Teaching computer-assisted translation in the 21st century

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Challenges facing translation training institutions in higher education

The demand for non-traditional courses is growing

The Monterey Institute of International Studies currently offers four traditional, 2-year MA programs in the field of translation, interpretation, and localization management: An MA in Translation, an MA in Translation and Interpretation, an MA in Conference Interpretation, and an MA in Translation and Localization Management – plus a new International MBA with a specialization in Localization Management. In addition, the Monterey Institute has been offering on-site short programs in translation, interpretation, and localization management (ranging from one-day workshops to week-long courses) for working professionals. These industry professionals typically either have no formal education in translation, interpretation, and localization management or completed their degree many years ago and look to the Monterey Institute short programs to enhance their skill set in specific areas such as Computer-Assisted Translation, Website Localization, or Court Interpretation.

While enrollment numbers for some traditional, in-residence graduate degree programs at the Monterey Institute have been stagnant, there has been a growing demand for the short programs the Monterey Institute is offering, as well as for hybrid and online-only courses.

The reality of shrinking budgets

The ability to teach translation tools and processes depends heavily on the availability of industry-specific tools. Making a translation technology teaching environment available in the classroom typically requires a major investment on the educational institutions’ part in software licenses, maintenance contracts, and hardware infrastructure. However, in the challenging current economic environment, budgets are
shrinking, and it is becoming increasingly difficult to secure enough funding just to keep the existing translation technology environment up and running, let alone acquire new tools and services.

**The percentage of students who use non-Windows PCs is increasing**

Traditionally, the market for translation technology has been dominated by desktop and server products designed for Windows PCs. In my classroom, however, I am observing an ever-growing number of students using Apple laptop computers, and the ‘Mac people’ now make up approx. 30% of the student population in my courses. This situation is not necessarily problematic as one of the advantages of using any recent Apple computer is the fact that the Apple computer hardware platform actually supports both Mac and Windows operating systems. The challenge is, at least with the students bringing an Apple computer to my classroom, that many of the Apple users are not among the most computer-literate students, and the mere thought of installing and running a second operating system on their computer is daunting to them.

Fig. 1: Demonstrating the use of a cloud-based translation memory system on a mobile phone - the wireless keyboard is optional but highly recommended (Photo: Joan Wang)
The mobile revolution is here

PC makers like Dell and HP are seeing their sales dwindle (Worthen 2012), while Apple and Samsung, the leaders in the smartphone and tablet market (Reed 2012), sell record numbers of their products. Mobile devices are particularly attractive for students: Tablets and smartphones are not only much smaller and lighter than laptops, netbooks, and ultrabooks, they are also much cheaper. Today, Wifi-enabled Android tablets are available for less than $100 (Mishra 2011), which is about one-third the price of an entry-level laptop. Plus mobile devices are ‘cool’: Many students use them already for media consumption, gaming, and social networking. As mobile devices are becoming ubiquitous, students are asking for educational content that is mobile-ready.

The job market requires graduates who have business skills and understand emerging technologies

On October 22, 2009, Microsoft launched Windows 7 – in the United States and 14 major international markets simultaneously (Protalinski 2009). Since then, the pressure on language professionals to deliver their services faster and more efficiently has grown. To survive and excel in this economic climate, it is no longer enough, if indeed it ever was, for graduates of TILM programs to have only superior language-transfer skills. Based on my conversations with employers of MIIS graduates, the following skills are in high demand:

- **Project Management**
  This is probably the general skill that is currently at the top of the list of employers recruiting TILM graduates for in-house employment. While some project managers also translate, and edit or review translations, many if not most do not. Translation project management typically involves analyzing source documents for matches in translation memory system, creating quotes, selecting linguistic resources, creating translation kits, performing formal translation quality control, and, of course, communicating with clients and project team members.

- **Collaborative Translation**
  Organizations serving global markets are moving to a translation/localization paradigm where translators no longer work successively, i. e. after content creation, but concurrently, i. e. while writers still work on the source text. Also, in order to meet
very aggressive deadlines, multiple translators are now beginning to be tasked to work on the same text at the same time and editors are revising translations while translators still translate those documents.

• **Machine Translation**

Few innovations in the translation field have received more attention than machine translation (MT) in general and statistical machine translation in particular. Now that Google Translate offers free, instant translation of websites and electronic text in more than 4000 language combinations (Protalinski 2012), MT is becoming a standard component in the toolbox of today’s tech-savvy translator.

• **Translation Management Systems**

As many have argued before (cf. Zetzsche 2007, Melby et al. 2011), the term ‘translation memory’ that is still used for the comprehensive computer-assisted translation systems that have at their core a translation memory, but typically also include at least a terminology management component, is not only inadequate but also misleading. Many computer-assisted translation tools available to translators today, even those in the low-cost/no cost category, qualify as ‘translation management systems’: These tools not only offer the traditional functions for re-using translated sentences and terminology, but also include features for sharing linguistic resources in real-time, setting-up workflows, performing online review, etc.

• **Crowdsourcing**

Crowdsourcing is perceived by many professional translators as a serious threat, by some even as a more serious one than machine translation. Crowdsourcing is the practice of using untrained volunteers to perform services that are traditionally performed by either an in-house employee or a contract service provider. Facebook was one of the first organizations that used crowdsourcing as part of their localization strategy (Schonfeld 2009), and today, many other global organizations, especially in the software industry, crowdsource at least some of their translation/localization projects. It is notable that companies employing crowdsourcing strategy are beginning to hire Community Translation Managers that have a very specific skill set.
Taking full advantage of a cloud-based, open-source learning management system (LMS)

Provide students with a single repository for all teaching materials

Many if not most instructors who teach translation and/or translation technology use an LMS to distribute at least some of their instructional material, e.g. their syllabus, course calendar, or the source text(s) for translation exercises. I have found that in fact an LMS is suitable for making available every type of teaching material I use in my classroom, which, in addition to the items mentioned above, include: reading materials, instructor slides, videos of guest lectures, student-generated work, quizzes, and, of course, grades.

Fig. 2: Screenshot of a section of the LMS I use in my Introduction to Computer-Assisted Translation course at the Monterey Institute

Allow students to submit assignments and track their progress

Students in a translation training program, like students in many other fields of study, will need to submit evidence of their (hopefully) improving translation skills, e.g. translated texts, term lists, dictionaries, etc., to their instructors for grading. One of the advantages of using an LMS is the fact that these systems not only offer specific functionality for this purpose but also remind students that an assignment...
is due and, unlike manual submission via paper or e-mail, automatically create log entries that both student and instructor can reference. Also, using an LMS eliminates the need for the instructor to communicate grades to students: Both grades for individual assignments and aggregated course grades are available to students anytime at the click of a few buttons.

**Let students take quizzes online, and receive instant feedback**

One of my favorite features of the LMS we use at the Monterey Institute is the availability of a fully customizable online quiz module. Quizzes can be configured to include true/false, multiple choice, and essay questions, to name just a few options. In addition, the instructor determines the weight each question carries and what type of student response should be graded, e.g. the first, the last, or the best. Instructors are also able to set-up elaborate feedback options that provide students with a grade immediately after they complete a test, as well as with an overview of correct and incorrect answers. If desired, the instructor can also prepare a written response that could be just as detailed as feedback given in a more traditional testing environment.

**Enable real-time collaboration and record collaborative work for future reference**

Yes, teaching translation technology does involve a lot of button pushing, but I also encourage my students to reflect upon the implications of using a given translation tool or process. Using an LMS to support small-group discussions has two advantages: 1) making carefully formulated questions and instructions available to each group at the beginning of an exercise provides students with guidance towards a specific goal and deliverables; 2) using any of the various features for online collaboration lets students share the results of group sessions and allow results to be referenced as the semester progresses.

**Taking full advantage of free, cloud-based translation memory / translation management systems**

**Support students with any internet-enabled computer device**

One of the key features of any cloud-based system is that the application proper is hosted on a remote, web-enabled server instead of running the software on a local computer. Many cloud-based services require no special software installation at all
on the user side as the remote cloud application is being accessed via a standard
web browser. Using a cloud-based translation memory system in the classroom
means in many cases that it no longer really matters if a student has a Windows PC
or an Apple Macintosh computer. In fact, in a cloud-based translation environment,
students do not even need to bring a laptop to class any more: Many cloud-based
translation memory systems are compatible with inexpensive mobile devices such
as tablet computers and smartphones based on the popular Android or Apple iOS
operating systems.

**Give students access to translation technology from anywhere**

In the past, the biggest complaint students in our translation technology courses
had about our server-based translation memory systems was that they only had ac-
cess from within the firewall. In other words: Students had to be physically present
on campus to use the translation memory server, even though these students had
the client component of the translation software installed on their laptops. With a
cloud-based translation memory system, students have full access to the translation
memory server regardless of their location: Students can log-on to the system from
campus, from home, or from anywhere in the world with an Internet connection.
And, of course, this type of system is available 24/7, liberating students from the
constraints of rigid PC laboratory hours.

**Let students participate in collaborative translation and editing exerci-
ses**

One of the hallmarks of cloud computing is the way this technology supports shar-
ing of data among users. When students work with a desktop translation memory
product, the sender will typically have to create an export file for each item they
wish to share (e. g. translation memory, glossary, task), transmit the items (which,
due to their size, may be difficult via e-mail), and then the recipient will have to im-
port the items into his or her desktop translation memory. In other words: In a
desktop translation memory environment, students generally find it difficult to
share resources, and teamwork typically takes the form of sequential collaboration.
Using a cloud-based translation memory system, on the other hand, sharing linguis-
tic resources among students is possible at the push of a few buttons; there is noth-
ing to export, send, or import as all assets reside on the same server to begin with.
Also, some cloud-based translation memory systems allow multiple students to
work on the same document simultaneously. For instance, several students may work on the same document as translators, enabling each student to instantly leverage the other students’ work. Alternatively, one student could be translating a document, while another could be editing the first student’s work immediately after the translation is entered. Both of these scenarios provide students with exciting new opportunities for learning from their peers.

**Support students in post-editing machine translation**

For many translation students, machine translation has become the most accessible type of translation technology: Tools like Google Translate and Google Translator Toolkit are not only available for free but also very easy to use. However, today, after decades of development, even the most advanced machine translation systems typically create translations that require a considerable post-editing effort (Rensburg et al. 2012).

As post-editing is slowly entering the translator training curriculum, the good news is that many cloud-based translation memory and translation management systems offer machine translation as a standard feature. These systems access services like Google Translate and Microsoft Bing Translator to present machine-generated translations as proposals that students can subsequently post-edit in a (cloud-based) translation memory / translation management environment.

**Reduce the cost of offering translation (technology) courses**

One of the most attractive features of some cloud-based translation systems is the fact that these translation technology solutions are available at very low cost or are completely free. Lingotek started the trend towards free translation software in 2007, when the company decided to drop the $300 annual usage fee for their translation management system (Sargent/DePalma 2007). Today, free cloud-based tools are available in many categories, e.g. Wordfast Anywhere (translation memory: www.freetm.com), TermWiki (terminology management: www.termwiki.com), and, last but not least, Google Translator Toolkit (integrated translation management: translate.google.com/toolkit). In addition to these free cloud-based systems, many more are available at very modest monthly subscription fees.
Using cloud-based translation software, translator training institutions no longer need to invest tens of thousands of Euros/dollars in software license and maintenance contracts just to start-up their translation technology programs. With cloud-based software, the need for a dedicated PC lab is also a thing of the past as these applications typically run on any web-enabled student laptop or mobile device.

Fig. 3: TermWiki toolbar, a browser plug-in for the free online terminology management system

**Everything fits with everything else**

Offering translation technology courses is easier than it ever was: Cloud-based learning management systems and translation management systems offer educational institution the powerful tools they need to prepare future translation and localization professionals for the demands of the 21st century. In the past, instructors teaching translation technology would use a different application for each educational task: One for the distribution of learning materials, another for collaborative learning, and yet another for testing; not to mention separate terminology management, translation memory, machine translation, and project management tools.

In a cloud-based translation technology environment, it is possible to reduce the number of educational software systems to two: an integrated learning management system and an integrated translation management system. In an environment, where both the learning management system and the translation memory system
offer a comprehensive feature set, instructors can teach a maximum number of skills with a minimum number of tools. And it deserves repeating that using the right applications, instructors can do all that at almost negligible cost to the institution.

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