

Is It Difficult to Launch a Pioneering Master's Program in Translation?

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Abstract As translation technology becomes a part of everyday life, translation students do not use in the same way as professionals. The teachers' aim often shift from introducing Machine Translation (MT) to correcting habits of its use. Moreover, MT literacy and awareness of MT's possibilities and limitations are becoming an integral part of professional translation competence. Teaching professional translation in this context is a challenge. This paper presents the case of the launch of the pioneering Master's program "Computer-Assisted and Machine Translation Technology" at the Northern (Arctic) Federal University (Russia) in 2021.

Keywords Master's Programme in Translation. Translation technology. Interdisciplinary approach. Computer-assisted and machine translation technology. Translation competence.

Summary 1 Introduction. – 2 Interdisciplinary Approach to Translation Training. – 3 Research in Translation Technology. – 4 Results and Discussion.

1 Introduction

The Master's programme "Computer-Assisted and Machine Translation Technology" is focused on promising practices and research on digitalisation, multilingualism, language acquisition, MT teaching and training, and other spheres with the use of Artificial Intelligence (AI). It makes connections between different concepts across modern trends in MT and new frontiers of multilingual cooperation.

The programme addresses the concepts of translation technology and digitalisation from different perspectives (education, research, ethics, law, information accessibility and employment). The

programme is of an interdisciplinary nature, incorporating Language and Culture Studies, Translation Studies, Neurolinguistics, Ethics, AI, etc.

Its aim is to equip the students with a new knowledge of Machine Translation Studies and awareness of multilingual opportunities for education, research, and professional development in the digital age.

The programme involves representatives of business and professional communities in different fields as well as academic staff from different Higher Schools of Northern (Arctic) Federal University (NArFU): Higher School of Social Sciences, Humanities and International Communication, Higher School of Information Technologies and Automated Systems, Higher School of Natural Sciences and Technologies.

It is a big challenge to launch a Master's programme focusing on Translation Technology, Neuroscience and AI.

2 Interdisciplinary Approach to Translation Training

The first enrolment of students for the Master's programme in Linguistics "Computer-Assisted and Machine Translation Technology" was in September 2021. The second one was in September 2023. Most of the applicants had Bachelor's degree in the field of Linguistics and Social Sciences, but with the MT being an interdisciplinary area, the programme is easily adaptable to the capabilities and needs of linguists and non-linguists who want to align their bachelor's and current interests.

With the growing volume of text data MT becomes inevitable not only in translation industry, but also in other areas with large information flows (medicine, IT, ecology, etc.). Universities face an increasing demand for graduates with MT competence. MT literacy and awareness of MT's possibilities and limitations is an integral part of professional translation competence (Updated version of the EMT competence framework 2022). The Master's programme "Computer-Assisted and Machine Translation Technology" is the only one at NArFU preparing professionals in that field. The idea is to integrate courses on key MT developers (e.g. PROMT, Trados, Phrase, DeepL, Tilde, etc.) and best practices in studying (e.g. European Association for Machine Translation (Hu, Cadwell 2016; Wang et al. 2022), teaching (e.g. European Master's programmes in Machine Translation at Universitat Autònoma de Barcelona (Guerberof Arenas, Moorkens 2019), Dublin City University (MSc in Translation Technology 2023), Ghent University (Master of Arts in Technology for Translation and Interpreting 2023), KU Leuven (Postgraduate Programme in Translation Technology 2023), University of Geneva (The Master of Arts in Translation and Technology Programme 2023), University

of Portsmouth (Translation Studies MA 2023); Machine Translation and Post-Editing courses (e.g. Koponen 2015), research (e.g. Tra&Co Centre for Translation and Cognition at Johannes Gutenberg University of Mainz) and dissemination (e.g. EAMT annual conferences, "Northern European Journal of Language Technology") in MT field into NArFU's curriculum. Its aim is to bridge the gap between modern requirements and the specialists competence.

The MT quality standardisation is also a problematic point. The standards vary greatly from country to country, and this creates barriers for NArFU talented students who could have more opportunities to participate in international translation and research projects on MT topics. MT quality standards are being developed. The purpose is to encourage students to study the standards as well as improve their knowledge and understanding of views, attitudes, ethical standards, etc. related to MT.

Nationally, another huge barrier both for students who intend to use MT and for teachers ready to integrate MT in the teaching process is the public opinion on MT that remains unchanged from the very beginning of its development. Neural Machine Translation (NMT) is still blamed for its poor quality, unreliability and for making people lazy. This is partly related to the language barrier as there are few publications available in Russian. The stereotypes lead to the fact that MT is perceived as something that should be banned (Kokanova et al. 2021). Courses and projects that allow participants to use MT are sometimes viewed with suspicion and not always supported. The younger generation adopts this attitude from their parents and teachers, and they can be afraid to link their professional path with MT. The cooperation of academic staff from different Higher Schools of NArFU and representatives of business and professional community provides plenty of successful cases related to teaching and using MT for educational purposes. This helps to overcome the barriers and improve attitudes towards modern translation technology.

The Department of Translation Technology and Practice at AKM-WEST (a successful Moscow Translation Company) was established at NArFU on September 24, 2018 (AKM translations - A Russian Leader in Educational Partnership 2018). This department is the first and, up to the present day, the only Russian joint department in translation and interpreting technology. It aims at the practice-oriented approach to the translator's training, together with introducing professional translation technology.

The main vectors of the Master's programme curriculum are Language Module, Translation Technology Module, Translation Project Management, Machine Learning, Cognitive Technology in Translation, etc. This synergy provides students with a deep understanding of human-machine interaction and skills that are in demand.

Language and Translation Technology Modules are delivered by the representatives of the Higher School of Social Sciences, Humanities, and International Communication. The representatives of the Higher School of Information Technologies and Automated Systems teach IT disciplines, such as Introduction to Machine Learning, HTML, Mobile and Web Development for Translators. The specialists from the Higher School of Natural Sciences and Technologies are responsible for teaching psycholinguistic and neurolinguistic aspects of Translation. Cognitive Technology in Translation helps manage the translator's resources optimally.

The main disciplines of the curriculum embrace all the three spheres with the focus on translation. Along with rather traditional disciplines, such as Foreign Language Theory and Translation Theory and Practice, the curriculum includes such subjects as Computer-Assisted Translation Technology, Machine Translation Technology, Pre-editing Texts for Machine Translation and Post-editing of Machine Translation (PEMT). Special attention is paid to Russian Language for Translators and Post-editors, Translation Quality Management, Translation and Localization Projects. These disciplines are supported by several courses which help to form a critical attitude to NMT output. Machine Translation Technology Training goes together with Introduction to Machine Learning, Mobile and Web Development for Translators, HTML, as well as with Psycholinguistics and Neurolinguistics in Translation Studies, Language, Translation and Business Coaching.

3 Research in Translation Technology

The idea of launching the programme is inspired by the activity of the Centre for Language and Cognition at University of Groningen (the Netherlands). The research in CLCG focuses on the dynamics of language. From a variety of monodisciplinary and multidisciplinary perspectives, CLCG studies computational processing of language, processes in discourse and communication, neurolinguistic processing and language development (Sarti et al. 2022; Toral, Sánchez-Cartagena 2017; Toral et al. 2018). The programme is also complementary with the activity of Tra&Co Centre for Translation and Cognition at Johannes Gutenberg University of Mainz that aims to investigate translation processes via a multimethod approach (Nitzke 2019; Nitzke, Hansen-Schirra 2021). The investigation of the processes taking place in the translators' and interpreters' 'black box' and the cognitive challenges they are facing are of particular importance for the Centre. In the studies, innovative methods are used, and research questions cover trends and developments in translation practice, e.g.,

new translation technologies, PEMT, easy-to-read language, media translation, etc.

The programme “Computer-Assisted and Machine Translation Technology” is innovative in its interdisciplinary approach to Machine Translation Studies at NARFU and Russia. It covers a range of aspects related to the best practices in MT including general views on AI and MT, legal frameworks, strategies, case studies, etc. The research component includes empirical studies, analysis of data resulting from translation products, corpora, screen recordings, keylogging, application of neurolinguistic methods like eye-tracking (Kokanova, Lyutyanskaya, Cherkasova 2021) and EEG experiments to test and support theoretical approaches in Translation Studies and study the ways to make MT more efficient and less tedious.

Wider research is allowed on translation technology and translation technology training with several European languages and the Russian language, including linguistic, neurolinguistic and cognitive approach to the processes of pre-editing texts for Machine Translation (Kokanova, Berendyaev, Kulikov 2022) and PEMT. It includes the future trends, new practices in using translation technology for various purposes, further development of AI, and provides students with theoretical and practical training and participation in project work. It covers issues such as quality assessments, ethical standards, intellectual property, personal data protection, human-machine interaction, and AI implementation.

The students' research interests embrace applied aspects of NMT, Pre-Editing Text for Machine Translation, PEMT, MT Quality Assessment, Productivity and CAT tools, Human-Machine Interaction, NMT and Machine Learning, Leadership and Translation Projects, Eye tracking study of English-Russian, Russian-English Translation and PEMT, Time and Cognitive Load in PEMT, Translation Technology and Inclusive Learning & Working, etc.

The results of Master students' research are presented at the annual All-Russian Youth Scientific Online Conference *Innovative Technologies in Translation. From Machine Translation to Machine Learning: Stereotypes and New Opportunities* followed by publication of the proceedings of the conference. Also, the Department of Translation Technology and Practice at AKM-WEST holds its section *The Translation Profession: Challenges and Perspectives* each April at NARFU.

4 Results and Discussion

In 2023, the first graduates with well-defined career goals got their Master's degree that provided them with clear advantages on the job market. The representatives of business and professional communities involved in the implementation of the programme stated that:

- interdisciplinary approach made it possible to bridge the gap between theory and practice within a short period of time;
- practice-oriented approach promoted self-awareness in career development and adaptability to the requirements of the modern translation industry;
- research-oriented approach made it possible to disseminate knowledge on Language and Translation Technology by publishing papers in Russian;
- professional orientation promoted ethical awareness as well as legal literacy in Translation Technology.

Recently, there has been an increase in demand for post-editors in the Russian job market. Short-term courses on PEMT are not enough for reaching a reasonable level of competence. The interdisciplinary Master's programme in Translation allows graduates to show more 'sophisticated' hard skills and soft skills in Translation Technology and PEMT. It provides clear and convincing evidence that a human remains a key figure in human-machine interaction.

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