Developing a Technical Translation Program:
A Needs Assessment Study

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Abstract: This paper presents a needs assessment study designed to determine the skills needed by technical translators to become successful in their work and content areas to be covered to develop these skills in a new technical translation program at the Department of Modern Languages and Literatures at Oakland University. A mixed qualitative and quantitative research design was used to collect data from professional technical translators. Content analysis and descriptive statistics of interview and survey data revealed several insights and suggestions regarding prerequisites for the students entering into the program, program content, and instructional strategies. Based on the findings, the paper concludes with twelve recommendations for the design of the program.

Introduction

The purpose of this needs assessment was to determine the skills needed by technical translators to become successful in their work, and content areas to be covered to develop these skills in a new technical translation program at the Department of Modern Languages and Literatures (MLL) at Oakland University. This study was triggered by the rising need for trained technical translators due to the impact of globalization and the emergence of many global organizations in the metro Detroit area. Morton (1978) recognized early on the need for greater use of foreign languages by U.S. organizations competing on the world market. Both small and large organizations are feeling the impact of globalization and the need to address foreign language barriers (Hiatt, 1993). As Castelluccio (1996) notes, "Unless the foreign office of an organization is in a place like London, the services of a professional translator are probably required and that the contract language has to be clear, manufacturing specifications have to be exact, and two years of 20-year old high school French or German just won't make it" (p. 55).

Although the MLL Department offers translation certificates for undergraduate students, some members of the Michigan Translators and Interpreters Network (MiTiN) approached the Chair of the MLL Department and requested her to offer a technical translation program for professionals in the field. Although faculty members in the Department have expertise in several foreign languages, this study focused on technical translators using German, French, Spanish and Japanese, languages with the highest demand in the area. This study was initiated by the first author of this paper in consultancy with the second author who is a university professor. During this collaborative work, she provided guidance and helped focus the study. The study was conducted between September and December of 2002. In the following sections, the methodology, findings and recommendations of the study are presented.

Population and Sample

Professional technical translators were the target population for this study. The criteria for sample selection were specialization in German, Spanish, French or Japanese and at least five

years of experience in the field; multilingual participants were preferred. Although professional organizations for translators (e.g., MiTiN, American Translators Association) have lists of their members, that were accessible, they do not show the members' length of experience. Thus, for the purpose of this study the snowball sampling method was selected to identify participants that met the sampling criteria. Each recommended translator was contacted by either telephone or e-mail and out of the ten contacted translators, four were available to meet face-to-face for in-depth interviews during the period of the study. Out of the ten technical translators who were included in the pilot survey seven completed the survey by the due date and one completed survey was received after the follow-up reminder letter. Each of these technical translators was contacted either by telephone or e-mail, given a description of the project, and asked to participate in the pilot.

Data-Gathering Methods

Data was gathered using interview and survey methods. The interview guide and the survey developed by the authors were first piloted with fifteen graduate students and one technical translator. Changes were made in the language used in order to clarify some ambiguities. All participants received the interview guide before the scheduled interviews that took place in quiet surroundings with no interruptions. The tape-recorded interviews lasted for 35 minutes on an average. Each interview was transcribed and analyzed immediately after it was conducted.

The survey was designed on the basis of the data collected through the interviews and it contained sections addressing skills needed for a technical translator, content of a new technical translation program, open-ended question asking for suggestions, and demographic data. After the initial contact, a cover letter summarizing the study, containing directions on how to complete the survey and expressing gratitude for participation was sent along with the attached survey by e-mail to participants. They were given a week in which to return the completed surveys. After the due date for returning the survey, a follow-up e-mail letter was sent to participants who did not return the survey.

Data Analysis

The qualitative data that was collected through the interviews and the open-ended survey question was analyzed using content analysis. Word, sentence and paragraph were used as the units of analyses. The transcribed interviews were read several times to seek out common themes across the interviews by questions and then across the questions. Five main themes emerged from the data, namely types of technical texts, prerequisite skills for students, skills to be developed during the program, techniques used for translation, and other suggestions. Through further analysis three, six, and four categories emerged respectively under the themes related to prerequisite skills for students, skills to be developed during the program and other suggestions.

Descriptive statistics was used to analyze survey data. All but one participant gave several suggestions in response to the open-ended question. Since the survey was designed on the basis of the data collected through the interviews, the statistical data helped in supporting the themes that came up during the interviews and are presented in the following section.

Findings

The survey results confirmed the need for trained technical translators in the market. All participants were very experienced in the translation field. The average number of years that the interviewees had been professional translators was 11.75 years. Five out of eight of the survey

respondents had 21 years or more experience. Many of them expressed the opinion that people in the translation field go by the adage that a translator should only translate into his mother tongue. This is supported by John Elderige (as cited in Reynolds (1990), an automated courseware development consultant, "The problem is not to translate the words, but to convey the ideas across cultures. Employ a writer from the other culture to write your idea in the local language" (p.74).

A wide range of technical texts were given by the interviewees and all but business specifications (e.g., mean = 2.67 on a 4-point Likert scale) were considered important or very important (e.g., mean between 3 and 3.84) by the survey respondents. Engineering specifications, patents, user's manuals, shop manuals, certifications, and failure modes and effects analysis were included in the list.

The interviewees and the survey respondents felt that prerequisite skills were needed for students entering the program and they stressed the importance of having a very good grasp of the target language, a good grasp of its grammar as well as having good writing skills. All the interviewees felt that the students entering the program needed to have some basic technical knowledge. As one of them said, "If you have an engineering major going into technical translation that would be a match made in heaven." Overall the survey respondents felt that computational skills were also important since translations came in different formats and technical translators had to work in these formats with a variety of tools like TRADOS, which is a memory software program. One of the interviewees felt that having basic business knowledge was also an important prerequisite skill for the students to have, which was supported by all the survey respondents. One of the survey respondents wrote, "Translators need to know basic business skills related to running a translation business: invoicing, collecting, bookkeeping, etc."

On the topic of skills to be developed during the program, participants' answers were varied and touched on many different points. Two interviewees felt that it was very important to teach the students business ethics and professionalism in this field. One of them suggested, "As part of the ethical training, students should be taught to recognize their limitations and not take on assignments they do not have the background to handle successfully." This was supported by the survey respondents whose answers on this topic ranged between important and very important. Another skill some of the participants spoke about was searching out resources. One of them mentioned that it was important for students to develop a variety of research skills, both on and off the internet. The need for students in the program to be well versed in some of the major computer software programs was also addressed. In one of the interviewee's experience, "you definitely have to be up on the software. If you don't have the current software, you won't get clients." Some of the participants considered networking to be extremely important since they received a lot of help from their colleagues and gained knowledge from their experiences. Two more points that they brought up were that the students needed to develop their editing skills and work extensively on their vocabulary.

Each of the interviewees had different techniques that they used for translation but they agreed on the need for first checking out whether the company they were doing the translation for had any specific vocabulary that they preferred. Other suggestions that they had for the program were that the teachers that will teach the program in the future should either be technical translators or that technical translators should at least be consulted for the program. One participant said, "It is very important to specify the purpose of the program and to whom it is geared for. Otherwise a mixture of all kinds of people would go nowhere." Another participant summed up by saying, "They have to know their language, strict demands have to be put on them, they have to learn how to train themselves to behave professionally, as I say, and they have to learn how to search out and evaluate resources."

Recommendations

Based on the findings of the study, the following recommendations were formulated and presented under three major categories to the MLL department as part of the needs assessment report.

Target Student Population and Student Prerequisites

This category contains two recommendations based on the kind of prerequisite skills the students entering the program should have and the students' selection process.

1. Before the design of the program, the student population that the MLL department wants to target for this program should be determined, so that the objectives set for the program can be realized. For example, those people that already have a very good grasp of the target language, basic technical background and basic computational skills were considered to be the right target population for this course by the technical translators that were interviewed and surveyed. This recommendation is supported by Tyler (1949) who states that "Studies of transfer of training, however, indicated that the student was much more likely to apply his learning when he recognized the similarity between the situations encountered in life and the situations in which the learning took place." (pp. 17-18).
2. A screening process including application and entry exam should be developed in order to select the desired target student population for this program.

Program Content

The following four recommendations emerged under this category:

1. While designing the program help of professional technical translators should be enlisted to ensure that the course material is appropriate for the current technical translation field and the skills taught during the program are relevant and transferable to the performance context.
2. While choosing the course content, the inclusion of a wide variety of technical texts such as patents, user's manuals, shop manuals, certifications, failure modes and effects analysis, software manuals, contracts, request for quotes, specifications and annual reports should be included.
3. Along with the development of technical translation skills, the content of the program should ensure the development of the following: research and editing skills, ethical business and professional behavior, and networking skills.

Instructional Strategies

Based on participants' suggestions, the following six instructional strategies should be implemented to accomplish the program objectives:

1. Professionalism should be simulated in the class using techniques that would teach the students to work under pressure and with deadlines. Part of it could be accomplished by giving demanding assignments and having strict rigid deadlines for it that affects the grade of the students.
2. Students' stamina to pull through a text should be increased by working on a long project over the period of the semester. They could be put into groups of two, in which each of them would have to edit the other's translation thus sharpening their editing skills.
3. In order to give the students practice in searching out resources on the internet, they should be asked to research for a particular kind of text that is new to them before they start translating it.

4. To get used to working with different kinds of software programs, students should be given assignments in different software programs, for example in Microsoft Word, PowerPoint or Excel, or Acrobat reader. In the same way, they could also be introduced to translation memory software (like TRADOS, which is widely used in the field today).
5. A technical translator should be called in as a guest speaker to share important and practical information with the students, for example information on how to bill clients, prepare a standard invoice, or make contracts with clients.
6. Networking with other translators should be encouraged by providing students with information about the different organizations like Michigan Interpreters and Translators Network (MiTiN) and American Translators Association (ATA), and inviting guest speakers from these organizations.

The findings and recommendations of the needs assessment study were very well received by the Chair of the MLL Department who considered them valuable contributions to the design of the technical translation program. Despite the commitment of the Chair to this new program, severe budget cuts led to the postponement of its design and offering.

Conclusion

We believe in the importance of involving professionals in the design of programs offered to them. During the interviews, the participants showed great interest in the study and their insights and suggestions reflected their deep understanding of their practice and its needs. The survey respondents showed their eagerness to participate by immediately returning the completed surveys and all but one of them included their suggestions in the open-ended section of the survey. Our belief in the need and benefit of hearing their voices, so important in the practice of adult education and learning, was reinforced over the period of this whole study.

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