a strong communication network that it uses to coordinate the activities of its staff and project teams worldwide.

The translation agency’s main offices, which served as the field site for the study, are located in a large administrative building. The agency uses five main office suites in the building; there is also a conference room and a waiting room for visitors. The waiting room also serves as an office space for interns and temporary or visiting staff. The offices are equipped with computer workstations connected to a corporate intranet and to the Internet. The agency’s headquarters are well-furnished.

During the period of the field study, I sometimes used temporary office space on site. This location was strategic for two main reasons: First, it allowed me to listen to and participate in conversations among the agency’s staff, especially those conversations pertinent to translation tools and technologies in the agency. Second, it was an excellent
point from which the movements of employees and clients could be monitored. Most of the agency’s clients preferred contacting the agency by email or telephone. Nonetheless, some local clients occasionally came to the agency to meet with the staff face-to-face and transact business.

**Services Provided by the Agency**

The translation agency provides a wide range of language services to its clients. The services include document translation, website and software and localization, and multilingual desktop publishing (DTP). DTP services include formatting and presenting documents in different languages. In the area of document translation, the agency provides services in technical, medical, marketing, and advertising translation. The agency outsources its DTP and localization projects to an external entity. The translation agency’s staffs are therefore not directly involved in those projects as they are executed by that entity. BLA has plans to expand its service menu; it intends to add interpreting to its range of language services. At the time of the field study the agency was in the process of screening and recruiting interpreters.

Most of the requests received by the agency are requests for the translation of documents. During the period of the field study, a few requests were received for website localization; these services were performed through one of the agency’s partners. The agency is a multilingual service provider offering translation and localization services in
about twenty languages. The languages include Arabic, Bulgarian, Chinese, Croatian, English, French, German, Hindi, Icelandic, Italian, Japanese, Polish, Portuguese, Romanian, Russian, Spanish, Somali, Swedish, Turkish, and Ukrainian.

Organizational Structure and Staff Roles

Like many small organizations, the organizational structure of BLA is relatively flat, with few levels of hierarchy. The company’s workforce may be classified into two categories:

1) Permanent staff
2) Short term or contractual staff

The agency’s permanent staff includes a chief executive officer, project managers (PMs) and their assistants, and an IT Administrator. The second group of the agency’s workforce comprises short-term or contractual staff. Members of this group are not employees of the agency. The agency uses their services as and when the need arises. This category includes translators, editors, proofreaders, desktop publishers, subject matter experts and others whose services are engaged by the agency from time to time. Members of this latter group are external actors and do not work at the agency’s headquarters. Members of this group are among those in the agency who use translation tools. The organizational chart given in Figure 2 illustrates the breakdown of these two categories of staff.
Figure 2 Organizational structure of the agency
Roles within the Agency

The agency is headed by a chief executive officer (CEO). This person is in charge of the day-to-day administration of the agency and provides leadership for the organization. This actor also has responsibility for client relationship management (CRM) within the agency. This actor believes that a translation agency is a “people business” that derives its success largely from the quality of its relationship with its clients. Therefore the agency takes client relationship management and sales very seriously. The agency uses its translation and project management tools to support this cardinal objective.

As shown in Figure. 2, there are also three other project managers. The project managers generally oversee the production workflow in the agency. During the period of the field study, I interacted with the project managers, who by virtue of their key roles in the organization became the interlocutors’ from whose perspectives the entire organization was studied. The information technology (IT) administrator is responsible for system upgrades and maintenance in the agency. The project managers oversee the recruitment of translators, localizers, editors, and other human resources for the agency. To ensure the quality of all its products, the agency has put in place strict criteria for the recruitment of translators and other supporting staff for the agency. The requirements include being a native speaker of the target language, possessing a minimum of three years of experience in the translation industry, being knowledgeable in the field in which
one seeks appointment as translator, being certified by either a professional body or university, and submitting a sample translation. Owning or knowing how to use a translation tool is not a requirement for subcontracting in the agency; however, the contractors are asked on the application form to specify the translation tools they use. The IT person is located off site and is contacted when there is an IT problem. Duties of the IT person include system installation, system maintenance, and upgrades. He is also responsible for the maintenance of the agency’s website and corporate intranet.

The project managers are the main production workflow “actors” in the agency. They are directly in charge of translation projects; as expected, they became the main interlocutors in the present study. On certain days of fieldwork, I shared an office with one of the interlocutors in the agency; this proximity offered opportunities for a naturalistic observation of the use of tools and made it easier to pose questions. Project managers were identified as the main users of translation tools in the agency building itself, so I decided to limit the current study to their use of the tools and to focus possible future studies on how the external actors use translation tools. I did not study the use of translation tools by off-site personnel because I did not have the opportunity to interview them or directly monitor their use of the tools. I did receive some information from my interlocutors about how external staff, primarily translators, used translation tools. BLA, like many translation agencies, has few or no in-house translators; most actual translation work is done by translators within the external network. The translation agency relies on a large number of professionals, mostly linguists living in different parts of the world and
offering services in different languages. The network of professionals is made up of translators, terminologists, editors, localizers, and proofreaders. Data on this workforce are kept in a large database hosted in the Project Open project management software. Thus, with a strong and widely distributed workforce, BLA is able to meet daily challenges, such as sudden increases in the demand for translation and localization services and short project deadlines.

These external actors are all users of translation tools and use a range of tools to translate source files. However, the interlocutors reported that most of their translators use the SDL Trados software, and the agency has a number of floating licenses that it leases out to translators who do not have their own licenses for the software. It came to light during field observations that communication is a very important part of the culture and life of the project managers in the agency. The agency’s staff members have daily interaction using Skype and a wiki feature provided in their official project management tool. A wiki is a website that allows its users to freely post and edit content. The atmosphere in the agency on a typical working day is busy.

A Description of Translation Tools Used in the Agency

Within a translation agency, translation may be viewed as a set of complex activities which take place within a project management framework. A project in this context is a sequence of activities with a goal that must be carried out within a stipulated
time and according to established specifications. In view of this reality, translation agencies need tools that support the project management aspect of their work, as well as tools that can be used to perform document translation itself. BLA uses a variety of tools to support the translation process; these tools fall into the two main categories described above. During the period of the field study, BLA used or owned the following tools.

1) Project management
   a. Project Open – a standalone translation project management tool

2) CAT (Computer-assisted Translation)
   a. SDL Trados Professional Suite 2006 – comprising tools such as:
      Translator’s Workbench, TagEditor, WinAlign, MultiTerm, SDLX
   b. SDL Trados Suite 2007 – Freelance Version

3) Word processing and document review
   b. Adobe Acrobat Professional – a tool for capturing and reviewing information from different applications in PDF and sharing it with others

4) Desktop publishing tool
   a. Adobe Frame Maker 7 (this tool was not being unused because DTP services were being outsourced in the agency)

Many of the Computer Assisted Translation (CAT) tool components or modules are interdependent, and tool developers usually combine a project management module
and an interactive translation module (along with other modules), into a single application. For example, in SDL Trados 2007 Professional, the project management function is served by Synergy. However, it is worth noting that the project management modules that are included in the CAT tool packages are in many cases, “lighter versions” of stand-alone project management tools. All the software applications in the main office of the agency have been installed on computers running Microsoft Windows operating systems. Therefore, all service requests requiring the use of Mac computers or software are outsourced. In the following section, I provide a description of Project Open, the main translation project management tool, and how it is used to support the business of the organization. I describe the use of the other translation tools in Chapter 5.

**Project Open**

As noted above, the translation agency uses Project Open, a standalone web-based translation project management application. Project Open is an application that connects the agency’s project managers, clients, translators, editors, and DTP staff. The application enables team members to work together toward the successful completion of translation projects. Realistically, Project Open is being used as an Enterprise Resource Planning (ERP) application. According to Gartner Research an ERP system is a “technology strategy, that integrates a set of business functions […] ERP applications typically automate and support more than just administrative processes, and include the support of
production, and inventory processes, as well as asset management aspects of an organization” (Hestermann and Woods 2). The above definition describes in a nutshell, the role being played by Project Open at BLA.

Project Open enables the agency’s project managers to track the activities of project team members and to communicate to all members of staff. The agency staff members supplement the use of the tool with other means of communication such as telephones, Skype services and e-mail. More importantly, the tool serves as a virtual office for the agency. In a book chapter entitled *Success in the International Virtual Office*, Kirk St. Amant pertinently observes that revolutions in electronic communication are changing the way people think about the “office.” He notes that the office was once a physical structure, but with the advent of technologies such as email systems and corporate intranets, the office has expanded to include coworkers stationed in various locations around the globe (79, 80).

The Project Open tool has a wiki and project chat rooms. A wiki is a website that enables users to post and edit content. The project rooms allow all human and material resources assigned to a project to be placed in one virtual location. Project rooms allow only persons working on particular projects to come together and discuss issues related to those projects. Project teams in the agency use the forums provided by the tool to ask questions and discuss issues related to the use of style guides, fonts and other technical questions. Some actors also use the feature to share their experiences about technical problems and how to solve them.
Aside from allowing only authorized teams members to monitor the progress of projects, the tool also enables the staff of the agency to share their calendars and work schedules. This is very important in a dispersed organization such as BLA. In effect, Project Open promotes the visibility of actors and ensures transparency of work. Project Open shrinks the physical distance between the dispersed workers of the agency. Project Open is hosted on the agency’s web server and stores all relevant project files on the server. Thus agency staff members, including the external translators, are able to access project files from any geographic location. Although Project Open is not designed for use as an interactive translation tool, as noted above, it supports all of the different workflows in the agency in which translation activities are embedded, including the production and collaborative workflows which are focal areas in this study. The tool is essential to the smooth functioning of the agency and can be described as the “nerve center” of operations in the agency.

As indicated earlier, the tool provides a mechanism for integrating different functional areas within the agency. Integration in this context refers to the ability of different functional areas and software applications to share or exchange information with one another so they can work together. For instance, Project Open works with SDL Trados Professional 2006, the main Computer-Assisted Translation or CAT tool used in the agency. Project managers in the agency can easily import comma separated value (CSV) files produced in Trados Translator’s Workbench file analysis into Project Open for the automatic generation of quotes for clients or for the generation of payment
vouchers for translators. CSV is a file format used to exchange data between different applications. CSV is a standardized delimited format (comma separated values). This file format can be created and read by Microsoft Excel. Thus, Project Open integrates output from the Computer Assisted Translation (CAT) tool with quote generation and financial software. In small organizations this kind of multi-purpose software is quite cost and labor-efficient.

Project Open integrates into a single user interface several components needed to run different aspects of the agency. For instance, the tool supports different aspects of BLA’s operations such as translation project management, human resource management, customer relationship management, financial management, and knowledge management. In the area of translation project management, the tool enables project initiation and integration, project planning, project controlling, project tracking and reporting, project collaboration, file sharing, resource management, financial management, and knowledge management. All these components are presented as modules integrated within a single user interface.

Project Open is a highly scalable tool. According to the developers, the application can support about 20,000 active users (Bergmann 9). One of my interlocutors indicated that this was one of the main reasons for the deployment of the tool in the agency since the agency hopes to expand in the future. Currently, the tool is operating well below its capacity in the agency.
Project Open hosts the agency’s translator database in which important information such as resumes and other personal information are kept. Maintaining an accurate and updated version of a translator database is crucial to the success of any translation agency. Project managers need to make quick decisions on the allocation of resources to projects. Aside from information about translators’ skills, educational qualifications, native and working languages, and translation rates, the translator database also contains important notes, comments and feedback about translators’ performances in previous projects or their track records. This information includes notes about habitual lateness in submitting translated files, notes about the quality of a translator’s work, a translator’s temperament and so on. This feedback comes from both project managers and clients. The feedback is deemed crucial to the success of projects and is passed on from project manager to project manager. Project managers in translation agencies need this type of information to assess the inherent risk in assigning (time-sensitive) projects to translators. The Project Open tool enables project managers at BLA to write and share confidential notes about their vendors, which I think is a great feature for the reason stated above.

File Manager is another important feature of the tool that is heavily used in the agency. This feature makes files accessible to users based on their roles in the agency and the permissions granted them by the system administrator. The application allows clients and other users to directly upload files into the system; it sends notifications to designated users when files are uploaded. This eliminates the need to use email applications to
transfer files and bypasses the attachment size limits associated with email applications. In Project Open, the visibility of pages may be restricted to a user. At BLA, translators typically have limited access to the system: They normally have only read and write access and are able to download and upload files. Many of the files in the system are also invisible to them unless special access is given them. Project Open is also the repository for translation memories in the agency. It presents a central location where translation memories can be kept, easily updated and accessed by authorized persons within the agency.

Project Open allows information about the agency’s permanent staff to be stored at a central location in the system. Employees are able to customize their pages and upload photographs. They can also share tidbits of information about their own lives. This adds a personal dimension to the business environment and improves relations between the employees. The user interface of Project Open is quite simple and customizable. The “complexity” of the software’s user’s interface depends to a great extent on that user’s role in the agency and the number of features to which that user has access. As noted above, Project Open is being used to ensure the flow of information across the entire BLA organization. It also serves as a strategic starting point for tracking the translation project life cycles in the agency. This process is described under production workflow.

Generally, I noted during interviews and field observations that project managers at BLA were very satisfied with this translation project management tool; they reported
no problems with its use whatsoever. In a distributed business environment such as the one at BLA, there is a need for tools that are capable of supporting the distributed nature of work. These tools must be capable of supporting collaboration, communication, and the exchange of information among participants in a geographically dispersed workforce. They must support the online tracking of projects. For the management of BLA, Project Open seems to have responded well to these needs. In conclusion to this section, I would say that Project Open is an application that presents many desirable features for a translation agency. The tool offers visibility not only for ongoing projects in the organization, but also visibility for actors and their schedules within the organizational framework. It serves as a collaborative platform and suitable workspace for the actors in the organization. It combines the advantages of a virtual office, ERP application, and translation project management tool. In the next section I will discuss the business processes and production workflow in the agency. I track the movement of translation objects from actor to actor through the different steps of the workflow. I will discuss occasional problems that occur in the process.

While tracking the movement of translation information objects through the production cycle, I paid attention to occasional discrepancies between production workflow as designed (and documented) by the agency and the actual workflow observed during the field study. When discrepancies in workflow enactment occur it may be due to pressure exerted by clients on the agency’s management to accelerate the translation process for some reason or when, as a cost-saving measure, clients request the
suppression of certain steps in the production workflow (e.g., a client may question the use of an editor and request the suppression of the editing phase).

This discrepancy is not the only kind that occurs. It may also be, as I have discussed previously, that there are differences between the nature of workflow as envisioned by a translation tool software designer (and upon which software functionality and user interfaces are based) and the actual workflow in which a tool is used. In both cases there is a disjunction between ideal workflows and the workflows that actually occur. More specifically, certain tasks that are assumed to be carried out because they are part of the task sequence of the ideal workflow will not be carried out, or, alternatively, certain tasks may be added or modified. As indicated earlier when discussing Leymann and Roller’s taxonomy of workflow, I focused on production workflow in this study. Production workflow is the workflow in the agency that is responsible for producing the “product,” in this case the finished translation files or documents (see Melby).

The flowchart given in Figure 3 provides an overview of the major steps involved in the translation of documents in the agency. The flowchart is best understood as an abstract sequence of steps that detail general processes (editing, translating) and decision points in a temporal sequence. It is important to note that the flowchart is incomplete in that constituent tasks that enact the processes (e.g., discrete translation actions and terminology research and documentation actions) are not indicated. For instance, a great number of discrete translation tasks are implied by a single “process” step (Step #16).
During the period of the field study, the cycle implied by the flow was continuously executed. At certain times, I noted deviations from the established processes. I point out these deviations in the discussion of the different processes. These processes are discussed in detail from the first (Step 1) to the last (Step 26). Data used in this section of the report were gathered from interviews, company internal documents and participant observation. The outlined processes apply to document translation only.
Figure 3 Flowchart of the document translation process at BLA
Business Processes and Production Workflow in the Agency

Step 1 – Request for Translation Services

The first step in the flowchart represents the Request for Quote or (RFQ) stage. As shown in Figure 3, the production workflow begins when a prospective or existing client makes a request for a document translation service. The RFQ marks the first step in the presale process. Requests for translation services are usually sent to BLA by email. Some requests are submitted online through a contact form available on the company’s website. Some clients prefer making telephone calls to the agency and asking for a quote. When a client calls to request a translation service, the project managers have the opportunity to ask questions in order to better understand the needs of the client. Once the RFQ has been received in the agency, the next step (Step 2) of the workflow begins.

Step 2 – The Client Questionnaire

Step 2 involves the administration of the client questionnaire. This stage involves two actors: the project manager and the client. A project manager sends a questionnaire to the client from whom the RFQ originated. The questionnaire contains 25 questions. The step is intended to elicit the client’s requirements for the project. It is an important step in that it can help determine the success or failure of the translation project.

The client questionnaire at BLA has been designed to gather as much information as possible from the client about the translation project. The information is elicited for
two main reasons: a) to determine the needs of the client in order to serve those needs as well as possible, b) to provide an accurate quote for the client. The use of a standard questionnaire in the agency ensures that all clients are asked the same sets of questions and that the RFQ process is standardized as much as possible. The questions on the questionnaire have been grouped under sub headings such as: Translation, General, Software/Website, Conversions, Review Process, Formatting and Design, Delivery and Invoice, and Special Notes.

Under the “Translation” subheading, clients have to indicate the language of their source document(s) and all the languages into which they would like their document(s) to be translated. Clients also need to indicate whether or not they intend to submit the source files with the questionnaire or whether they would provide the agency with a word count themselves. Clients also indicate whether the project requires a back translation and how they want their completed translation to be delivered to them (hard copy, electronic files etc.). The questionnaire is also used to determine whether the client has previous translation memories, terminology databases or glossaries, style guides, reference material or any other resources that would help in translating the source documents. In the absence of pre-existing resources, clients can request the agency to develop terminology databases for them or create new translation memories from previous translations for use in the project.
The questionnaire also asks if the client has any preferences regarding the use of a particular translation tool in the execution of the project. Generally, clients have indicated that they have no preference as to the use of particular translation tools for their projects. Under the “General” subheading, clients are asked to indicate the software with which the source material was created, and to indicate whether it was created on a Mac or PC platform. Clients also have to indicate whether there is text embedded in graphics that need to be translated and whether the text is editable. If so, they have to specify the programs with which the graphics were created.

Most importantly, clients need to mention whether the source documents have been finalized and approved. Project managers at BLA believe that “translation begins with approved source files.” If the source files have not been finalized, clients are asked whether they expect changes within a specific time frame and to specify that time frame. The project managers at BLA shared experiences that underline the fact that starting the translation process with approved or finalized source files eliminates many problems down the line. Later during the field study it was learned that project updates were a huge problem area in the agency and that the agency needed tools that would support the process. This point is discussed further in Chapter 5.

Clients also have to provide information about when they need the projects to be completed. This is normally negotiated with the agency. Clients have to specify their document review plans and indicate whether they plan to use their own reviewer, and
whether the review process will take place prior to formatting of the translated text. This is to enable the agency to plan the project. Under “Formatting and design” clients indicate whether they want BLA to provide formatting and design services as well. Under delivery and invoice, clients indicate whether they need hard copies of the translated document to be mailed to them and provide an address for the invoice. The client can also include any special notes or instructions in the appropriate section of the questionnaire. It is clear from the information provided above that BLA’s client questionnaire is detailed. The agency therefore sends the questionnaire as an email attachment and requests clients to complete it and return it by email. The client questionnaire administration process is an indication that the agency’s clients are actively involved in the planning and sometimes in the execution of the projects. They are actors in the entire project. As much as possible, the project managers in the agency allow the clients to track the progress of their translation projects.

A problem noted at this stage of the process flow is that in some cases clients do not submit any files at all and request the agency to give them a quote based on an estimated word count. This inconveniences the agency, which sometimes provides rough estimates. Similarly, if incomplete source files are submitted, the finalized files need to be submitted at a later date and this creates additional work for the project managers and translators who have to update the source files in the system and translate the new material.
Step 3 – Creation of a New User in Project Management System

When the completed client questionnaire is received at BLA, a project manager makes the client or company a new user of Project Open, the agency’s translation project management system. The name and address of the company or client are entered into the system. This step marks the first use of the translation project management system in the production workflow. The prospective client becomes a new user of the system and is given a user name and a system-generated password that can be changed later. This step must be completed in order for the agency to generate a quote for the project and regardless of whether the prospective client eventually uses the services of the agency or not. The user is also granted appropriate permissions to use the system. At this stage, the system sends an automatic notification email to the user with the login information. No problems were noted at this stage of the process.

Steps 4-5 – Creating a New Project, and Uploading Source Files

After a new user has been added to the system, a new project is created and a project manager is assigned to that project. During the project creation stage, a full description of the project is provided. The description must include the type of project to be undertaken e.g., document translation, desktop publishing, editing, software or website localization etc. The source and target languages of the project are also specified at this stage. Other important information entered into the system at this stage includes the start
and end dates of the project. This information is usually obtained from the completed client questionnaire. Based on this information, the system automatically creates source and target language folders for the project. For instance, in the case of a multi-lingual translation project the Project Open software creates translation, editing, and proofreading folders for all the different languages involved in the project.

When a new project is created in the system, the software automatically sends file upload instructions and a tutorial on the use of the system to the client. The client can then upload source files and all accompanying files such as fonts and graphics, translation memories and termbases (if available), style guides (if any), and any other available reference material into Project Open. The ability of clients to upload project files directly into the translation project management system eliminates the need for clients to send project files by email.

A problem I observed at this stage is that some clients failed to upload the files into the system as directed, and preferred to send them by email. Some of the clients did not know (or were unwilling to learn) how to use the system. One of the interlocutors jokingly reported that “sometimes it takes a longer time to teach them how to use the system than to send them or request them to send an attachment.” When files are not uploaded into the system directly by the client certain problems can occur.

While translation agencies are interested in providing quality translation, they are also concerned about speed. So whenever something impedes the pace of work, there are
negative implications from the point of view of project timetables and even budget. When clients use email attachments instead of directly uploading files into the system, a discrepancy between the established and desired workflow and actual workflow arises. The developer of the agency’s project management system presumed that the source files would always be uploaded into the system by clients. This represents an ideal situation; however my field observations confirmed on several occasions that this was not always the case.

**Steps 6 and 7– Inspection and Verification**

Step 6 initiates an inspection phase during which a project manager examines all source files and accompanying reference files to ensure that they are in order. At this stage the project manager also verifies that the submitted files are complete and final versions. The project manager also checks whether the “correct” files were uploaded and whether the actual source file matches the description provided in the RFQ. For example, if the client indicated an intention to translate marketing or medical documents, the project manager ensures that the submitted source files indeed contain marketing or medical content.

A major problem at this stage was that sometimes clients upload the wrong files into the system. Uploading errors are detected during this phase. This type of error, however, did not occur during the time of the field study. If an error is detected during
the verification process, the client is asked to send the correct files. Project managers at BLA ensure that to the extent possible, the source files supplied for translation into other languages are indeed finalized versions. Early detection of problems during the inspection stage saves time and money for both the client and the agency. One of the interlocutors indicated that “the translation of wrong source files is a nightmare that can be avoided” and BLA’s production workflow is designed with checkpoints to eliminate or reduce such occurrences. After all the files have been certified as “correct,” the project manager proceeds with the next step, which is file preparation.

**Steps 8-11 – File Preparation, Tags, Graphics Inspection, and Preparation of Quote**

File preparation is the process of converting certain types of files, such as Framemaker and Interleaf files, into a translatable format or a format that can be supported by Workbench and TagEditor. These files subsequently need to be converted back to their original formats at the end of the translation process. The process depends on the type of source files received. For example the conversion of Framemaker and Interleaf files can be done with S-Tagger for Framemaker and S-Tagger Interleaf. S-Taggers are utilities that convert these files into a workable format. The preparation also depends on the languages involved (source and target languages) and the formatting of the document. BLA rarely receives source files in Framemaker. According to an interlocutor about 60 percent of the files received in the agency are InDesign files which
are all prepared in the DTP department. When files are received the project managers usually inspects the source files to determine if preparation is needed, e.g., if they have a complex formatting, contain multiple tags, tables, or graphics with embedded text that need to be translated. If the answer to any of these questions is affirmative, the files are sent to the Desktop Publishing department for file preparation, file analysis and a formatting quote (Step 9 ii). In most cases, files are prepared in the DTP department. The DTP department is also subsequently responsible for the re-creation and formatting of those files after translation. The DTP department has direct access to the files in the system. In most cases, Word documents and files that do not have complex formatting are analyzed in-house by a project manager. The project manager obtains a word count from the analysis. This phase (Step 10) marks the first use of Workbench in the cycle. Aside from occasional technical problems with Workbench during file analysis, this stage is normally problem-free. Problems with Workbench are discussed fully in Chapter 5.

If the files were sent to DTP for processing, the project manager waits for a quote from that department in order to prepare the agency’s quote. In most cases, it takes less than 24 hours to hear back from the DTP staff. After file analysis and formatting estimates have been received from the DTP staff, the project manager uploads the CSV file produced from the Workbench into Project Open for a quote to be generated.

As noted earlier, Project Open integrates well with SDL Trados. It automatically generates a quote on the basis of the word count, translation and editing rates, project
management expenses, and where applicable, DTP charges. The quote is then finalized and sent to the client who views it in system. In some cases the quotes are sent by email to the clients.

**Steps 12-14 – Quotation Approval and Resource Selection**

At this stage of the workflow, the client makes a decision after reviewing the quote. To enable the project to proceed to the next stage, the client is required to sign off or approve the project. If the client rejects the quote, the RFQ process may end at this point (Step 12ii). However, some clients choose to negotiate rates with the agency. On a few occasions during the field study clients, after studying the itemized quote, requested certain items on the quote to be removed in order to save on costs. If the client approves the revised quote, the flowchart proceeds to the next step. A purchase order is automatically generated by the system, a job number is assigned, and the purchase order is sent to the project manager. Without the client’s approval, projects do not proceed beyond the quotation stage.

The next step in the workflow (Step 13) involves the selection of human resources. During this stage team members are selected to fill the different roles in the project. This is done using the translator database kept in the system. The project manager searches through the translator database and selects a qualified translator, or as the case might be, a set of translators, for the languages involved in the project. The BLA
database contains the names of translators, editors, indeed all of the agency’s service providers including localizers and subject matter experts (SME). Project managers at BLA attach great importance to the human resource selection process (Step 13), as it contributes critically to the success of a project. During the selection process, project managers strive to match the requirements of a project to the qualifications, skills, and subject matter expertise of the translators available to them. Past performance is also factored into resource decision making. The project managers prepare a short list of two or three translators whose profiles match the skills needed in a given translation project. The project manager contacts the first translator on the list to inquire about his / her availability to complete the project within the time frame. If the project manager receives a positive response, that translator is selected to take part in the project. If the first translator is not available, the second translator is contacted, and so on, until a translator is found.

If the project manager finds that the agency has no translator with the requisite language and professional skills for that project, the project manager begins a process to recruit a new translator for that project using the following procedure. The project manager conducts a search for translators on websites such as the ATA website, PROZ.com or Translators Café. The project manager then prepares a shortlist after reading the profiles of the translators who meet the search criteria. The translators are contacted and asked to submit their resumes and complete a questionnaire (which also
includes the number of words they can translate per day). Shortlisted translators are asked to submit sample translations for evaluation by the agency. At BLA, the samples are evaluated by other translators or by client reviewers. Some of the agency’s clients are very committed to helping the agency recruit skilled translators for their target languages, and they demonstrate this commitment by paying for sample translations submitted by translators. After the translators have submitted their sample translations, their profiles are evaluated alongside their sample translations, and recruitments are made for the agency. The project managers follow the same procedure for the selection of editors and other project team members. No major problems were noted during this phase of the workflow.

**Steps 15-18 – Package Preparation, Translation, and Editing**

After qualified translators and other team members have been located and recruited and the necessary non-disclosure agreements have been completed, the project manager prepares a translation package or work package containing the source files, translation memories, terminology databases if any, reference materials, and instructions for the translators. The instructions include commission information such as the language into which the source files are to be translated and the project deadlines. The work package contains all the files needed for the translation project to begin and is created by the project manager and delivered to the translators via Project Open. Once the project
package has been received, the translator translates the files (Step 16) using SDL Trados TagEditor. If the translator is an external actor, actual translation takes place off-site and actual task performance could not be observed in these cases.

After the files have been translated, both cleaned and uncleaned files are sent to the project manager by a specified time. During actual translation CAT tools match source language segments with corresponding target language segments. The term *uncleaned file* is used to refer to the bilingual files. During the clean-up process the source language segments are removed from the translated files and the translation memory can be updated at this stage. The files are known as *cleaned files* after the bilingual data have been removed from the translated file. Project managers at BLA require translators to submit both uncleaned files and cleaned files. This makes it necessary for the translators to use only the recommended CAT tool, TagEditor that can produce the specified files. Translators who do not own the recommended tools are allowed to use the agency’s floating license.

After the files have been translated, they are sent to the project manager who then sends the files onward to an editor for further action (Step 17). A task (not indicated in the flowchart) which occurs between Steps 16-17 is the creation of review tables by the project manager. The main tools used in this process are TagEditor, Word and Adobe Acrobat. Prior to sending the files to the editor, the project manager creates a review table of source and target segments (displayed side by side). This makes it easier for the editor
to review the translations. It was noted during the field study that some clients, as a cost saving measure, decline the use of an editor for their projects; they argue that if a good and very experienced translator is used for the translation, editing may not be necessary. Whenever this happened, established processes in the workflow were skipped. The skipped editorial process might have an impact on the quality of the translation. The editor, who is normally an experienced translator, edits the translations and, where necessary, makes changes and suggestions using the Review, Comments, and Track Changes feature in Microsoft Word and Acrobat Professional. After editing the file, the editor sends it with comments to the translator or project manager. Because these activities take place mainly within the translation project management system, the project manager can easily monitor what goes on; the project manager can also have access to all the working files.

One interesting problem I noted at this stage of the workflow is that although editors and translators have been instructed to use the Review, Track Changes and Comments features in Microsoft Word and Acrobat Professional, for some reason, some of them do not do so. Instead, they provide handwritten comments on paper. A case in point was an Arabic editor who reportedly never used the preferred editing tools. In my interlocutor’s opinion it was a motivational issue on the part of that user. It is impossible to upload handwritten comments into the translation project management system unless they are scanned and uploaded as file attachments. I perceived resistance to the use of
those features of the tools or lack of knowledge about how to use the features of the tools as a major problem with the capacity to slow down the translation process. There are also, coincidentally, handwriting legibility problems. This is an excellent example of how idealized workflows, especially those enacted by machine, can be derailed by purely human action (or, in many cases, inaction). Because my study was confined to the translation agency, I did not directly contact any external actor. This line of inquiry will be pursued in a follow up study of how external actors also use translation tools.

Steps 19-20 – Acceptance/Rejection of Editor’s Changes, Client Review and Finalization of Translation

In step 19 the translator decides to accept or reject the changes suggested by the editor. If the translator accepts the suggested changes, the translation can proceed to the client review stage (Step 20). This process is optional, and some clients do not use reviewers. Some clients prefer to use their own reviewers to ensure translation quality. Some of the reviewers are based in the country in which the product will be used. A PDF copy of the translated document is made available to the client reviewer, who uses a PDF authoring tool, such as Acrobat to edit and send comments to the agency. The reviewer also receives a client review table from the project manager (similar to the one sent to the editor). The client review table contains both source language and target language segments. This table is intended to allow a side by side review of the translations. The
client reviewer can comment on the translations. Acrobat also enables the project manager to allow comments from the reviewer. Thus, Adobe Acrobat is used in the agency mainly to gather feedback from reviewers and editors. The client reviewer has access to the reference documents used in the translation such as glossaries and style guides etc. On the other hand, if the editor’s suggested changes are rejected by the translator, Steps 19 (ii) and 19 (iii) are invoked. The disagreement is usually resolved by bringing in a third party, a Subject Matter Expert. One of the interlocutors in the agency reported a translator’s view that “editors were being paid to find fault with translations and comment on the work of translators, so they [the editors] must necessarily find fault with translations in order to justify their continued relevance in the translation process.”

In the view of this interlocutor, one of the most difficult aspects of their work is facilitating communication between translators and editors. Project managers at BLA emphasize the need for all team members to work together to ensure the success of projects. At BLA, it is hoped that the back and forth between the translator and the editor does not exceed two rounds. The interlocutor noted that prolonged exchanges between translators and editors cause unnecessary delays in the completion of projects and does not augur well for the success of projects. After translator-editor agreement has been reached, the next step is the review stage (Step 20) described above. Aside from the editorial deadlock that sometimes occurs at this stage of the workflow no other problems were noted.
Steps 21-24 – Formatting and Proofreading

The client reviewer reviews the translated files (Step 21) and sends comments on the translation to the agency. The necessary changes are implemented in the files and the translation is formatted. If the DTP department was initially involved in the project, the files are sent to them for formatting. If not, the files are formatted in-house by a project manager.

Project managers in the agency hope that documents do not undergo substantial changes after formatting has been done, since this raises the cost of the project. The next step in the workflow is proofreading of the hard copy document (Step 24). This is usually done by the translator who did the original translation. If he or she is not available, it is done by the editor. As much as possible, the proofing roles are allocated among the same actors involved in the earlier translation and editing stages. In some cases, this quality control task is performed by a project manager.

Step -25 –Document Delivered to Client

After proofreading, the translated document is sent to the client by having the project manager give the client access to the document in the project management system. The system automatically notifies the client that the document is ready. If hard
copies were requested, they are mailed to the client at the address specified in the questionnaire.

**Step 26 – TM Update and Project Review**

Based on the changes proposed by the client reviewer prior to the finalization of the translation, the project manager updates the primary translation objects, e.g., all translation memories (using the uncleaned files) and terminology databases (or glossaries) used in the project (Step 26). The updated translation objects are then archived in a database kept in the project management system. The project management staff then holds post-project meetings during which they discuss what went well and what went wrong in the project. The rationale is to find solutions to problems and improve on the performance of the agency’s workforce in future projects. At this stage, the agency also takes a look at its processes to see if they can be improved. The project is then closed and another translation project cycle begins when another project is opened.

**Conclusion to the Discussion on Production Workflow**

In conclusion the study found that the workflow presumed by the translation project management tool represents an idealization of work. It presupposes that clients, and for that matter all other actors, will use the tool in a specific way. There were several occasions observed where this was not the case. Email is very often used as a communication workaround (especially for transmitting files), bypassing the Project
Open system even though the tool provides better support for large file attachments. Sometimes the clients fail to use the system’s available functionality. Although the agency has spent some time in educating users (through written instructions) about how to use the system, it has not been able to bring every client on board. This is generally because, in spite of the written instructions, some users do not learn how to use the system or how to use specific features of the system.

The bottom line is that the workflow can begin “outside of the system,” but the best results occur when the documents are uploaded into the system initially by the client and the client uses the system from that point onward. When the actual workflow was compared to Project Open’s functionality, it became evident that some of the features of the translation project management tool were not being used. An interlocutor indicated that the agency has not been using the full features or full functionality of the tool due to lack of technical support and lack of money to implement the full capabilities of the tool. From the onset, the translation agency took a decision to sideline some of the features of the tool because they were not ready to use them. Overall, the interlocutors expressed great satisfaction with the system because it has facilitated their work in many ways and it supports many aspects of the work in the agency. It allows project team members to communicate and collaborate effectively.
CHAPTER 5

MICROETHNOGRAPHIC CASE STUDIES OF TRANSLATION TOOL USE IN THE AGENCY

DISCUSSION OF FINDINGS

An Overview of Translation Tool Use in the Agency

Early on in the fieldwork, I made an inventory of the translation tools used in the agency; this initial survey led to the decision to focus on Project Open (already discussed) and Translator’s Workbench and TagEditor, two of the agency’s most important CAT tools. Translator’s Workbench is a translation memory tool that enables translators to store and reuse translations. TagEditor is a tool used by translators to translate and edit texts. Although Microsoft Word is used in the agency, I did not focus the case studies on its use because it is a general tool used to support translation as well as many other non-translation-related tasks in the agency. According to Lynne Bowker, tools such as word processors, grammar checkers and e-mail and the World Wide Web (WWW) are valuable for modern-day translators, but “they are rapidly becoming part of our general knowledge [ ] they are used by people in many professions, not just by translators” (6). I focused the microethnographic case studies on Translator’s Workbench and TagEditor, which are dedicated translation tools.
The agency uses many tools to support the translation process. Tools that are used primarily for desktop publishing tasks such as Adobe Framemaker (FM) and specialized PDF tools such as Adobe Acrobat Professional were also not included in the microethnographic case studies. While desktop publishing and PDF editing tools support the translation process in different ways, they are not considered to be translation tools. Localization services are also outsourced in the agency so those tools were not studied.

Figure 4 provides an overview of the main tools in the translation agency and their usage frequencies. The figures only represent the frequencies of tool use by the internal actors in the agency at a given point in time (during the time of the field study). The estimated usage frequencies change with time. The estimated tool usage frequencies were confirmed by the interlocutors.

![Translation Tool Usage Frequencies in the Agency](image-url)

**Figure 4 Translation Tool Use in the Agency**
Translation Tool Use in the Agency

As indicated on the graph, the agency was making little use of some of its tools at the time of the study. MultiTerm as a tool was not very much used by the interlocutors in the agency. However; this observation does not mean that it was not being used by the external actors (terminologists and translators) working for the translation agency who submit termbases to the agency from time to time. Also the high use of the main project management tool was an indication of its importance in the agency. I interviewed an interlocutor in order to better understand translation tool usage in the agency, i.e. the reasons for the use or non-use of certain tools. I also wanted to investigate the impact of the low usage, if any, on the agency’s overall mission.

During the interviews it came to light that translation tool usage in the agency is actually driven by need and project type. For example, there may be a request or need to create new translation memories from previously translated material for a new client. Such a project requires the use of WinAlign, the specialized tool for aligning previously translated material. The study found that three tools, SDL MultiTerm, WinAlign and SDLX were being relatively underused in the agency. Those tools were not investigated in the microethnographic case studies which sought to investigate in detail how specific tools in the software inventory were being used, but I did investigate the reasons for the relatively low use of those tools.
With respect to SDL MultiTerm, it came to light that many of BLA’s clients had requested that the agency create terminology databases in MultiTerm for use in their translation projects. Most of BLA’s clients regularly use translations of technical, medical, and marketing material and thus see the need for terminology management. The interlocutor reported that the agency was still making efforts to educate other clients about the need for integrating terminology management into the translation process. Thus the tendency is expected to change.

SDLX is a translation tool, but it is not being used in the agency although the agency has a license. The main reason for the lack of use of the tool is that the interlocutors in the agency reported that they have a preference for Trados Translator’s Workbench which, of course, comes with TagEditor. They reported that the Trados-supplied tools offer them all the needed functionality for accomplishing workflow tasks. However, the study found that the project managers needed certain features and functionalities that were not present in Workbench or TagEditor but were present in SDLX. Thus, by not using SDLX, the interlocutors denied themselves access to important functionalities and utilities they needed to perform their jobs most effectively in the agency. As an example, SDLX supports translation project management with a feature known as SDL Compare. The tool is designed to compare two versions of the same translation document and identify the differences between them. It helps support the accurate versioning control of documents. Because of its SDLX license, the agency had access to this functionality. Interestingly the interviews revealed that the agency was in
need of a tool that would enable it to compare different versions of translated documents and detect the changes that need to be made to translation memories. This need became even more apparent when the interlocutors found Context TM difficult to use, and subsequently abandoned the utility altogether. Context TM, also known as Perfect Match, is a project update utility that was installed with the agency’s version of SDL Trados 2006. At the time of the field study, the interlocutors in the agency had experienced some problems with the use of this tool and had given up on it, as noted above. The Context TM tool is designed to provide functionality similar to the SDL document compare feature described above. I noted during interviews with my interlocutors that the agency was quite disappointed and frustrated with the Context TM project update utility.

According to the tool’s user manual, the Context TM utility is designed to compare new source files with old translated bilingual files in TTX, and transfer the relevant bilingual data from the old to the new file. TTX is a Trados Tag document. The Context TM tool also checks for context so the matches from a Context TM are perfect matches that do not need to be translated or edited (SDL, User Guide 2006 8-21). Context here refers to the surrounding segments. The main difference between a Context TM operation and a translation memory operation is that the Context TM takes context into account when transferring the matches from the old bilingual document to the new document and this eliminates the need for further editing of the segments (SDL, User Guide 2006 12-7). Thus, the tool facilitates project updates. An ordinary translation memory does not take context into account and its output typically needs further editing.
The agency has not been able to benefit from this tool. An interlocutor noted that so far, the Context TM tool has proved unusable. Moreover, the interlocutor noted that it is sometimes easier to translate the new material from scratch than use Context TM because of the time and cost involved in using the tool. When asked whether they had tried but were unsuccessful in using the tool or whether the tool did not function as expected, the interlocutor replied that “it became so cumbersome to find out how to use it that we took another route, just start translating from scratch.” As a result, the utility is currently not being used and the agency is currently not getting the help it needs in the area of project updates. As of the time of the field study, an interlocutor indicated that the agency was in need of a document compare tool that would be easier to use to facilitate the document compare and project update tasks in the agency. The interlocutor mentioned Microsoft and Adobe as developers of some generic (non-CAT) tools with features that could provide solutions to this problem. But the interlocutor also noted that accuracy is sometimes a problem when using these tools.

SDL Compare would have supported the document compare tasks if the agency had been aware of its capabilities, known how to use it, and, of course, decided to use it for its intended purpose. But this tool remained unused although the agency had a license to use it. The tool is accessible on the SDLX dashboard and its use does not require any preconditions. Because SDLX was not being used, none of its features or utilities was being used in the agency. The primary reason of the non-use of SDL Compare seems to have been a lack of awareness of the features of the SDLX suite. One of the interlocutors
summed up this point: “sometimes you have a tool that has about ten features, but you use only one, they are there but either you don’t know how to use them or have no need of them.” The interlocutor’s statement may reflect the true situation of other tool users and should have implications for the development of future translation tools and possibly for pedagogy. The case of the Context TM utility as noted above is slightly different from that of SDL Compare in that the interlocutors were fully aware of the tool’s existence and its capabilities, but they abandoned the tool because they found it difficult to use.

I found also that WinAlign was rarely used in the agency. In relation to the other tools, the interlocutors estimated its usage at about 3%. The reasons for the low use of this tool were quite different from the reasons SDLX was underused. During the time of the field study, the interlocutors were quite busy working on many different projects. However none of the projects necessitated the use of WinAlign thus I did not have the opportunity to observe the actual use of WinAlign in the agency. The project managers were working mostly with existing project translation memories for existing clients. In some cases they created new translation memories for new clients, or asked the translators to create the translation memories, but the need to use WinAlign did not arise. This study found that alignment is an established process in the agency’s workflow; however alignment projects were infrequent in the agency. An interlocutor reported that prior to the field study; WinAlign had only been used only a few times within the agency to align previously translated material. After the preliminary assessment of translation
tool use in the agency, two translation tools (Translator’s Workbench and TagEditor) were selected for the case studies.

**Microethnographic Case Studies of the Use of Workbench and TagEditor**

In the present section, I discuss two microethnographic case studies conducted within the agency on the use of two translation tools: Translator’s Workbench and TagEditor. The case studies focused on the way two of the agency’s project managers use the tools in the performance of their duties. I relate the findings of the case studies to the research questions and discuss the implications of these findings for translation tool design.

The case studies aimed at investigating specific issues related to the use of Workbench and TagEditor. The case studies are divided into two sections: Perspectives on the Usability of Tools, and Feature Use. The first section addresses general issues related to the use of the translation tool(s). It investigates interlocutors’

1) perspectives on the usability of translation tools;

2) purposes/reasons for using the tool;

3) length of tool use and competency of tool use;

4) frequency of tool use;

5) challenges/problems related to tool use; and

6) perceptions on the ideal translation tool.
The second section, whose focus is more specific, investigates issues such as:

1) tool users’ awareness of the existence of specific features in the tools;
2) whether or not those features and capabilities were being used;
3) reasons for the use and non-use of tool’s features;
4) how the tools’ features were being used and tasks supported by those features;
5) frequency of use of the features and importance of the features to users;
6) tool users’ perspectives on the ease of use of the features of the tool; and
7) any specific problems users had with the use of the features of the tools.

Data for this part of the research were gathered mainly through semi-structured interviews, interface walkthroughs and direct field observations of the participants. The participants were always interviewed separately. To enable the data to be compared, similar questions were asked of the participants in order to elicit their perspectives on the above-mentioned issues. The data were subsequently analyzed for patterns. At the beginning of the interviews, participants were asked to assess their own knowledge of the features and capabilities of the tools. They were also asked to describe their level of confidence in the use of the tools. In the next section I discuss in detail the different aspects of the study.
Perspectives on the Usability of Tools

As noted earlier, the main purpose of this section of the study was to investigate how the two participants used Workbench and TagEditor in their day-to-day work. One of the primary objectives of the overall study is to improve the usability of translation tools through an ethnographically-informed research process.

In Chapter 2, I discussed usability from the perspectives of Nielsen and Campbell and Aucion. If, as Campbell and Aucion state, usability is at least partly “the relationship between tools and their users” (172), then the use of a tool should generate a subjective assessment on the part of the user about that relationship. Interviews should allow a researcher to determine how users perceive the software they use by eliciting opinions about the software’s critical user dimensions. To that end, I adopted Jakob Nielsen’s usability attributes discussed in Chapter 2, i.e., learnability, efficiency, memorability, error-tolerance, and user satisfaction (26) and shared them with the interlocutors. This information was given in order to ensure the two participants had a common understanding of usability attributes so that the data obtained from the case studies would be comparable. I argue that investigating these five attributes and providing user assessments of them allows us describe the main aspects of usability perspective. These five attributes reveal a user’s subjective stance toward the tool, what I am calling a usability perspective.

Usability is considered by some researchers as a crucial factor in determining software quality (Porteous et al. qtd. in Dubey et al. 4723), Nielsen (26), Campbell and
Aucion (172). A combination of factors can affect the relationship between users and their tools and impact their usability perspectives. While some of these factors are user-intrinsic (e.g., level of training in the application domain, familiarity with the workflow) others are application-intrinsic such as poorly designed interfaces, failure to expose functionality in the interface, unhelpful help documentation, and the like. A tool is most usable if the user factors and the application factors are congruent, that is, the interface, functionality and help are matched to the user’s expertise level. An optimally usable tool should be associated with a positive usability perspective. Tools that are less usable will generate perspectives indicating frustration, rejection and the non-use of certain features of the software (or of the entire application). Each of the participants was asked to evaluate his or her experiences with the tools in the light of the five dimensions of usability discussed above. Table 1 describes the specific usability questions asked both participants; Table 2 describes a set of general questions asked of the participants about the tool.
### Table 1 – Usability Items

<table>
<thead>
<tr>
<th>Usability and User Interface Items</th>
<th>Sample Questions Asked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressions about usability of tool</td>
<td>What are your overall impressions about the usability of the tool?</td>
</tr>
<tr>
<td>Perspectives on User Interface of tool</td>
<td>How do you find the user interface of the tool?</td>
</tr>
<tr>
<td>Accessibility of User Interface commands</td>
<td>How easily are you able to find the commands you need in the tool’s user interface?</td>
</tr>
<tr>
<td>Ease of navigation</td>
<td>How easy is it for you to navigate the tool’s user interface?</td>
</tr>
<tr>
<td>Degree of complexity of User Interface</td>
<td>How do you view the complexity of the User Interface of the tool?</td>
</tr>
<tr>
<td>General Questions about the Tool</td>
<td>Questions</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tool name and version information</td>
<td>What is the name and version of your translation tool?</td>
</tr>
<tr>
<td>Role of tool user (PM, Translator, Other)</td>
<td>In what capacity do you use this tool?</td>
</tr>
<tr>
<td>Length of tool use</td>
<td>How long have you owned or used this translation tool?</td>
</tr>
<tr>
<td>Assessment of user’s confidence in use of tool</td>
<td>How confident are you in the use of this tool?</td>
</tr>
</tbody>
</table>
| Assessment of user’s knowledge of tool’s features and capabilities                             | How well do you feel you know the tool’s features and capabilities?  
Approximately what percentage of the tool’s features do you think you know how to use? |
| Tasks enabled by tool in agency’s workflow                                                     | Which specific tasks in the agency’s workflow does this tool support?                                                                    |
| Purposes of use of tool                                                                        | Please indicate the purposes for which you use this tool in the agency.                                                                    |
| Frequency of tool use                                                                          | How frequently do you use this tool?                                                                                                     |
| Most liked feature of tool                                                                     | What do you like most about this tool?  
Which features of the tool do you find most useful and why?                                                                 |
| Least liked/most frustrating feature of tool                                                     | What do you like least about this tool?  
What do you find most frustrating about this tool?                                                                                            |
| User’s view of an ideal (most desirable) translation tool                                       | How would you describe an ideal translation tool?                                                                                         |
| Suggestions for tool improvement                                                               | What improvements would you like to suggest for the developers of this tool?                                                              |
| Plans and reasons for upgrade                                                                  | Do you have any plans for upgrading your translation tool? Why would you like to do so?                                               |
| Problems or challenges faced in the use of tool?                                               | What problems/challenges do you face in the use of this tool?                                                                           |
| User’s response to problems such as error messages                                             | What do you do when you are faced with problems such error messages or a dysfunctional tool?                                               |
| User’s workarounds                                                                            | What workarounds do you employ in the use of this tool?                                                                                    |
| Missing features                                                                               | Do you have needs for features that are missing in the current version of your tool? Please explain.                                         |
Feature Use

As mentioned earlier, this section of the study focuses on the use of specific features, commands, and dialogue boxes in the translation tools. I use the word *functionality* in this discussion to refer to the “features available on the user interface and to capabilities of the back-end software that support the achievement of goals” (Diaper 26). For simplicity, the word *features* is used in a general sense to refer to the set of capabilities of the tools which were investigated. Software can be viewed as a set or package of features designed to provide solutions to specific needs. This section of the study was therefore a feature study. It is focused on the tool user’s interaction with the tool’s user interface and with the specific features of the tools.

In the previous section similar questions were asked about both Workbench and TagEditor; in this section the questions asked regarding Workbench differ from those asked about TagEditor. The questions used in this section were developed after a perusal of two important documents or ethnographic artifacts, 1) the user documentation of the software, or user guide and 2) the agency’s translation software licenses. These documents enabled me to understand the available or extant features of the interlocutors’ translation tools and helped to determine which features to include in the “feature study.” Due to limitations of time and space, it was not practicable to cover all the features in the tools, since there were too many of them. So a reasonable number of features in both tools were randomly selected by the researcher. The indexes of the tools’ user manuals
provided useful information about the features and capabilities of the tools, while the software licenses provided information about the translation tools that were available for use in the agency. The user documentation also made it easier to compare the tool developer’s intentions for providing the features (envisaged use of features), with the actual (observed) use of the features by the key actors. Matching the intended/envisaged use of features with actual use in order to find out about possible discrepancies was a key objective of this study. This study found that in some cases, there were disjunctions between the tool developer’s intention to provide specific features and tool users’ understanding and actual use of those features; this confirmed one of the key hypotheses in this study (presented in Chapter 1) and I provide details and specific examples of this finding in the ensuing discussion.

**Features Studied in Workbench and TagEditor**

Overall, the study investigated the use of 63 discrete features in Translator’s Workbench, and 90 features in TagEditor. As already noted, the word “features” is being used loosely to refer to a general set of capabilities that are invoked by menus, dialog boxes, hot keys, and other user-interface elements present in the translation tools. Where necessary I specify the character of the “feature” in the narrative by specifying the domain of its functionality.
Prior to the interviews, a long list of features together with brief descriptions of their uses or purposes was compiled from the user documentation of the software. The list included the most basic features in the tools and some advanced features as well. The names and descriptions of the selected features were entered in a data grid, accessible to me during the interview. During the interviews, I asked the tool users questions verifying their awareness of the existence of the features of the tool. They answered “yes” or “no,” in most cases, but some questions required more elaborate responses. When the actors were not sure about a particular feature I was referring to, the feature description in the data grid helped them recognize the feature. In a few cases, the feature descriptions also proved insufficient in making the actors recognize the features of the tool. In such cases, it was necessary to navigate directly to the specific feature in the user interface and show the feature to the user.

I found that some of the features of the tool had remained rather “obscure” to the participants. They remained unknown to the users of the tool in spite of the number of years they had used the tools. In light of what was understood from the agency’s workflows and its constituent tasks, I have reason to believe that if some of these features and their purposes had been known to the participants, they would have found them to be very useful.

Another interesting finding was that the names of some of the features did not always make the features’ purposes obvious to the tool users. This led me to assume that the names of some features in the tools could be misleading to tool users and this could
result in the lack of use of some important features. A case in point was the Translate command in Workbench, discussed in more detail in the findings section of this chapter.

After this initial “feature existence verification” phase, I asked the participants how frequently they used these features of the tools and for what purposes. If they did not use the features, I asked them to provide the reason(s) for not using the features and to explain if they were using other features or other tools to accomplish workflow tasks instead. This was aimed at eliciting information about the tool users’ workarounds. They were also asked to indicate whether or not they found the features easy to access and use, and whether or not they found those features useful for the project management tasks they performed in the agency. The aim of this part of the study was to find out the number of the tools’ existing features, the users were aware of, the features they actually used, and the frequency of use of those features. It was also to learn about the features they never used and the reasons for the lack of use of those features.

The interviews took the form of informal conversations between the tool users and me; I departed from the script whenever necessary to gather detailed information about each participant’s use of the tools. This strategy enabled me to ask follow-up questions whenever the participant provided interesting information. I present below brief demographic information about the participants in the study and proceed to discuss the main findings of the studies.

Two interlocutors participated in the microethnographic case studies. They have referred to in this study as I1 and I2. As noted above, the interlocutors were both project
managers in the agency. They are both experienced in the field of translation. They both described their knowledge of computers as “good.” In accordance with the protocols of this research, the identities of the interlocutors have been protected. I discuss below the main findings of the case studies and how they relate to the problems investigated.

**Main Findings of the Microethnographic Case Studies**

A summary of the interlocutors’ responses to the questions on Workbench have been presented in Table 3 while their responses to the questions on TagEditor have been summarized in Table 4. I present below an analysis of the main categories of questions and discuss how the participants responded to the questions.

When asked about how long they had owned or used their versions of Translator’s Workbench and TagEditor, I1 reported that she had used the tool on a regular basis for about 4 years, while I2 reported that she had used the tool for about 3 years. They were also asked to indicate how confident they felt in the use of the tools, and how well they felt they knew the features and capabilities of the tools. Tables 3 and 4 present the interlocutors’ responses to the questions on Workbench and TagEditor respectively.

As shown in Table 3, both interlocutors described themselves as confident users of Translator’s Workbench with a good knowledge of the features and capabilities of the tool.
However, when the interlocutors were asked about their knowledge of TagEditor and its capabilities, during their individual interviews, I1 estimated that she knew how to use only about one third (33%) of the features of the tool, while I2 replied that she knew how to use less than half (50%) of the features of the tool as shown in the tables. These responses indicate a lower level of confidence in the use of TagEditor than Translator’s Workbench. Both interlocutors reported that they have used TagEditor for the same length of time they had used Workbench; however, their level of confidence in the use of that tool was markedly lower.

Interesting patterns were also noted in the way the interlocutors used Workbench and TagEditor. Their uses of the tools were found to be generally consistent with what the tool is “designed” to be used for as indicated in the manual. Since both actors work in the same corporate setting and have been working together for a considerable length of time, I did not expect to see great differences in the way they use the tools. It was thought that because they worked together as colleagues in the same context of work, they would influence each other in the area of tool use.
### Table 3 – Summary of Interlocutors’ Responses to General Questions on Translator’s Workbench

<table>
<thead>
<tr>
<th>General Questions about Translator’s Workbench</th>
<th>I1</th>
<th>I2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length of Tool Use</strong></td>
<td>How long have you owned or used this translation tool?</td>
<td>4 years</td>
</tr>
<tr>
<td><strong>Assessment of User’s Confidence in Tool Use</strong></td>
<td>Interlocutor finds the tool quite easy to use especially after using it for so long. Interlocutor reports that Workbench is the only translation tool she has used.</td>
<td>Interlocutor reports that she feels sufficiently confident in the use of the tool.</td>
</tr>
<tr>
<td><strong>User’s Knowledge of Tool’s Features and Capabilities</strong></td>
<td>The interlocutor reports that she feels confident in the use of the tool and thinks that she knows the tool, its capabilities and specific features quite well.</td>
<td>“I don’t know all the features but I feel sufficiently confident in its use.”</td>
</tr>
<tr>
<td></td>
<td>Interlocutor thinks she knows how to use about 90% of the features of Translator’s Workbench.</td>
<td>I2 estimated that her knowledge of the features of Translator’s Workbench was about 85%.</td>
</tr>
</tbody>
</table>
## Table 4 – Summary of Interlocutors’ Responses to General Questions on TagEditor

<table>
<thead>
<tr>
<th>General Questions about TagEditor</th>
<th>I1</th>
<th>I2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length of Tool Use</strong></td>
<td>How long have you owned or used this translation tool?</td>
<td>4 years</td>
</tr>
<tr>
<td><strong>Assessment of User’s Confidence in Tool Use</strong></td>
<td>How confident are you in the use of this tool?</td>
<td>Even after using the tool for about 4 years, interlocutor (I1) said she did not feel “too confident” about its use.</td>
</tr>
<tr>
<td><strong>User’s Knowledge of Tool’s Features and Capabilities</strong></td>
<td>How well do you feel you know the tool’s features and capabilities?</td>
<td>I1 thinks she knows how to use just about 33% (about a third) of the features of the tool.</td>
</tr>
<tr>
<td></td>
<td>Approximately what percentage of the tool’s features do you think you know how to use?</td>
<td>I1 reported that she uses the tool in “a very basic way” and found it quite challenging to use the “advanced features” of the tool. I1 reported that if one wanted to perform tasks such as splitting segments and doing different things it would be much harder.</td>
</tr>
</tbody>
</table>
The responses of the two interlocutors to questions on their different uses of the tools are presented in Table 5. Both participants reported that they use the tool to support tasks such as file analysis; creation of translation memories; import and export of translation memories; and translation memory update. Neither I1 nor I2 reported any other uses of Workbench besides the ordinary and most common uses of the tool. Therefore I concluded that there was no evidence of adaptation of the tool or its use for a different purpose other than the well-known and intended uses of the tool.

When the interlocutors were asked about the most liked feature and the least liked or most frustrating feature of the tool, they provided interesting answers. For example, I1 mentioned file analysis, and concordancing as the features she likes using most in Workbench. I1 had indicated earlier in the interview that the agency depends totally on Workbench. She stated that without Workbench they could not function. I1 was quite uncomfortable about the question about what she found frustrating about the tool or what she liked least about it, so the interlocutor skipped that question and asked for more time to reflect on it.

In contrast, I2 mentioned that her favorite feature was the file analysis feature (Word Count) and the ability to search translation memories easily. I2 reported that she gets quite frustrated with “all the glitches” of the tool. Coincidentally, at the time of the interview, both interlocutors were experiencing problems with the tools.
# Table 5 – Summary of Interlocutors’ Responses to Questions on the Use of Translator’s Workbench

<table>
<thead>
<tr>
<th>General Questions about Use of Translator’s Workbench</th>
<th>I1</th>
<th>I2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tasks supported by tool</strong></td>
<td>Which specific tasks in the agency’s workflow does this tool support?</td>
<td>1) File analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) Translation memory(TM) and Quality Control purposes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) Translation memory import and Export</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4) TM update</td>
</tr>
<tr>
<td><strong>Frequency of tool use</strong></td>
<td>How frequently do you use this tool?</td>
<td>I1 reported that she uses the tool “very frequently”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The tool is heavily used in the agency, we depend on it, and without Workbench we can’t work.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I2 describes her use of Workbench as “very frequent”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“We use it several times a week”</td>
</tr>
<tr>
<td><strong>Most liked feature of tool</strong></td>
<td>Which features do you like most about this tool and why?</td>
<td>Concordance feature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>File analysis and document review capabilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>File analysis (Easy access to word counts) and Translation memories options such as the ability to search TMs easily.</td>
</tr>
<tr>
<td><strong>Least liked or most frustrating feature of tool</strong></td>
<td>What do you like least about the tool? Or what do you find most frustrating about this tool?</td>
<td>I1 replied she needed more time to think about a response, and did not mention anything in particular.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>When asked this question I2 declined to mention any specific feature but reported that she gets quite frustrated with all the glitches of the tool.</td>
</tr>
</tbody>
</table>
# Table 6 – Summary of Interlocutors’ Responses to Questions on the Use of TagEditor

<table>
<thead>
<tr>
<th>General Questions about Use of TagEditor</th>
<th>I1</th>
<th>I2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tasks supported by tool</strong></td>
<td>Which specific tasks in the agency’s workflow does this tool support?</td>
<td>Document review (Quality Control) Used most of the time together with Workbench</td>
</tr>
<tr>
<td><strong>Frequency of tool use</strong></td>
<td>How frequently do you use this tool?</td>
<td>I1 uses TagEditor “frequently”</td>
</tr>
<tr>
<td><strong>Most liked feature of tool</strong></td>
<td>Which features do you like most about this tool and why?</td>
<td>The tool’s ability to support all kinds of documents apart from word, “the tag protection is just amazing.”</td>
</tr>
<tr>
<td><strong>Least liked or most frustrating feature of tool</strong></td>
<td>What do you like least about the tool? Or What do you find most frustrating about this tool?</td>
<td>I1 mentioned the comments and annotations feature in TagEditor. This is discussed in more detail under findings on unused features.</td>
</tr>
</tbody>
</table>
While I2 was having problems with Workbench, I1 was experiencing problems with the display of files in TagEditor. She reported:

I know it exists but I don’t know what happens if it’s me or if it’s just that the tool doesn’t support it anymore. We used to be able to preview both texts side by side and we could export it in a Word document. For the editors it would be much easier to add their comments but it’s [meaning the tool] not been doing it anymore. I think it depends on the file format… I think I used to be able to do that with InDesign but now I am not able to do it anymore. If I had the preview feature working as I used to in the past, I would simply copy and paste the preview in Word and ask them [the editors] to do their comments in Track Changes so that the translators would exactly see what the problem is and insert their corrections in the bilingual file but that is a workaround because if you have the equivalent of Word’s Track changes in TagEditor, the translator could just accept the changes. I don’t know if it’s just me but I have asked a few translators to use the comments feature in TagEditor. They did it, but it is still a pain because they have to read the comments and they have to open the segments and change them manually. A feature that would have the comments just accepted in TagEditor would be great.

It is important to note that this kind of ethnographic information provided by the interlocutor is valuable and can lead to the improvement of translation tools.
I verified the interlocutor’s statement from the *File Formats Reference Guide*. According to the tool designer, it is possible to translate an InDesign CS2 interchange format file in TagEditor, and save the file as target to generate the target INX file. The target INX can be opened in InDesign CS2 and saved as INDD. INDD is an extension for Adobe InDesign files. At that stage the Trados Tag Viewer plug-in can be used to preview the InDesign CS2 Files (see SDL, File Formats Reference Guide 6.5).

I2 reported that she was having issues with “a refusal of Workbench to analyze” her Excel files. These problems are discussed in further detail later under challenges to the use of Tools in the agency. As shown in Table 6, TagEditor is also used on a regular basis in the agency; however it is not used as frequently as Translator’s Workbench. Both interlocutors reported that they used the tool for document review (quality control). The general use of the tool was also found to be consistent with the intended uses of that tool. There was no evidence of new uses for the tool beyond the intended uses specified in the user documentation.

On the issue of the most liked feature in TagEditor, I1 mentioned that what she likes most about TagEditor was its ability to support all kinds of documents and the tag protection feature, while I2 mentioned the tool’s support for multiple file formats, and the tool’s integration with MultiTerm, as her most liked features. Thus both participants were happy with the tool’s ability to support multiple formats. As always, I1 declined to mention what she did not like about the tool, and did not want to make specific suggestions for the improvement of the tool. However, when asked more questions about
the tool, the interlocutor opened up and reported that she was quite frustrated with the Annotations and Comments feature in TagEditor. The interlocutor mentioned that the feature was not easy to use. The interlocutor’s concerns about this feature have been described in detail under problems and challenges of tool use.

I2 reported that she needed to learn more about the features of the tool before she could comment on her least-liked feature. However, later in the interview the interlocutor mentioned that a simplification of the tag settings of the tool would greatly improve its usability. This is reported in the section on the use of specific features of the tool. The participants were asked to comment on the ease of use of the tools and to assess the usability of the tools’ user interfaces. Their responses to the set of questions asked on the subject have been summarized and presented side by side in Table 7.

Generally, the participants found both Workbench and TagEditor to be quite easy to use. Asked about the ease of use of TagEditor, I1 responded that she has been using the tool to perform the same tasks over and over again so it is “pretty straightforward” to her. The interlocutor reported that it is very easy to use the tool in “a basic way” but she thinks that if one wants to do more with the tool and perform tasks such as splitting segments, it would be a lot harder. I1 reported that she had not put a lot of time into learning to use the tool other than doing the basic things related to translating and project management. Referring specifically to Workbench, I1 said that once a tool user is familiar with the user interface, it is not difficult to perform tasks with the tool; on the
other hand she views TagEditor as a lot more complex to use and thinks that TagEditor is user-friendly only for performing basic tasks.

I1 thinks the tool is quite user-friendly but as one gets into more advanced features, “sometimes it takes some time to find what one is looking for.” The interlocutor indicated that “there is the need to go to the documentation to learn how and where to find what one is looking for, especially the tag settings.” Both I1 and I2 reported that the tag settings in TagEditor posed some difficulty. For her part, I2 views the interface of TagEditor as a “little complex” but also thinks that once the user knows where to find what he or she is looking for the use of the tool becomes very easy. I2 reported that even with Workbench, she does not know how to use all the features, but that the features she knows and uses on a regular basis are quite easy to use. Overall, I2 views TagEditor as an excellent tool.
Table 7 – Summary of Interlocutors’ Responses to Questions on the Usability of Workbench and TagEditor

<table>
<thead>
<tr>
<th>Usability and User Interface Items</th>
<th>I1 Workbench</th>
<th>I1 TagEditor</th>
<th>I2 Workbench</th>
<th>I2 TagEditor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressions about usability of tool</td>
<td>What are your overall impressions about the usability of the tool?</td>
<td>Tool is quite easy to use. The interlocutor is familiar with the user interface.</td>
<td>Quite user friendly as far as basic functions are concerned.</td>
<td>Enjoys working with tool. Finds the tool Easy to use.</td>
</tr>
<tr>
<td>Complexity of User Interface of tool</td>
<td>How do you find the user interface of the tool?</td>
<td>Not too complex</td>
<td>I1 reports that the user interface is quite simple and usable.</td>
<td>Easy to use, I2 reports that she does not know all the features but the ones she knows are quite easy to use.</td>
</tr>
<tr>
<td>Accessibility of User Interface commands</td>
<td>How easily are you able to find the commands you need in the tool’s user interface?</td>
<td>One is able to quite easily access the commands in the UI.</td>
<td>It’s easy to access the basic features of the tool.</td>
<td>Easy to use</td>
</tr>
<tr>
<td>Ease of navigation</td>
<td>How easy it is for you to navigate the tool’s user interface?</td>
<td>Easy to access commands in the user interface.</td>
<td>Easy</td>
<td>Easy to navigate the user interface. I2 thinks it is fairly easy to navigate the user interface.</td>
</tr>
</tbody>
</table>
The interlocutor thinks, however, that the tool could be made more “user friendly” if the tag settings were simplified. The Tag Settings enable a user to specify which initialization files the tool should use when processing XML, HTML and SGML files. The interlocutor pointed out that while she thinks the tool user needs to learn to use the different tag settings of the tool, she thinks they are “too complex” and it does not seem clear what the user needs to do with them (referring to the settings). According to her, the typical user needs to spend more time on learning how to use the tool.

I2 also reported that all too often, she is “scared” when working with TagEditor because she thinks the tool might not tolerate her errors. It came to light that the interlocutor had previously had some unpleasant experiences (including data loss) with the tool; these are reported in the problems and challenges section of this report. The interlocutor reported that she does not want to “touch anything” in the tool in fear that she might not be able to correct or that might “screw up” the files she is working on. This fear of “screwing up” or committing errors was more evident in discussions with I2 than with I1. I2’s attitude may be typical of some tool users, who are afraid to commit errors that they believe cannot be easily corrected or that will take a long time to fix. I return to a discussion of this problem and the implications thereof for translation tool design later in this chapter.

The study also aimed at finding out the interlocutors’ perceptions of an ideal translation tool. Although the two interlocutors were somehow reluctant to make specific suggestions about the features they would like to see in a new translation tool, both of
them responded well to the question of what they considered to be an ideal translation tool. I1 responded that the ideal tool for her as project manager should make it possible for any changes made by translators to be easily detected and later added to the translation memories. This comment brings to mind my earlier discussion about the unsuccessful use of the Context TM project utility and SDL Compare, which had never been used in the agency. The interlocutor also noted that as of the time of the study, the agency was experiencing some problems with the use of the “Annotations and Comments feature” in TagEditor. I1 views the ideal translation tool as a web-based tool that “integrates everyone - clients, translation agency, and all freelancers; a tool that supports any type of documentation and minimizes the intervention of desktop publishers because it directly protects any formatting and translators can directly start translating.” She thinks that the ideal translation tool must give project managers the necessary permissions to control access to project files.

While I1 viewed the ideal translation tool as one that integrates all the members of the project team, I2 had an entirely different view. She provided a rather short but meaningful answer to the question. For her, the ideal translation tool is “Workbench without all the glitches.” Her response though short, speaks at length about what she expects from a translation tool to which she seemed to be attached. I seized the opportunity to ask more questions about the glitches that the interlocutor was referring to. The findings on that aspect of the investigation have been reported in the problems and challenges of tool use section of this dissertation.
The study also sought to find out whether the interlocutors were planning to upgrade their tools and if so, what the reasons for the upgrade were. This line of inquiry aimed at finding out whether or not the agency’s current set of translation tools no longer met its needs due to factors such as changed workflow patterns, new workflow tasks, new client or project requirements, technical problems with the tools, missing features, or other problems. Both interlocutors reported that they had plans to upgrade their versions of the translation software, Translator’s Workbench 2006 and 2007 to the newer version, SDL Trados Studio 2009. But they gave different reasons for the upgrade and for postponing that decision. An interlocutor reported that some of their translators had started using the new tool. They reported that they had not yet closely examined the new tool and had not tried it.

I1 reported that she was waiting for any “initial bugs” in the new software to be fixed before installing the new software but I2 reported that she was concerned that she would not have access to the features present in her current version of the tool, and that if her translators were not ready to upgrade to the newer version of the tool, there would be compatibility problems between her tool and the tools of the translators in her project teams. It is interesting to note that neither of the interlocutors cited low user satisfaction, technical problems, missing features in the current version of the tool or changed work requirements as the reason for the decision to upgrade to the new version of the tool.

In fact both interlocutors generally expressed satisfaction with their translation tools despite the problems they reported. I2 was obviously happy with her tool, and said
that “Workbench helps to her work faster and better.” I2 was concerned that she would need more time to learn to use the features in the new translation tool. I2 mentioned that if there were considerable differences between the old and the new versions of the tool, it would take a considerable amount of time for her to learn to use the new tool and she feared that it would slow down the pace of her work.

Problems and Challenges Related to the Use of Tools

In the course of the field observations and interviews, a number of problems related to the use of translation tools were noted. Some of these issues have already been reported in previous sections of this chapter. At various points in their interviews, the interlocutors were asked directly to discuss the problems and challenges they encountered in the use of TagEditor and Workbench and how they responded to them. In this section, I present some of the interlocutors’ responses to this question.

The interlocutors discussed a number of problems they faced in the use of translation tools. Asked about the challenges she faces when working with TagEditor, I2 reported that she sometimes has problems with certain file formats, and she is not able to open or analyze those files. She mentioned that even after translators have worked on files she is sometimes unable to clean them for strange reasons. When I asked whether the interlocutor has been using the tag protection feature in TagEditor, the interlocutor replied in the negative. The interlocutor noted that even if she protected the tags in her
files and the translators she was working with were not doing the same, she was not sure if the problem would be averted. By this statement, the interlocutor meant that she was not using the tag protection feature and was not sure if tag protection could be the solution to the problem. The interlocutor reported later on that she did not know how to use the Tag Protection feature well enough. Incidentally at the time of the interview, the interlocutor reported that for some reason “Workbench does not want to analyze my Excel files, and I don't know what to do about it” [which suggested some frustration on her part]. She reported that in the course of analyzing the Excel files, the tool either stops and the whole system needs to be restarted or it gives an error message that the document she is “trying to analyze is not in the correct path.” The interlocutor noted that her main problems with Workbench are in the area of file analysis and clean up. The interlocutor noted that with clean up, the tool is not able to convert the document back into the native format.

I2 also reported that she had experienced two Workbench crashes and two instances of data loss; as a result she had learned to back up her files. This interlocutor mentioned that she believes that sometimes both TagEditor and Workbench are incompatible with newer versions of Java and she had learned to disable the automatic update feature in Java to improve the stability of her software on her computer system. This may be considered as an example of tweaking or an adaptation of the interlocutor’s computer system by the interlocutor. It may also be viewed as a trial and error approach aimed at mitigating the problem of system crashes. I2 reported that she thinks the Java
problem particularly affects the analysis of INX files. According to the interlocutor, whenever she has problems with the files she sends them immediately to the desktop publishing department for assistance.

Both interlocutors reported encountering problems in the use of the Annotations and Comments feature in TagEditor. It was noted that this feature was causing some frustration in the agency. One of the interlocutors as noted above reported that at some time in the past she had asked some of the agency’s translators to use TagEditor’s Annotations and Comments feature but it did not work well for them because it was difficult to view the comments and effect changes without opening the segments that require changes. The interlocutor also mentioned that if the feature were designed to function like the Track Changes feature in Word, which allows users to accept changes, it would save them a lot of time.

The interlocutors were asked to describe what they usually do when they are faced with tool-related problems or when the tools display error messages. Their responses to these questions were quite interesting. I2 reported that when the tool displays an error message she gets very frustrated. She reported that if she does not recognize the message, she first looks online (at the website of a community of translators) for ideas about how to fix the problem. Asked if she looks at the user manual of the tool for an explanation of the error code, the interlocutor said she looks at the manual only after she has gone online for a solution. The interlocutor explained that she thinks information found online and obtained from the user communities is usually
“simpler” and more “straightforward” than what is provided in the user manual of the software. The reasons provided by this interlocutor for looking online first or performing a search on Google before looking at the user documentation, imply that the interlocutor does not have much confidence in finding the answers to her problems in the user documentation of the tool. She also reported that she does not find the user manual easy to read and looks at it only as a last resort. This underlines the need for translation tool developers to make user documentation more accessible and searchable. The interlocutor reported that as a project manager using TagEditor and Workbench, she knows one can do many things using the features of the tools but she does not know how to do them.

In addition, the interlocutor reported that she does not think it is necessary to read through the large manual to learn how to do certain things. The interlocutor said she expects certain features to be a little more intuitive and straightforward to the user. She mentioned for example that as a translator using Trados in Word she can directly modify her source segments even if the segment is open. While in TagEditor she “can’t do anything at all.”

I1 reported that she refers all file-related problems to the desktop publishing (DTP) department for resolution. For example, when she has problems with the tag settings in TagEditor, she sends the files to DTP for resolution. The interlocutor does not spend too much time trying to troubleshoot and resolve problems emanating from the tools she uses or the files she processes. It was noted that this interlocutor was quicker to search the user documentation for solutions to problems than I2. Both interlocutors
showed a desire to get to know their tools better. Whenever possible both interlocutors would try to copy and paste the document into Word and see if Word provides a simpler solution to the problem.

**Interlocutors’ Uses of Specific Features of the Tools**

In the present section, I discuss the study’s findings on the interlocutors’ uses of specific features of the tools covered in the case studies. Table 8 provides an overview of the interlocutors’ uses of Workbench while Table 9 presents an overview of the interlocutors’ uses of TagEditor. The figures were derived from a simple count and a statistical analysis of the interlocutors’ responses to the different questions in the study calculated from the Excel grid of questions. The figures are reported as percentages. As shown in Tables 8 and 9, the total number of features studied in Translator’s Workbench was 63 while the number of features studied in TagEditor was 90. I discuss below details of the findings on the issues investigated. The need to verify interlocutors’ awareness of the features and capabilities of the tools was based on the assumption that tool users need to be aware of the features or capabilities of their tools before they could use them in the first place. Thus, awareness of existence of the features was considered a first step to the use of those features in the tools.
### Table 8 – Overview of Interlocutors’ Uses of Translator’s Workbench

<table>
<thead>
<tr>
<th>Name of Tool</th>
<th>Workbench I1</th>
<th>Workbench I2</th>
<th>I1</th>
<th>I2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existing features investigated</td>
<td>63</td>
<td>63</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2. Features known to user</td>
<td>59</td>
<td>63</td>
<td>93%</td>
<td>100%</td>
</tr>
<tr>
<td>3. Features actually used</td>
<td>43</td>
<td>47</td>
<td>68.2%</td>
<td>74.6%</td>
</tr>
<tr>
<td>4. Features unused</td>
<td>20</td>
<td>16</td>
<td>31.7%</td>
<td>25.3%</td>
</tr>
<tr>
<td>5. Features used very frequently</td>
<td>11</td>
<td>9</td>
<td>17%</td>
<td>14.2%</td>
</tr>
<tr>
<td>6. Features used frequently</td>
<td>4</td>
<td>5</td>
<td>6.3%</td>
<td>7.9%</td>
</tr>
<tr>
<td>7. Features used occasionally</td>
<td>18</td>
<td>22</td>
<td>28.5%</td>
<td>34.9%</td>
</tr>
<tr>
<td>8. Features used rarely</td>
<td>7</td>
<td>6</td>
<td>11.1%</td>
<td>9.5%</td>
</tr>
<tr>
<td>9. Features used very rarely</td>
<td>3</td>
<td>5</td>
<td>4.7%</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

### Table 9 – Overview of Interlocutors’ Uses of TagEditor

<table>
<thead>
<tr>
<th>Name of Tool</th>
<th>TagEditor I1</th>
<th>TagEditor I2</th>
<th>I1</th>
<th>I2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existing features investigated</td>
<td>90</td>
<td>90</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2. Features known to user</td>
<td>83</td>
<td>84</td>
<td>92%</td>
<td>93%</td>
</tr>
<tr>
<td>3. Features actually used</td>
<td>58</td>
<td>57</td>
<td>64.4%</td>
<td>63%</td>
</tr>
<tr>
<td>4. Features unused</td>
<td>32</td>
<td>33</td>
<td>37%</td>
<td>36%</td>
</tr>
<tr>
<td>5. Features used very frequently</td>
<td>5</td>
<td>10</td>
<td>5.5%</td>
<td>11%</td>
</tr>
<tr>
<td>6. Features used frequently</td>
<td>17</td>
<td>16</td>
<td>19%</td>
<td>17%</td>
</tr>
<tr>
<td>7. Features used occasionally</td>
<td>26</td>
<td>24</td>
<td>28.8%</td>
<td>26.6%</td>
</tr>
<tr>
<td>8. Features used rarely</td>
<td>5</td>
<td>7</td>
<td>5.5%</td>
<td>7.7%</td>
</tr>
<tr>
<td>9. Features used very rarely</td>
<td>2</td>
<td>0</td>
<td>2.2%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Both participants demonstrated a very high level of awareness of the features and capabilities of their translation tools. This was not surprising given the length of time they had continuously used the tools. Results from the study on Workbench for example showed that I1 knew 59 of 63 features, or 93% of the features of the tool that were presented in the study. The study also found that I2 knew all the features presented in the case study on Workbench (100%). Their knowledge of the features of TagEditor is presented in Table 9.

The study found that the interlocutors were making use of a high percentage of the features of the tools. The study found that I1 was actually using 68% of the features of Workbench and 64% of the features of TagEditor, while I2 was found to be using 74.6% of the features of Workbench and 63% of the features selected for study in TagEditor. The study also found that many of the features of the tools were not being used by the interlocutors. As shown in Table 8, I1 was not making use of 31.7% of the features of Workbench, while I2 was not making use of an estimated 25.3% of the tool’s capabilities. These findings prompted me to further analyze the reasons for the non-use of features of the tools, as this line of investigation had the potential of yielding useful information for translation tool design. Thus, the utilization of features of the tools emerged as a research concern as the study evolved.

A categorization system was subsequently devised to analyze the reasons for non-use or underutilization of features. I present a summary of the categorization framework in Table 10 and discuss the different categories in the subsequent section of this
dissertation. I demonstrate the use of the categorization framework with the findings for the microethnographic case studies. Whenever possible, the discussion is supported with specific examples from the case studies. The listing of a feature in the table presupposes that it applies to one or more of the study participants.

Generally, the study found that the interlocutors’ use of the translation tools was consistent with the tool developer’s intentions (as stated in the user documentation) for providing those features. Nonetheless, I found evidence of underutilization. Underutilization of features or capability is a problem only if by not using the functionality/function the job or task performance is compromised or becomes more laborious or expensive. Underutilization, per se, is not problematic because if the functionality is truly not needed because of the particular work circumstance, or because the developers provided more functionality than most users required, then no problem exists. For example studies have shown that 45% of features of software products were never used and only 20% were used often or always. It has been argued that underutilization could be due to overbuilding and gathering more requirements than needed (See Fowler). This is a problem that a more ethnographic approach could help mitigate.
Table 10 – Categorization of Observations on Unused or Underutilized Features of Tools

<table>
<thead>
<tr>
<th>Categorization of Observations on Unused or Underutilized Features</th>
<th>Translator’s Workbench</th>
<th>TagEditor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features not used because purpose not understood</td>
<td>Translate Feature</td>
<td>Context Based number display</td>
</tr>
<tr>
<td></td>
<td>Target Language command</td>
<td>Encoding feature</td>
</tr>
<tr>
<td>Features not used because too hard to learn</td>
<td>Setup dialogue box (Font, Segmentation rules, Non Translatable Text)</td>
<td>Plug-in in TagEditor such as Excel verifiers etc.</td>
</tr>
<tr>
<td></td>
<td>Project Filter Settings (Default settings used)</td>
<td>Only basic plug-ins and default settings used, interlocutor unaware of tool’s support for additional third party plug-ins</td>
</tr>
<tr>
<td>Features not used because they are unknown to user</td>
<td>Reference (Read-only) TM for Concordance</td>
<td>Plug-in in TagEditor such as Excel verifiers etc.</td>
</tr>
<tr>
<td></td>
<td>SDL Trados Glue</td>
<td>Only basic plug-ins and default settings used, interlocutor unaware of tool’s support for additional third party plug-ins</td>
</tr>
<tr>
<td></td>
<td>Batch Processing feature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Translate Feature</td>
<td></td>
</tr>
<tr>
<td>Features not used because they are not needed by user</td>
<td>User List</td>
<td>Terminology Plug-in</td>
</tr>
<tr>
<td></td>
<td>Term Recognition Options (not used or needed by one interlocutor)</td>
<td>XML Validator</td>
</tr>
<tr>
<td></td>
<td>Access Rights (use of passwords etc)</td>
<td>Windows 32 Binary Verifier</td>
</tr>
<tr>
<td></td>
<td>Substitution Localization</td>
<td>RC Verifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SDLX Command</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Add a Term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shrink Segment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expand Segment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aspects of Properties Menu</td>
</tr>
<tr>
<td>Process too complicated (cumbersome)</td>
<td>Context TM/Perfect Match Utility</td>
<td>Annotations and Comments Feature</td>
</tr>
<tr>
<td>Unused (difficult to use)</td>
<td>TM Maintenance Feature</td>
<td>Trados Tag Viewer Plug-in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Define settings for Match types in Trados Tag viewer</td>
</tr>
<tr>
<td>Categorization of Observations on Unused or Underutilized Features</td>
<td>Translator’s Workbench</td>
<td>TagEditor</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| User does not know how to use | Style Sheet Feature  
Segmentation Rules  
Project Settings Tab  
Auto text feature  
Batch Processing Feature  
Reorganize Feature  
Translate Command  
Shortcuts (interlocutor intends to learn to use them) | Encoding (in view menu)  
Tag Protection  
RC verifier (probably not needed)  
Context Based number display | |
| Possibly misunderstood features (mismatched) | Translate Command  
Reorganize Feature | |
| Interface unhelpful | Maintenance Feature | Annotations and Comments Feature |
| Features not used because they had not been enabled in the tool (or impossible to do so) | Connect | TeamWorks Verifier |
TagEditor and Workbench were being used in a basic way. I was interested in finding out the specific features that were not being used in the tools and the interlocutors’ reasons for not using them. I discuss in detail the categorization framework presented in Table 10. As shown in the table, the lack of use or underuse of a feature may be due to one or more factors. These categories are shown below:

1) Features not used because purpose not understood
2) Features not used because user did not know how to use
3) Possibly misunderstood features (mismatch of designer view versus user view)
4) Features not used because they were too hard to learn
5) Features not used because they were unknown to the user
6) Features not used because not needed by user
7) Features not used because process was too cumbersome
8) Features not used because they were not enabled in user’s version of the tool
9) Features not used because the User Interface is/was not helpful

I discuss each of these categories and provide specific examples to support the discussion.
Features not used because purpose not understood

The study found that many of the features in the tools, Workbench and TagEditor, were not being used because their purposes were not understood by the users. This confirms the major hypotheses that there is often a disjunction between tool designer’s envisioned use of their programs and how the software is understood and used by end users. It also validates Sharples’ original statement that “the way designers intend technology to be used often differs from the actual user’s behavior” (67).

The study found that this misunderstanding leads to the underutilization and misuse of features, user frustration, and ultimately to rejection of software by end users. In some cases the tool users made efforts to find out the purposes of the features, but they users did not find the help they needed. For example, in the course of the study, an interlocutor indicated that she was not sure of the purpose of the Reorganise command in Workbench located on the file menu of the tool. As a result, she was not making use of that feature although she knew of its existence in the interface. The other interlocutor reported that she sometimes uses the Reorganise feature but reported that she does not use it as often as she thinks she should. The interlocutor explained that she is prompted to use the feature whenever she does not find what she wants as quickly as she wants in the database. She uses the feature to make her translation memory database work more efficiently.
According to the user documentation of the software, translation memory reorganization is needed after large imports have been made into the translation memory (SDL, User Guide 2006 5-25). The Reorganise command was not being used by one of the interlocutors; thus the reorganization of translation memory databases was not being done as envisaged by the tool developer. Furthermore, the software user documentation states that the reorganization feature can be used to fix database errors (SDL, User Guide 2006 B3, B5, and B22). One of the interlocutors was aware of this function, and she reported using the feature for this specific purpose.

The non-use or low use of the reorganization feature leads to the suggestion that the usability of Workbench could be improved if translation memory reorganization could be done automatically by the system each time the recommended 500 TUs are added to the translation memories, instead of relying on tool users to do it. The current system whereby the user needs to check the state of the database to see if reorganization was needed does not help tool users like the interlocutors.

The study noted that another feature whose purposes were not understood by either interlocutor was the Target Language command located on the Settings menu of Workbench. Both interlocutors reported that they had never been able to use the Target Language command and were not sure of its purpose. The interlocutors reported that the command was always grayed out and they were not sure when and how to use that
feature. Interestingly, my own search through the user documentation on Translator’s Workbench did not yield any information about that command.

**Features not used because user did not know how to use**

The study found that there were features in both Workbench and TagEditor that the users were aware of, but did not know how to use. In some cases the users reported that they had not taken the time to learn to use them. Some of those features in this category were needed for the performance of the interlocutors’ jobs. An example of a feature in this category is the Style Sheet settings in the Properties dialog box which controls the Used Character styles. This feature can be accessed from the main File menu of the tool. The Style Sheet feature enables a user to define the color and font settings for translated text and for match types in Trados Tag documents. An interlocutor reported that she did not know how to use the feature although she knew what it was intended for. However, the interlocutor reported that she was going to look into it and was hoping to learn to use it. The other interlocutor reported that she did not know how to use the tag protection feature in TagEditor well enough. The interlocutor, however, said that she would like to learn to use the feature.

One interlocutor also reported that she did not know how to use the Context Based Number display in TagEditor and was not sure of its purpose. The interlocutor said she did not find any information in the user manual on that feature. I crosschecked the
interlocutor’s claim and found this to be true. Translation tool developers will do well to find new ways of informing users about all the features or capabilities of their tools. A possible way would be to provide feature lists with accompanying descriptions in the user documentation of tools. Users get frustrated when they do not find the help they need in the user documentation of the tool. This could undermine user confidence in the user documentation of the tool and have negative consequences for perceptions of usability. The indexes of documentation about tools could also be improved to facilitate searches in the documentation.

**Possibly Misunderstood Features**

This category represents features that the interlocutors felt they understood but assigned a different purpose to than the ones intended by the tool designers. The Translate command is a very good example of a possibly misunderstood feature; the study found a mismatch between the envisioned use and the actual use of the feature. The file translation feature is very important in the translation process, but the case studies found it was not being used or the interlocutors expected the feature to be used by the “translators.”

According to the tool designer, the file translation feature which is enabled by the Translate command is intended for use by Translation Agencies and firms to enable them provide translation memory and Termbase data to freelance translators who may not have
Computer Assisted Translation tools. The feature is designed to allow matches from existing translation memories and termbase data to be inserted into source documents for translation. Translation can then be done outside of Workbench. The feature is supposed to be a workaround. According to the tool developer, translators who do not have access to Workbench can then translate or edit the target text portion without a translation memory so that the translation memory can be updated at a later time (SDL, User Guide 2007 8-16; SDL, User Guide 2006 12-17). The translation memory here refers to the database of translated segments.

Both interlocutors reported that they do not and have never used the feature. An interlocutor mentioned that she thought the feature was intended for use by translators instead of project managers. It is possible that this interlocutor may have been misled by the name of the feature. In SDLX, a similar functionality is named Pretranslate. The name of the feature in SDLX in my view better reflects its actual use because it emphasizes the fact that the feature is needed for pretranslation rather than for actual translation. There is some evidence in the literature to suggest that misleading or poorly chosen command names are a cause of serious errors in system use (Goodwin 232). I have reason to believe this to be the case in this particular instance. Obviously, the tool developer’s intention for providing this specific feature seems to have been misunderstood by the users, resulting in the lack of use of the feature. It is clear that there
is a major disjunction here between the designer’s envisioned use and actual use of this feature by the tool user.

It is important to note that the interlocutors reported that they find the reading of user documentation too tedious and boring. There was also evidence that at least one interlocutor did not find the help she needed in the documentation. In the case of Workbench, users could simply be overwhelmed with the number of pages. The user documentation of Translator’s Workbench alone contains 388 pages. Users may get even more frustrated when they do not find what they looking for in the user documentation. The two interlocutors reported they do not read the documentation often because they do not find the time to do so. It is true that these pages contain valuable information about the tools that needs to be read.

Tool designers would help tool users by educating them about the purposes of all the features in the tools. Leaving out some features could result in confusion. For instance to avert the kind of confusion and problems such as those described in this study, translation tool designers could provide in the documentation screenshots of clearly labeled commands from the user interface. Information about their purposes would be very helpful to users. Although a good number of screenshots were provided in the Trados user documentation, they did not cover some of the important features of the tools such as the ones described here.
The study found that some of the agency’s most experienced freelance translators do not own CAT translation tools. The agency allows them to use a floating license of the software for a short time. The use of the file translation feature would have allowed the agency to use the services of these very qualified translators who do not have the translation tools. They could have translated using a common application like Microsoft Word, of course outside of Translator’s Workbench. Currently the agency’s translators who do not have the translation tool are employed as editors.

**Features/Utilities not used because they are perceived as too hard to learn**

The study found that some features were not being used because the users found the learning process to be too complicated. As a result, they had given up entirely on them. In some cases, the tool users looked elsewhere for alternative solutions to their problems. I present a few examples of the features that fall into this category. The context TM utility is the best example of this. I will not discuss the details as I have already done so; it is however important to reiterate the fact that the utility caused a considerable amount of frustration among tool users in the agency. It was perceived to be too hard to learn to use and was abandoned altogether.

Besides the example noted above, an interlocutor reported that she found it hard to learn to use the Setup dialog box which has various settings for fonts, and segmentation rules. The interlocutor mentioned that she had maintained the default
settings of the tool. When asked what she does when she needs to use those features in the tool, the interlocutor replied that she normally sends all documents with complex formatting to the desktop publishing department for processing. One interlocutor reported that she did not know how to configure the project and filter settings and has not learned to use it. Both interlocutors have maintained the default settings and have avoided changing the original configurations.

**Features not used because their existence was unknown to users**

Some of the features were not being used because the tool users were unaware of their existence. The SDLX document compare feature discussed earlier can be placed in this category, because it offered functionality much needed in the agency, yet this capability of the tool remained untapped.

**Features not Used because not needed by user**

Some of the features were unused because they were not needed for the work interlocutors did in the agency. The interlocutors did not have any problems with these features; they just did not need them for the project management work they did. An example of this is the SDLX command in TagEditor. None of the project managers used
this command because SDLX is not used in the agency. Similarly one of the tool users reported that she does not need the XML validator in TagEditor because she does not work with XML files, and the other reported that she had used the feature just about once or twice.

Furthermore, both interlocutors reported that they made no use of features such as the Windows binary 32 verifiers and RC verifiers because they were not working directly on any software localization projects. Windows 32 binary file and RC files (resource files) are both Windows application files that are supported by TagEditor. The verifiers enable the user to validate the target files translated in TagEditor. As already noted, localization projects just like desktop publication jobs are outsourced and not handled directly by the interlocutors. They were, however, aware of these features and their purposes. These features though unused, were not perceived as problematic by the researcher or the interlocutors, because the need to use them is driven by the projects or files the tool users were working on.

**Features not used because Process too Cumbersome**

In some cases the interlocutors knew how to use the features. This implies that the learning process was successful; however, they found the use of those features to be too cumbersome and time-consuming. Because time is a major consideration for the project managers, they abandoned them altogether in favor of other faster solutions. An example
of this is the Annotations and Comments Feature discussed earlier. Another example is the Maintenance feature in Workbench. This feature is used mainly to change the content of the translation memory, and can be used to search the translation memory. One interlocutor reported that she found it difficult to use the Maintenance feature in Workbench to “search TMs” and make changes. She prefers using the Concordance feature instead because, according to her, if she was looking for something specific in the Maintenance feature she had to click on the “next” command several times before she could find it. She noted that to save time and effort she prefers using fewer mouse clicks to find what she is looking for. The Concordance command enables a user to search and view the contents of the translation memory. The interlocutor reported that it took longer for her to find what she needed with that feature (the Maintenance feature) than it did when she used the Concordance feature. But if she had to make changes to or delete translation units, she still needed to use the Maintenance feature anyway to effect those changes. The interlocutor’s view underlines the need for tool developers to provide features that are easy to use and that enable users to accomplish tasks as quickly as possible.

Features not used because they had not been enabled in the tool

There were also features that the interlocutors were not using because they had not been enabled in the tool, although those commands were visible on the User
Interface. One example is the Connect command in Workbench that establishes a connection with the TM (or translation memory) server. Translator’s Workbench supports both server-based translation memories and file-based translation memories. TM server is a client/server system that enables multiple users to access translation memories stored on a remote server. The server-based system seemed to be ideal for a multi-user environment such as BLA. But the technology is complex and the agency decided not to have a server-based implementation of Workbench since it was too expensive for them.

According to the tool developer, the TM server system is built on a multi-tier architecture: 1) TM server clients (including Workbench and SDL Trados Server Manager), 2) Middleware components (including TM Server and TM anywhere) and 3) a database server (to store the translation memory data) (SDL, User Guide 2006 2-4). On the other hand, File-based translation memories seemed to be a simpler option because the translation memories are stored as a group of files on the user’s computer system or local network.

The users reported that they did not need the Connect command in Workbench because their translation memories were file-based. However, the agency keeps all its translation memories at a central location accessible to clients and members of the project teams. Access to this database is controlled through the agency’s project management system.
Features not used because interface not helpful

I looked for features that the interlocutors did not use due to an unfavorable user interface, but aside from the Maintenance and Annotations and Comments feature that were perceived by the interlocutors as not being very user-friendly because of the limitations imposed by the user interface, none of the other features fit into this category.

Summary of Findings and Implications for Translation Tool Design

In the introductory part of Chapter 5, I provided an overview of the translation tools used in the agency and discussed the reasons for the use and non-use of the main translation tools in the agency. Subsequently, I narrowed the discussion to the use of Workbench and TagEditor, by the interlocutors in the agency. I presented their usability perspectives of the translation tools and discussed some problems and challenges they faced in the use of the translation tools. In the concluding part of the discussion, I addressed the use of specific features of the translation tools by the interlocutors.

I have examined the users’ awareness of the existence of the features of the translation tools, their use of the features as well, as the reasons for the non-use of certain features. I compared the actual use of the features of the tools to the envisioned use of the tools by the tool designer and found significant disjunctions in this area of translation tool use in the agency. I have presented a system for categorizing observations on the non-use or underutilization of the features of the translation tools by the actors. This
categorization system aimed at a better understanding of the reasons for the interlocutors’ non-use or underutilization of the tools’ features. It has been demonstrated that the system of categorization and method of analysis used in this study constitute a framework that can yield valuable information for the improvement of the design of translation tool design. At this point, I highlight the key findings of our study.

The study found that while the interlocutors’ uses of translation tools were generally consistent with the tool designer’s envisaged use of the translation tools, in some cases there were significant disjunctions between the developer’s intentions for providing certain features of the tools and the actual uses of those features by the tool users. These disjunctions in some cases led to user frustration and rejection of the entire translation tools, or the offending features by the tool users.

I have no doubt that these disjunctions can create disgruntled users of the tool and they stem primarily from a fundamental misunderstanding of the purposes of certain features of the tools as noted in the discussion. In some cases there was cause to believe that the misunderstanding stemmed from the name given those features by the tool developer. Further evidence, however, needs to be adduced from research to fully establish this point. However, there is some evidence in the literature to show that misleading and poorly chosen command names could result in serious errors in system use (Goodwin 232). It would be interesting to conduct further research in other settings to prove this assertion.
The study also found that user documentation provided by the software designers often proved unhelpful to the interlocutors. As a result of not finding the help they needed from the help files, one of the interlocutors resorted to online searches for solutions to problems while the other interlocutor simply referred the files to others that she thought were more capable of handling the problem. The interlocutors generally perceived the user documentation as difficult to understand, and search. This dissertation offers some suggestions for the improvement of the user documentation of the translation tools in order to make them more responsive to the needs of the tool users.

The study also found that tool users were sometimes afraid to commit errors that they felt could not be easily corrected or that would result in data loss or the loss of the original settings of their tools. It can be argued that this apprehension can negatively affect tool users’ ability to “discover” how to use the tool by tweaking its default settings and making use of some its advanced functions. Designers can make it easier for tool users to restore default settings of the tools without having to reinstall the tool and can also make it easier for tool users to recover lost data.

The requirements gathering process is of critical importance in software development. It is during this process that developers try to understand the needs of customers or potential users of the system in order to meet those needs. There are multiple methods of software requirements gathering and my aim is not to discuss all these methods in this dissertation. Developers use methods such as interviews,
questionnaires, focus group discussions, use cases, modeling, preparation of requirements list, and task analysis among many others to gather requirements. Task analysis, for example, creates models of work by observing actual work practices. The approach can be combined with an ethnographic approach (Diaper 8).

It is important to note that the process of requirements gathering is very complex. This is because tool users do not always know what they need and developers do not always understand the needs of tool users. Furthermore, what tool users say they want, is not always what they need. Incomplete or inaccurate requirements can lead to the rejection of the software tool by the user. Another problem is that developers may think they understand the needs of the user, but the solution they may envision may be different from the one anticipated by the user. There is an abundant body of literature on the difficulty of software requirements gathering. Readers interested in learning more about the requirements gathering process are encouraged to consult the specific references provided in Chapter 1; they can also access an abundant body of literature on the subject.

My concern in this dissertation has not been to determine the “best” requirements gathering method since I do not think there is one. Moreover, such an endeavor would involve a comparison of all known requirements gathering methods taking into account their strengths and weaknesses. Obviously, such a discussion is beyond the scope of this dissertation. Furthermore, tool designers are not limited to a single method of
requirements elicitation. In fact, a better approach may be to combine several methods to gather complete and accurate requirements.

In Chapter 1, I mentioned that some tool designers do not pay sufficient attention to the social context of work, the actual context in which the software is supposed to be used. My concern in this dissertation has been to demonstrate that ethnographic approaches, especially microethnography, which can focus on the detailed interaction of tool users with their tools and also elicit users’ perspectives on the tools they use, can yield valuable data for the improvement of translation tools. This is because ethnographic methods are immersive; they focus on minute details of a user’s interaction with his/her software and have the capacity to highlight issues that may be overlooked by other requirements gathering techniques such as questionnaires, use cases, and requirements lists. This study is a demonstration of that fact. I also mentioned in Chapter 1, that the development of useful and usable software depends on the availability of actionable and meaningful data. Understanding user needs is essential to the development of usable software tools.
CHAPTER 6

CONCLUSION

In this study, I have described the translation agency, its organizational structure, the production workflow in the organization, and most importantly the role of translation tools in the agency. I have provided an overview of the agency’s use of translation tools and discussed specific problems related to the use of these tools. The study has noted occasional discrepancies between established workflow practices and actual workflow in the agency and the causes of these deviations. The study found a discrepancy between the idealization of work practices underpinning the software/tool designer and the real practices of the workplace.

Two microethnographic case studies were conducted within the framework of the broad research to investigate in a more detailed fashion the use of specific translation tools by two interlocutors in the setting. The case studies brought to light a number of issues which have been discussed in Chapter 5. Most importantly, this study has led to the realization that translation tool users, like other users of software, have limited knowledge about the capabilities of the tools they have been working with, often in spite of the number of years they have used the tools. The implication of this finding is that translation tool developers need to pay closer attention to the “levels of expertise” of tool
users when designing translation tools for these users. It is also important to reiterate the study’s finding that many important features in the translation tools remained unused or underutilized and were not serving their intended purposes. Some of the tools in the agency had been even abandoned altogether by their users as a result of frustration. This study has thus confirmed the major hypothesis that there is often a disjunction between tool designers’ envisioned use of their programs and how the software is understood and used by end users. This is a validation of Sharples’ original statement that “the way designers intend technology to be used often differs from the actual user’s behavior” (67).

Most importantly the study has established that a number of features in the translation tools were not being used because their purposes were not understood by the tool users. This finding gives credence to the argument that “providing extensive functionality is not enough: People must understand what the functions do and how to use them” (Goodwin 231).

This study has shown that ethnographic and microethnographic approaches can provide a better understanding of the actual context of use of translation tools and that the information yielded from ethnographic research has the potential to inform the development of more usable translation tools. In Chapter 1, I proposed to demonstrate how ethnography can be fruitfully used to inform the usability study of translation tools. This objective has been achieved. Furthermore, I aimed at investigating how ethnographic findings could best be documented and integrated for use in translation tool
design. In order to meet this goal I introduced a categorization framework to analyze the reasons of my interlocutors’ non-use or underutilization of the features of the tools. I believe that this type of analysis can serve as a useful framework for the evaluation and improvement of translation tools in general. It can also help tool developers understand some of the problems and challenges that tool users face on a day-to-day basis. Further research is, however, needed to investigate other possibilities of presenting ethnographic findings and integrating them into software design.

I have presented my interlocutors’ views on the translation tools they think would best serve their needs. I have also presented their perspectives on the usability of the tools investigated as part of this research. This is yet another demonstration of the fact that ethnographic approaches, specifically microethnography, can be valuable to the development and improvement of translation tools. I have also shown that an ethnographic study can as well provide an insight into how tool users perceive their own tools. This study underlines the fact that in order to develop more usable and useful translation tools; tool designers need a better understanding of the context of use of translation tools. I am convinced that ethnography can serve as a vehicle to deliver this type of valuable information.

This study brought to light a number of issues related to the use of the translation tools investigated. In the ensuing section I make a set of recommendations to address some of the problems. It is important to note that SDL International has released, SDL
Trados Studio 2009, a new version of the tools that were studied as part of this research work. The release of the new tool was acknowledged in the discussion on tool upgrade. Therefore some of the problems highlighted in this study may have been addressed in that tool.

**RECOMMENDATIONS FOR THE IMPROVEMENT OF TRANSLATION TOOLS**

Of particular significance are the findings on the software user documentation, which in some cases proved unhelpful to the tool users. Some researchers have argued that the production of effective help documentation must be based on informed decisions and a good understanding of the needs of the audience (Hackos 454; Weber 23). Their observation applies as well to software tools in general. I believe that ethnography, specifically microethnography, provides a mechanism for achieving this objective.

There is the need for translation tool designers to look more seriously at the issue of software user documentation. The problem is a complex one. Creating two versions of documentation, (a simple and an advanced version), is not likely to address this problem because tool users are not uniformly beginners or advanced. Furthermore, tool users do not always know exactly what the “problem” is. A possible solution to this problem would be the use of advanced or intelligent help systems that would address more granular levels of user expertise. There is also a navigation problem that needs to be
addressed. Ideally, it should be easy for tool users to find what they are looking for in the documentation or help files. But this is not always the case. It is difficult to lookup help or search through documentation when one does not know what the problem is or the key words to use in a search. Tool users are known to consult documentation or help files for many different reasons. These reasons determine the type of help the tool user needs.

Reasons for consulting help files can be described as:

1) goal-oriented;
2) descriptive;
3) procedural;
4) interpretive and
5) navigational (Sellen and Nicol 719).

A typical goal-oriented help question is “what things can I do with this program?” A descriptive help seeker may ask questions such as “what is this?” Or “what is this feature?” Some tool users need procedural help. They ask questions such as “how can I perform this task with the tool?” Interpretive help seeks to answer questions such as “why did this happen?” Navigational help answers questions such as “where am I?” or “where in the user interface can I find this feature?”

The different reasons for consulting user documentation imply that tool documentation needs not only be responsive to user levels, but it also needs to be
responsive to user purpose in consulting the documentation. Furthermore, there also is the need to make it easier for tool users to find *pertinent* and *relevant* information in the documentation. Doing this is unlikely to be simple by making a simple or an advanced version of the documentation. Thus designing help that meets the needs of both experts and novices could be a real challenge.

Based on the findings of the microethnographic case studies, the interest of tool users may be better served if a comprehensive list of all the features of the translation tools and descriptions of their uses is provided in the user documentation of the tools. If possible, the feature lists should include screen shots of the user interfaces of the tools to enable users identify and learn how to use those features. A comparison study found that the use of visual instructions in online help enabled tool users to perform more tasks in less time with fewer errors than users who were not provided with visual instructions (Harrison 82). This study found that while some screenshots were provided in the Workbench user manual, in some cases information about some features were missing (e.g. Context Based Number Display, Target Language Command). The interlocutors also expressed frustration with the Comments and Annotations feature of TagEditor, therefore, that feature also needs to be examined, and if possible redesigned to improve its usability.
LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

The present study had some limitations, not the least of which was the number of features to focus on in the microethnographic case studies. As already noted, it was not practicable to investigate in a detailed manner all features in the translation tools because some of them had too many features. Future research could also focus on the uses of the other tools that were not covered in this study. It might be useful to compare tools from different manufacturers based on different designs and process models. It is hoped that those studies would lead to valuable information leading to the improvements of those tools as well. Another possible direction for future research is the study of translation tools in other organizational settings, homes, and offices.

In conclusion, it is my hope and expectation that the present study has provided some useful input that can lead to better design decisions. It is also hoped that the findings of this study would also help narrow the existing gap between designer’s envisioned use of features of translation tools and end users’ perception and use of these features, and that this study will stimulate more discussion on the subject.
GLOSSARY OF TERMS

**Analysis or file analysis**: process during which Translator’s Workbench compares source documents to the contents of a selected translation memory to determine if there are matches (identical or similar) in the translation memory.

**Adobe Acrobat Professional**: tool for capturing and reviewing information from different applications in portable document format and sharing it with others.

**Batch Processing**: feature of Workbench that enables a user to process more than one file at a time.

**Clean up feature**: a feature in SDL Trados Translator’s Workbench that is used to remove bilingual data, update the content of translation memory and convert a document back to its original format.

**Concordance**: feature of translation tool that enables a user to search and view the contents of the translation memory.

**Context TM**: project management utility designed to compare new source files with old translated bilingual files in TTX format, and transfer the relevant bilingual data from the old to the new files, it takes context into account therefore perfect matches are those that do not require further editing.
COTS or commercial off the shelf software: ready-made tools sold in the market

CSV or comma-separated value file: Excel readable file format used to exchange data between different applications

ERP or Enterprise Resource Planning Application: system that integrates a set of business functions

File analysis: process during which Translator’s Workbench compares documents to the contents of a selected translation memory to determine if there are matches (identical or similar) in the translation memory

HTML or Hypertext Markup Language: authoring language used to create documents on websites

INX file: Adobe InDesign interchange file

INDD: extension for an Adobe InDesign file

LSP: language service provider

Localization: cultural and linguistic adaptation of products and services to meet the linguistic and cultural needs of a specific market, the process may involve translation

Localization workbench/tool: specialized tool used for software and website localization. Examples include SDL Passolo and Alchemy Catalyst

Localizer: person who performs localization
**Maintenance feature**: feature of Translator’s Workbench that allows a user to search and edit the contents of a translation memory database

**Machine translation tool**: software used to automatically translation texts from one language to another

**Outsourcing**: transfer of a particular service or business function to an external entity

**Pretranslation**: process of applying the contents (matches) of a translation memory to a new source document

**RC file or resource configuration file**: type of application file used in software localization

**SDL International**: developer of computer-assisted translation tools

**SDL Compare**: tool designed to compare two versions of the same translation document and identify the differences between them

**SDLX**: example of a computer-assisted translation tool

**SDL Trados Studio 2009**: example of a computer-assisted translation tool

**SGML or Standard Generalized Markup Language**: international standard for defining the structure of electronic documents

**Style sheets settings**: feature that enables a user to define the color and font settings for translated text and for match types in Trados Tag documents

**SDL MultiTerm**: terminology management tool
**SDL S-Tagger**: conversion utility that converts Framemaker and Interleaf files to a tagged format compatible with the Workbench and TagEditor

**SDL Synergy**: translation project management tool that integrates many functions into one application

**SDL TagEditor**: tool for editing and translating tagged texts

**Tag setting**: feature that enables a user to specify which initialization files Workbench should use when processing HTML, XML and SGML files

**Terminology management system**: tool that enables a user to store terms and term-related information, in a database for use in future projects

**Terminology database**: database containing terms and term-related information

**Translator’s Workbench**: translation memory database creation and management tool

**Translation agency**: business organization that accepts translation service requests from clients and performs these services either in-house or by relying on a network of service providers (external actors)

**Translation unit**: source text aligned with a corresponding target text

**Translation memory or TM**: database of previously translated segments

**TM segment**: translation memory segments

**TTX or Trados Tag file**: XML-based bilingual format created in TagEditor

**UI**: User Interface of software application

**Windows 32 binary file**: type of Windows application file
**WinAlign**: an SDL software application tool used to align previously translated material for the purpose of creating a translation memory.

**WIKI**: web page that allows its users to easily edit the content.

**Workaround**: any creative solution to problems encountered by an actor while using a tool or any method used by the actor to circumvent a problem that prevents the accomplishment of a particular task.

**XML or eXtensible Mark-up Language**: meta mark-up language, subset of SGML, set of rules or standard for encoding documents in a machine-readable form.
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