

Поряд з перевагами впровадження інформаційних технологій існує низка недоліків цього процесу: невідповідність між обсягами викладеної навчальної інформації та можливістю студентів її засвоїти; різний рівень засвоєння одного і того ж навчального матеріалу різними студентами не дає можливості ефективного одночасного проведення занять; варіювання структури навчальної інформації з різних дисциплін.

### *Література*

1. <http://physics.herzen.spb.ru/teaching/materials/gosexam/b25.htm>
2. <https://uk.wikipedia.org/wiki>

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**Андрій Луцків, Галина Осухівська, Анастасія Зейда**

Тернопільський національний технічний університет імені Івана Пулюя, Україна  
Crowdin LLC., Localization Management Platform, Україна

## **РОЛЬ САТ-СИСТЕМ В ОРГАНІЗАЦІЇ НАВЧАЛЬНОГО ПРОЦЕСУ**

**Andriy Lutskiv, Halyna Osukhivska, Anastasiia Zeida**

Ternopil Ivan Puluj National Technical University, Ukraine  
Crowdin LLC., Localization Management Platform, Ukraine

## **ROLE OF CAT SYSTEMS IN EDUCATIONAL PROCESS ORGANIZATION**

The globalization process has a great impact on the higher education establishments, therefore students can receive education all over the world. The competition between the higher education establishments is strengthened by the rapid development of Massive Open Online Courses (MOOC).

Nowadays there are two core educational concepts, namely lifelong and lifewide. While lifelong concept means learning throughout the lifespan – «from cradle to grave», lifewide learning is learning in different spaces simultaneously [1]. Lifewide education presupposes that a student can learn anywhere, and the educational resources are available all around the globe. Whereas lifelong education means that the students of different ages, education level, and practical skills can complete some special refresher courses or even obtain some bachelor/master degrees. As higher education establishments follow Bologna process that guarantees international student mobility, they should meet the students' needs by providing the information resources in different foreign languages. To conduct the educational process at the appropriate level higher

education establishments should produce different types of documentation and information resources in the multiple languages. The authors of this report suggest increasing the efficiency and quality of the establishment's documentation processing workflows by implementation of the modern computer aided translation (CAT) systems. For example, in Ternopil Ivan Puluj National Technical University (University) the teaching process is conducted both in Ukrainian and English, as many international students study there.

In general, the following documentation and information resources require translation:

- official documents (curriculum, syllabus, student's documents starting from enrollment until graduation, accreditation, and licensing documents etc.);
- general (public) information available for mass media, like official web-site, booklets and pamphlets;
- educational content (content related to learning management system (LMS), textbooks, manuals, guidelines).

The departments, dean offices and some specific University's subdivisions are involved to deal with the official documents and general (public) information. The development of educational content is carried out by the teams of teachers from the dedicated departments.

Usually, when the University decides to run a bachelor, master or a Ph.D. program in another foreign language, the international department translators translate and adopt all official documents. The translators and experts in some particular subject areas, namely instructors who teach these courses, are also involved in the translation process. Assigned proofreaders (language and subject area experts) are responsible for providing the proper level of the translation quality. Quality assurance of the information resources' translation and quality control are guaranteed by the dedicated proofreaders. Due to some specific requirements of the Ministry of Education, some changes take place in the curriculum and syllabus every year, which means that there exist multiple versions of the same documents.

Let's consider a typical case – preparation of the student's Diploma and Diploma Supplement papers in Ukrainian and English languages. The following experts are involved in this process:

1. The staff of the department where a student studies prepare the diploma-related papers in the source (Ukrainian) language.
2. The staff of the specific subdivisions (translators) translate the diploma-related papers into the target (English) language.
3. The proofreaders from the specific subdivisions (experienced translators) check the translation quality.
4. The department proofreaders re-read all translations, check compliance with the subject area and confirm the translation quality.
5. Dean office staff (optionally).

Another typical case is students' mobility. In this case the staff from the specific subdivisions, departments, dean office, and people responsible for mobility program from another university are involved. The same task arises while running the dual degree program. The university provides the dual degree programs in collaboration with the higher education establishments in Poland, Germany, Lithuania and other countries. As this process is fully manual nowadays, it requires some automation by implementing the modern cloud CAT systems.

Contemporary CAT tools convert the solely manual translation process into interactive way of communication between a human and a computer. CAT systems can be of different types, like a single-user and multiple users; with the traditional desktop or web interface etc. We emphasize the key features of the CAT systems that will be useful to the University:

1. Multiple times translation of the specific terms and common expressions can be easily completed by using Translation Memory (TM) [2] – a language technology that enables the translation of the document segments (sentences, paragraphs, or phrases) by searching for similar segments in a database and suggesting some matches.

2. Involving many people into translation process, like the University staff, third-party translators, translation agencies, native speaking experts from the foreign universities and organizations. Cloud CAT system provides internal messaging and notifications for their communication.

3. Quality assurance and quality control can be achieved by the using some flexible, adaptable and customizable workflows. It can be achieved by attracting the multiple proofreaders and tracking the activity of every participant in the translation team.

4. Providing support of different file formats, such as: plain text, OpenDocument Format (LibreOffice/OpenOffice.org), OpenXML (Microsoft Office), HTML, CSV, XLIFF.

5. Simple and user-friendly translation editor with the integrated machine translators (e.g. Google Translate, Microsoft Translator), which can be adopted on the mobile devices. In such a way, a person can work on the documents everywhere she/he prefers.

6. The possibility of integration with University Enterprise Resource Planning System. By implementing this feature, it will be possible to use the API functions of the cloud CAT system, which results in an opportunity to translate internal University documents workflow more efficiently.

Crowdin localization management platform meets all of the mentioned requirements[3]. It is a web-based platform with the user-friendly interface, which supports multiple file formats. There are some other Crowdin's distinctive peculiarities like:

- the simplicity of user interface (the user without any experience can easily start using the platform);

- visual HTML editing mode (useful for course content translation in LMS and public information on the official department web-site);
- can be used for MOOC development and localization (platform is being used for translation of Khan Academy education project);
- reliable and secure cloud web-system (system components comply with the modern cloud security standards, and all traffic is sent via encrypted HTTPS protocol).

### **Reference**

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**Галина Щигельська**

Тернопільський національний технічний університет імені Івана Пулюя, Україна

## **РОЛЬ ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНИХ ТЕХНОЛОГІЙ ПІД ЧАС ВИКЛАДАННЯ ДИСЦИПЛІНИ «ІСТОРІЯ ТА КУЛЬТУРА УКРАЇНИ» СТУДЕНТАМ-ІНОЗЕМЦЯМ**

**Halyna Shchyhelska**

Ternopil Ivan Puluj National Technical University, Ukraine

### **ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN TEACHING THE COURSE "HISTORY AND CULTURE OF UKRAINE" FOR FOREIGN STUDENTS**

Щороку на навчання до вищих навчальних закладів України, зокрема й Тернопільського національного технічного університету імені Івана Пулюя, вступають іноземні громадяни, які народилися й навчалися в суспільстві, що за своїми звичаями, традиціями, світоглядом, віросповіданням відрізняється від європейських країн. Відтак, вони неминуче проходять складний процес соціальної та культурної адаптації в новому для них українському