

The Role of Digital Technologies in the Formation of Future Translators' Professional Competencies

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Abstract: - The rapid development of digital technologies, machine translation, as well as artificial intelligence affect translators' work in various fields, and change the format of translator training and their work in the whole. The purpose of the study is to explore the impact of utilizing digital technologies during the study on the formation of future translators' professional competencies. To achieve the purpose of the study, the methods of analyzing empirical research data and surveying students about the frequency of use of certain digital tools and their assessment of the impact of these tools on the formation of their professional competence were used. The study was carried out by applying the quantitative method. The study enlisted 448 fourth-year students aspiring to become translators, who were learning English (n=221), Spanish (n=98), Polish (n=97), and Chinese (n=32) for their prospective translation careers. To conduct the research, a comprehensive questionnaire was devised to investigate the frequency and duration of utilizing various digital resources, as well as students' evaluation of their positive impact on molding their professional proficiency. The findings indicated that students, who are prospective translators of Chinese and Spanish, assign greater importance to utilizing digital tools. The duration and frequency of utilizing the applications had no impact on how students rated their importance in professional competence formation. Thus, students consider certain applications to be effective to mold certain professional proficiencies and not very effective for others, due to the high level of language proficiency of future translators. Future research can be aimed at delving into the frequency and duration of utilizing digital tools for the quality of translating texts of different complexity levels, various subjects, speed, and, accordingly, the quality of translation, studying the opinions of future

translators about the interaction and competition between human translators and digital translation tools, and people's perception of working with machine translation tools who do not speak the language into which a particular text is being translated in text or audio format.

Key-Words: - Computer translation systems, foreign languages, machine translation, students, translation, digital technologies, competencies.

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1 Introduction

The use of computer-aided translation technologies and online dictionaries has become an integral part of professional translation practice. The use of digital and machine translation technologies plays a crucial role in the development of future translators' professional competence. At the same time, further research is necessary to examine the influence of these technologies on translation excellence, training efficiency, and future translators' proficiency as well as translators' professional competence transformation, [1] Numerous studies have shown the effectiveness of utilizing digital technologies for language learning, enriching students' learning opportunities, [2]. Researchers in [3] emphasize the need to take into account ethical standards when using technology to train aspiring translators. Given the rapid development of translation technologies, it is imperative to change the teaching patterns as well as future translators' training. It is necessary to develop competencies that will help bridge the gap between students' skills and those required by the labor market in the future, [3]. At the same time, many studies demonstrate a low ability of teachers to use digital technologies, [4], however, these skills are essential for a modern specialist, [5]. The researcher in [6] emphasizes that there are significant gaps in research and practice in interpreter education regarding the quality use of technology in the educational process. In the translation process, various digital technologies are used between different languages, including computer translation tools, machine translation, online learning and translation, and digital applications. The research [7] shows differing opinions as regards the effectiveness of utilizing the above tools, the need to improve students' digital literacy and the use of different methodological approaches for the quality use of digital tools, and concerns about replacing the roles of the translator via using digital tools and replacing traditional translation with the cooperation of translators and digital applications. A study [8] shows that students

have a positive attitude toward the use of digital technologies for translation, but they are cautious about how professionally machine translation or AI translators translate texts.

A translator's professional competence is defined as a multidimensional concept that includes personal aspects – knowledge, cognitive skills, motivation, attitude, emotions, and socio-cultural aspects (understanding the translator's contexts and behavior during their work). That is, competence is a complex set of targeted actions that arise from the integration and mobilization of diverse knowledge, abilities, and skills that are applied in certain situations, [8]. According to [9], pronunciation is an essential factor for a translator at a high professional level, and the use of digital applications to develop this skill helps to save time and money to improve their professional skills. Other researchers [10] have shown that the features of digital technologies can be used in language education as a tutoring application, a tool that promotes the development of collaborative skills, and a means of creating a resource environment to stimulate creative processes.

A lot of research has been done in the field of translator's competence, but there is no generally accepted definition or model. The current definition of European excellence in the field of translation is widely acknowledged as one of the most commendable. The European Translator's Competence System includes six components of the translator's competence:

Competence in the provision of translation services (combination of different competencies, interpreter's social role, interaction with clients, self-evaluation, planning, and management).

Language competence (knowledge of grammar, terminology, syntax and morphology, pronunciation);

Intercultural competence – translation in accordance with genre and rhetorical standards;

Intelligent information analysis – knowledge of documentary and terminological research strategies, cooperation with experts, effective use of various

technological tools;

Thematic competence – proficiency in comprehending and expanding one's own knowledge in specialized areas and understanding special terms;

Technological competence – effective use of software tools for documentary search and translation [11].

The author in [12] developed a questionnaire to study the development level of such competencies as interaction in the digital environment, information exchange in the digital environment, public activity using digital technologies, collaboration facilitated by digital technologies, proficiency in digital etiquette, as well as effective management of personal digital services. Still, other scholars studied the effectiveness of using digital technologies for future teachers' training. However, the role of digital technologies in the formation of prospective teachers' professional competence is virtually not addressed. In this regard, the purpose of the study is to explore the impact of utilizing digital technologies on the formation of future translators' professional competence.

2 Literature Review

According to scholarly research, the utilization of technology presents prospective translators with prospects for autonomous learning and advancement of linguistic abilities, interpersonal skills, and comprehensive language proficiency. For instance, the author in [13] indicates that the use of digital technologies expands the possibilities of language learning outside the educational institution, acquiring skills that are currently necessary for translators. To train future translators, it is efficacious to employ diverse digital technologies that, in conjunction with linguistic expertise, foster the advancement of digital literacy and competence, [14]. During the educational process, future translators use various digital technologies, in particular, machine translation, multimedia technologies, and electronic educational resources, which contribute to the improvement of language competencies, motivate students to study independently, and improve academic performance in general, [15], [16]. Many experts emphasize the importance of developing skills to utilize safe digital technologies, use modern translation systems, and interact with the electronic work environment. It is indispensable in today's labor market, as although digital technologies can provide

automated translation, final editing, interpretation, and cultural and content correction require translator's proofreading and correction work. Technological literacy is recognized as one of the core competencies of modern translators, and teaching translation technologies has become part of the comprehensive curricula of translation training programs, [17]. On the other hand, not all curricula meet the requirements of modern technology development, as well as there is an imbalance between the theory and practice of teaching, [18]. The author in [19] developed a system for the analysis and development of English materials for translation and interpretation. Training translators in the modern world poses many urgent tasks, including studying the peculiarities of interaction between humans and artificial intelligence, the required number of translators with the development of artificial intelligence, and the competencies and abilities of translators in the modern world, [20].

In view of the fact that modern translation in most cases is characterized by the interaction of a human translator and machine translation or translation programs using neural networks, the evolution of the educational environment necessitates adjusting curricula to align with advancements in translation technology, [21]. A study [22] shows that people with a higher level of education are dissatisfied with machine translation and are more likely to take action to correct it. Measures to correct the risks associated with machine translation should take into account the perceptions of different social groups and cultures. The researchers in [23] suggested expanding the concept of translators to include human translators and computer-aided translators and proposed a post-humanistic approach to reimagining translation and translators in the digital age.

An analysis of utilizing translation apps, [24], shows that the Reverso app is more effective for future translators to be used as there were fewer lexical errors, omissions, and text-type errors in students' work. Although there is speculation that machine translation is not advanced enough for high-quality translation, the author [25] argues that translators of various profiles use standard tools and electronic resources, but make little use of specialized technologies. Despite the rapid development of computer-aided translation systems and neural networks for translation, translators in certain fields of work have a wide range of needs, [26]. It should be noted that it is imperative for translators to know the basics of neural networks

and other digital tools, cooperate with digital application developers, and enhance collaboration between language skills and skills in utilizing digital tools, [26]. The authors in [27] argue that for the curricula to be relevant, it is recommended that the training of the teachers themselves be improved. Moreover, the researchers in [28] highlighted technological, research, and machine translation competence of the translator, all related to utilizing digital tools. The result of the literature review shows the need for further research into the role of digital tools in the formation of translators' competence.

3 Material and Methods

The study involved 448 students – future translators who were enrolled in their fourth year at higher educational institutions, namely: Luhansk Taras Shevchenko National University, Mykhailo Drahomanov Ukrainian State University, Ivan Franko Drohobych State Pedagogical University, Zhytomyr Ivan Franko State University.

Students studied the following languages for future careers in translation: English, Spanish, Polish, and Chinese. To survey the role of using digital tools to form future translators' professional competence, the authors' questionnaire was developed, which was tested and verified for validity. The questionnaire was developed on the basis of professional competencies proposed by the European Commission, [3].

The following digital translation tools were used in the educational process:

1. Computer-aided translations (CAT tools): Trados, SmartCat, MemoQ, Wordfast, OmegaT, DejaVu, Transit NXT Professional.
2. Translation platforms: Smartcat – a platform for translators with a user-friendly interface and collaboration capabilities, MateCat – an open Translation memory online translator with a wide range of capabilities;
3. Online dictionaries and resources: Linguee, WordReference;
4. Glossary and terminology databases: a multiterm tool for managing and creating terminology databases, TBX (TermBase eXchange) – a format for exchanging terminology databases between different platforms and programs;
5. Machine translation: Google Translate, DeepL;
6. Tools for revision and proofreading: Grammarly, ProWritingAid;

7. Online services for learning languages: Duolingo, Babbel;

8. Trello: a platform for getting things done.

Digital tools were used in the learning process at the request of the students themselves, and the use of the Trello platform was conditioned by cooperation with teachers. The duration and frequency of utilizing digital applications in the learning process by students were studied through a survey. The duration was estimated at 1 – less than a year, 2 – more than a year, 3 – from one to two years, 4 – more than two years, and 5 – being used for a long time. The frequency of use was evaluated according to the following criteria: 1 – I almost never use it, 2 – I rarely use it, 3 – I sometimes use it, 4 – I use it from time to time, 5 – I use it all the time.

The survey on the effectiveness of digital tools impact on certain competencies is presented in appendix A. Consequently, the survey results were interpreted as the use of digital tools is effective for use in interpreter's work, which is articulated and studied through a series of questions. The questionnaire contained 77 questions that assessed the following criteria for the use of digital applications: Language skills (7 questions), User-friendliness (5 questions), Cross-cultural characteristics (6 questions), Language competence (6 questions), Information Mining (5 questions), Thematic competence (9 questions), Technological competence (28 questions), General Translator Competencies (7 questions).

The surveys were conducted using Google Forms, whereas mathematical processing was carried out via SPSS Statistics. The data of mean values, standard deviations, and correspondence of the questionnaire items to certain competence assessments using the Cronbach Alpha coefficient for the questionnaire to study the impact of utilizing digital applications on the formation of future translators' professional competence were calculated. Further, to study the relationship between the frequency and duration of utilizing digital applications and assessing the impact on the translator's competencies, the correlation coefficient was calculated. To identify the difference between students' grades, the Student's T-test was used.

4 Results

The results of a survey regarding the duration and frequency of utilizing various digital applications

show that students of the English language use digital applications in almost the same way (Table 1, Appendix B).

According to the survey results, it can be found that future translators who study Chinese use online translators, glossaries and terminology databases, machine translation tools, and online services for learning languages longer than students who learn other languages. Students who learn English use almost all tools for a slightly shorter duration than others, which can be explained by the higher prevalence of English, the predominance of studying it in school, and other factors. A study into the frequency of utilizing some applications yielded the following data (Table 2, Appendix B).

The survey shows that students are more likely to utilize computer-aided translation tools, translation platforms, online dictionaries and resources, glossaries and terminology databases, and machine translation than tools for proofreading and correcting, online language learning services, a platform for completing tasks and cooperation between translators or customers. At the same time, trainees who study Chinese are significantly more likely to use digital platforms than those who study English or Spanish. Statistically significant differences are observed in utilizing CAT tools between English and Polish language learners. Moreover, students of Chinese more often than other students use computer translation tools ($p < 0.05$).

A survey into the impact of utilizing digital tools on prospective teachers' professional competence demonstrates that overall students positively evaluate digital tools (Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, Figure 6, Figure 7 and Figure 8 in Appendix B).

Students consider the impact of utilizing computer-aided translations on various competencies to be above average, namely on competence in the provision of translation services and language competence (3.55 – 4.16 points). Future translators of the Chinese language believe that the use of computer-aided translations has a positive effect on intercultural competence and intellectual information analysis.

The use of translation platforms has an average level of influence on the formation of translators' professional competence (Figure 2, Appendix B). Students of Spanish, Polish, and Chinese rated the impact of using translation platforms on language competence significantly higher than those who study English ($p < 0.05$).

The evaluation of the impact that online

dictionaries and resources have on the development of professional aptitude among aspiring translators reveals the following outcomes (Figure 3, Appendix B).

Students assessed the impact of utilizing online dictionaries and resources on the formation of future translators' professional competence as average and below average. In other words, students use these resources on an as-needed basis but do not believe that their use is critical to the development of professional competence. The evaluation of the impact of utilizing the glossary and terminology bases shows that most students consider them meaningful (Figure 4, Appendix B).

The lowest estimates of the glossary and terminological bases influence were recorded on the formation of intercultural competence (2.34 – 2.98 points). The evaluation of the impact of utilizing machine translation shows that there are no statistically significant differences between students studying different types of languages, and the impact is rated as average and below average (2.12 – 3.11 points). The impact of the glossary and terminology bases was rated the highest by students who studied Chinese (Figure 5, Appendix B).

The impact of using tools for revision and proofreading on professional competence formation was rated by students as average and below average (Figure 6, Appendix B).

Chinese language learners consider this impact to be slightly higher, with significant differences observed in the impact on translation competence, language, technology, and thematic competence ($p < 0.05$).

The use of online language learning services has an average impact level on future translators' professional competence, with a significant difference between students learning English and Chinese in terms of competence in translation services' provision, linguistic and intercultural competence as well as information mining (Figure 7, Appendix B):

These findings can be attributed to a multitude of factors, including an increased prevalence of diverse English language learning methods and a higher level of linguistic proficiency among students. The impact of using platforms to perform tasks and collaborate between translators or their clients was rated by the students as average (Figure 8, Appendix B).

Despite the frequency of use, students find the digital tools utilization significant. The duration of utilizing the digital tools has no relationship with the evaluation of the impact on professional competence formation. For example, Table 3

(Appendix B) presents an analysis of the study into the correlation between the frequency, and duration of utilizing computer translation applications and the evaluation of impacting future translators' professional competence.

The duration and frequency of utilizing digital tools do not have a statistically confirmed effect on assessing the importance of translators' professional competence formation, although the digital tools themselves have different importance of influence on professional competence formation.

5 Discussion

The acquired findings enable us to state the opinion of aspiring translators, regarding the influence that digital applications have on their skill set development. The study is based on the definition of translators' competencies proposed by [11]. Translators need to acquire competencies that meet the needs of the current language services industry, [29]. The development of digital translation tools necessitates the study and analysis of the requirements for the translator's profession. The increasing need for translations with expertise in complex terminology or specialization leads to the utilization of computer-assisted translation, thereby necessitating suitable methodologies for training translators, [30]. The author in [31] looked at online learning environments for teaching translation on the Internet, which use digital tools to acquire translation competence. The researchers in [28] proposed a training program with the inclusion of digital competencies for translators. The authors created six courses in the field of digital linguistics and discussed the competencies and skills that are indispensable for translators. Other experts have developed a questionnaire to explore the interpretation and translation competence. The study shows that the use of computer-aided translations has a comparatively large impact on the formation of future translators' language competence. The impact of using translation platforms was assessed by the students as average, which is explained by future translators' high level of language proficiency. The survey results show the attitude towards machine translation technologies and the impact on translators' professional competence formation as below average to some extent, continuing research, [32], on translators' critical attitude to machine translation technologies. Using machine translation technologies, translators optimize their work,

and improve their translation skills in a particular field, [33]. In recent years, the development of machine translation technology has accelerated significantly. Moreover, the translation quality has improved, [34], [35]. The development of neural machine translation improves the translation quality, which to some extent contributes to the optimization of translation work not only for translators but also for other users, [36]. Despite the above, scientific papers discuss the ethics of using machine translation, the frequency of use by translators, and the peculiarities of training future translators, taking into account the development of technology, [36], [37]. The survey shows that future translators from Chinese and Spanish into Ukrainian believe that the use of digital applications has a positive effect on the formation of their professional qualities than translators from English or Polish. This suggests that less common resources for language learning due to the lower prevalence of utilizing translation from a particular language in the region leads to more frequent utilization of digital translation tools or self-study, which is confirmed in this study. Research [38] proved the positive impact of using Google Translate translator on the syntactic complexity and accuracy of students' translations. Similar findings were obtained in [39]. Such results are caused by numerous factors, including students' language proficiency level at the time of the experiment. This is evidenced by the results of [40], which found that students with a lower level of language proficiency, using machine translation technologies, enhanced translation of texts to students with a high level of language proficiency, used less familiar words, but often the translations had other errors and selecting the wrong words in the context of certain sentences. The above can explain the results obtained that future translators consider the impact of using machine translation and other digital applications on the formation of their professional literacy to be predominantly average. Similarly, a survey conducted in [41] indicates that the general populace seldom utilizes machine translation for discretionary motives, and they express reservations regarding the standard of the translated content.

Regarding the impact of utilizing digital tools on translation quality, researchers in [42] carried out a study of the effectiveness of utilizing the developed web application based on artificial intelligence on the quality of writing papers by students majoring in English. Interestingly, the study findings show that students consider the impact of grammar correction resources not to be

very influential in shaping their professional literacy. This can be related to their level of knowledge of grammar, and understanding without automated tips. These findings are impacted by numerous variables, encompassing the obsolescence of specific applications utilized by students and their advanced level of knowledge, thereby causing them to infrequently utilize such resources.

6 Conclusions

This study enabled us to analyze the opinion of future translators on the impact of using digital tools for translation on the development of their professional competence. The utilization of online language learning platforms among students, who are aspiring translators for Polish and Chinese languages, is deemed to have a greater impact on their proficiency in rendering translation services. This could be attributed to the frequency of employing such applications and their level of linguistic competence. Similar outcomes were achieved with regard to utilizing the correction and proofreading tools. Students aspiring to translate Chinese in the future deem that the influence of these tools on their professional competence formation is greater. Future translators do not consider the use of machine translation technologies to be very influential in the formation of their professional competence. as the impact of using this tool was rated the lowest among the others. At the same time, such findings are related to the high level of language proficiency of future translators, and the impact of machine translation by specialists in other fields can be assessed more positively.

According to the student's answers, their language competence formation is influenced by the use of computer translation (3.34 – 3.98 points), moreover, this applies to students of Spanish, Polish, and Chinese. Further, the utilization of translation platforms also has a greater impact on professional competence development in students of Spanish, Polish, and Chinese. At the same time, the impact of using online dictionaries and resources on the formation of language competence was rated by students as below average (2.12 – 2.41 points). The use of glossary and term bases is assessed as an influential factor in language competence formation by students of different languages (3.89 – 4.05 points). The use of tools for correction and proofreading is assessed as not a very important factor for the formation of future translators' language competence. Notably, the use of online

language learning services is rated above average by students translating from Chinese and Polish, while students of Spanish and English consider the use of these services to be insignificant. The impact of using task and collaboration platforms was assessed by students at an intermediate level, and a stronger impact was noted by students on intercultural competence and information mining. The formation of future translators' intercultural competence, as noted, is impacted by the use of platforms for task performance collaboration and computer-aided translations. The use of other services does not have a significant impact (below 3 points).

The formation of the information mining competence, according to students, is influenced by the use of computer-aided translations and the use of translation platforms, glossary and term databases, and tools for correction and proofreading (more than 3 points). According to the students' evaluation, the formation of thematic competence is influenced by the use of translation platforms (3.31 – 3.45 points), the use of online dictionaries and resources (3.05 – 3.23 points), glossary and terminology databases (3.54 – 4.01 points), and only students who studied Spanish assessed the impact of utilizing online language learning services on acquiring this component of future translators' professional competence.

The formation of technological competence is influenced by the use of translation platforms (3.31 – 3.45 points), the use of machine translation for students learning Chinese (3.05 points), and the use of platforms for completing tasks (3.11 – 3.23 points). The results indicate that the formation of certain competencies is influenced by appropriate digital applications and to some extent depends on the languages between which the text is translated.

Future research could focus on studying the opinions of future translators about the quality of translation performed by different digital translation tools, the interaction and competition between human translators and digital translation tools, and people's perception of working with machine translation tools who do not speak the language into which a particular text is being translated in text or audio format.

6.1 Limitations

The overriding limitation of the present research is the study of four languages (English, Spanish, Polish, and Chinese), as well as the study of one language by future translators. The utilization assessment and impact on professional

competencies formation of certain digital applications is carried out, without probing into the impact of other applications.

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the authors used HyperWrite AI in order to improve the readability of the text of the article. After using this tool/service, the authors reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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Conflict of Interest

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APPENDIX A

Questionnaire to study the impact of utilizing digital applications on the formation of future translator's professional competence

To assess the impact of digital tools on the formation of translators' professional competence, a questionnaire was elaborated, the questions were evaluated on a Likert scale from 1 – strongly disagree to 5 – strongly agree. The influence of tools for various purposes on the formation of six competencies was studied.

Competence in translation services' provision.

Language skills

- 1) CAT tools have improved my language skills.
- 2) Translation platforms have improved my language skills.
- 3) Online dictionaries and resources have improved my language skills.
- 4) Glossary and term bases have improved my language skills.
- 5) Machine translation has improved my language skills.
- 6) Proofreading and correction tools have improved my language skills.
- 7) Online language learning services have improved my language skills.

User-friendliness

- 8) The use of CAT tools is convenient and effective for translations of varying complexity.
- 9) The use of translation platforms is convenient and effective for performing translations of varying complexity.
- 10) The use of online dictionaries and resources is convenient and effective for translations of varying complexity.
- 11) The use of a glossary and terminology databases is convenient and effective for translations of varying complexity.
- 12) The use of machine translation is convenient and effective for performing translations of varying complexity.
- 13) The use of tools for revision and proofreading is convenient and effective for performing translations of varying complexity.

Cross-cultural characteristics

- 14) CAT tools contribute to the development of my skills in taking into account cross-cultural characteristics.

- 15) Translation platforms contribute to the development of my skills in taking into account intercultural characteristics.
- 16) Online dictionaries and resources contribute to the development of my skills in taking into account cross-cultural characteristics.
- 17) The glossary and terminology bases contribute to the development of my skills in taking into account intercultural specifics.
- 18) Machine translation contributes to the development of my skills in taking into account cross-cultural specifics.
- 19) Tools for revision and proofreading contribute to the development of my skills in taking into account cross-cultural characteristics.
- 20) Online language learning services contribute to the development of my cross-cultural skills.

Language competence

- 21) Utilizing CAT tools helps me to ensure high quality translations.
- 22) Utilizing translation platforms helps me to ensure high quality translations.
- 23) Utilizing online dictionaries and resources helps me to ensure high quality translations.
- 24) Utilizing a glossary and terminology databases helps me to ensure high quality translation.
- 25) Utilizing machine translation helps me to ensure high-quality translations.
- 26) Utilizing tools for proofreading and proofreading helps me to ensure high quality translations.

Information Mining

- 27) I am confident in my ability to work effectively with large volumes of texts utilizing CAT tools.
- 28) I am confident in my ability to work effectively with large volumes of texts utilizing translation platforms.
- 29) I am confident in my ability to work effectively with large volumes of texts utilizing a glossary and terminology databases.
- 30) I am confident in my ability to work effectively with large volumes of texts utilizing machine translation.
- 31) I am confident in my ability to work effectively with large volumes of texts utilizing revision and proofreading tools.

Thematic competence

- 32) Digital tools make it easier to manage translation projects.
- 33) I understand the technical aspects of utilizing digital translation tools.

- 34) I systematically update my knowledge about new features and capabilities of digital tools.
- 35) Utilizing digital tools helps me meet translation quality standards.
- 36) The use of digital tools allows me to ensure the confidentiality of data in translation.
- 37) Utilizing CAT tools improves my skills in the use of phrases and titles.
- 38) Utilizing translation platforms improves my skills in the use of phrases and titles.
- 39) Utilizing glossaries and term bases improves my skills in using phrases and titles.
- 40) Using machine translation improves my skills in using phrases and names.
- 41) Using tools for revision and proofreading improves my skills in the use of phrases and titles.
- 59) Using CAT tools has a positive effect on my creative translation process.
- 60) I will effectively handle the technical aspects of using CAT tools.
- 61) I see technology as an important tool for my professional development.
- 62) Digital technologies help me develop my skills and abilities to work with future clients.
- 63) Translation with the help of CAT tools definitely needs to be corrected.
- 64) Translation with the help of translation platforms definitely needs to be corrected.
- 65) Translation using machine translation definitely needs to be corrected.
- 66) Translation by digital means corresponds to human translation.

Technological competence

- 42) Using digital tools has a positive impact on my collaboration with others.
- 43) I use CAT translation tools all the time.
- 44) I use translation platforms all the time.
- 45) I constantly use the glossary and terminology bases for translation.
- 46) I constantly use machine translation to translate.
- 47) I constantly use revision and proofreading tools for translation.
- 48) I believe that using digital tools is effective for my education.
- 49) The use of digital tools has a positive effect on the speed of my translation.
- 50) The use of digital tools contributes to a better understanding of the peculiarities of culture and translation into a particular language.
- 51) Using digital tools helps me better perform translation intelligence and understanding the context of texts.
- 52) The use of digital tools contributes to the expansion of specialist knowledge in certain terminology.
- 53) I'm confident in using digital translation tools.
- 54) The use of digital tools contributes to the speed and efficiency of translation.
- 55) I understand and use various features of digital tools to improve the quality of translation.
- 56) I quickly adapt to the use of new technological solutions in the field of translation.
- 57) I effectively use terminology bases and glossaries with CAT tools.
- 58) I use technology to control the quality of translation and correct errors.
- 67) The use of digital tools has a positive effect on my understanding of the language and the requirements for translation of different styles.
- 68) The use of digital tools has an effective impact on my competence as a translator.
- 69) I believe that the use of digital means has a positive effect on the understanding of specific terms and expressions.
- 70) The use of digital tools for translation has a positive effect on my cooperation with other people (individuals involved in the labor or educational environment).

General Translator Competencies

- 71) The use of digital tools is effective in my work.
- 72) The use of digital tools has a positive effect on my confidence in the correct choice and use of terms.
- 73) I find that using digital tools improves my knowledge of the vocabulary and grammar of the language I am learning.
- 74) The use of digital platforms allows one to translate texts clearly.
- 75) Using digital tools is effective for my learning.
- 76) Using digital tools helps me get ready for new projects quickly.
- 77) I often share my experience of using certain digital tools with my classmates or with teachers.

APPENDIX B

Table 1. Duration of utilizing various digital tools

Metrics/Language of Instruction	English n=221	Spanish n=98	Polish n=97	Chinese n=32
CAT tools	4,54±0,32	4,12±0,23	3,22±0,54	3,54±0,43
Translation platforms	3,98±0,32	3,78±0,55	3,56±0,34	4,12±0,21
Online dictionaries and resources	3,67±0,45	3,34±0,33	3,71±0,55	4,21±0,33
Glossary and term bases	3,34±0,43	3,55±0,54	3,03±0,65	4,05±0,12
Machine translation	4,22±0,32	4,08±0,41	3,98±0,39	4,22±0,65
Tools for revision and proofreading	3,21±0,54	3,43±0,44	3,22±0,65	3,38±0,55
Online services for learning languages	2,21±0,43	3,33±0,45	2,98±0,56	3,32±0,45
A platform for tasks and collaboration between translators or customers	2,02±1,12	2,34±0,88	2,14±0,82	2,29±0,32

Table 2. Frequency of utilizing digital applications by future translators

Metrics/Language of Instruction	English n=221	Spanish n=98	Polish n=97	Chinese n=32
CAT tools	2,23±0,32	2,84±0,76	2,96±0,45	3,87±0,43
Translation platforms	2,43±0,65	3,12±0,54	2,98±0,62	3,12±0,23
Online dictionaries and resources	3,21±0,34	3,43±0,43	3,16±0,54	3,76±0,47
Glossary and term bases	2,32±0,98	2,65±0,65	2,71±0,89	3,43±0,56
Machine translation	3,56±0,65	3,45±0,43	3,23±0,77	3,56±0,78
Tools for revision and proofreading	2,34±0,45	2,76±0,58	2,88±0,76	2,97±0,68
Online services for learning languages	1,34±0,65	2,21±0,54	2,12±0,89	2,33±0,65
A platform for tasks and collaboration between translators or customers	2,13±0,34	2,23±0,76	2,10±0,79	2,22±0,32

Table 3. Study of the correlation between the duration and frequency of utilizing computer translation to evaluate the impact on professional competence formation

Competence	English n=221		Spanish n=98		Polish n=97		Chinese n=32	
	durat.	freq.	durat.	freq.	durat.	freq.	durat.	freq.
Competence in translation services' provision	0,32	0,28	0,28	0,41	0,39	0,21	0,62*	0,71*
Language competence	0,11	0,25	0,12	0,32	0,21	0,17	0,73*	0,31
Intercultural competence	0,12	0,21	0,32	0,12	0,15	0,23	0,12	0,19
Information mining	0,21	0,13	0,31	0,22	0,21	0,33	0,79*	0,35
Thematic competence	0,34	0,43	0,12	0,22	0,23	0,43	0,22	0,32
Technological competence	0,21	0,33	0,39	0,12	0,25	0,23	0,27	0,23
General translator's competence	0,32	0,28	0,17	0,38	0,32	0,21	0,38	0,33



Fig. 1: Evaluating the impact of computer-aided translations (CAT tools) according to the survey of students (1 - less impact, 5 - very strong impact)

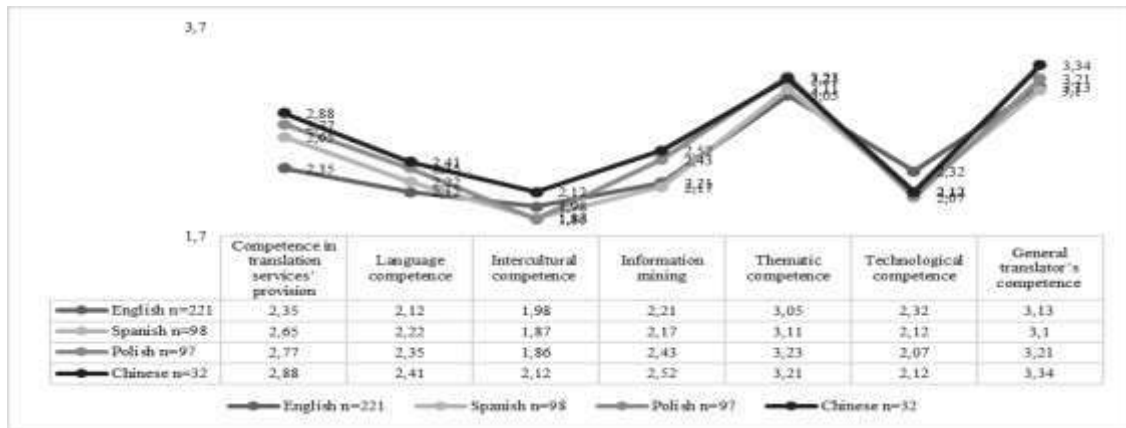


Fig. 2: Assessment of the impact of the use of translation platforms on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)

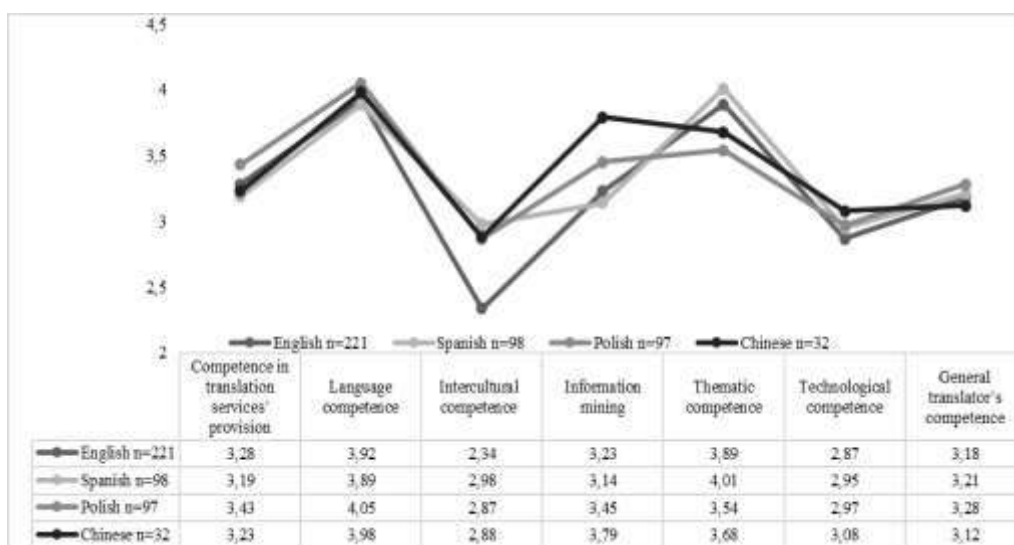


Fig. 3: Evaluating the impact of utilizing online dictionaries and resources on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)

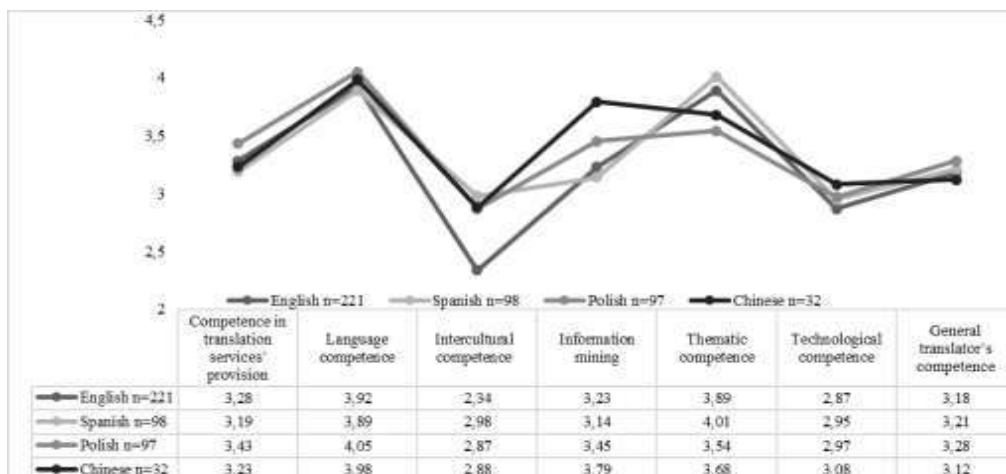


Fig. 4: Evaluating the impact of utilizing the glossary and terminology based on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)

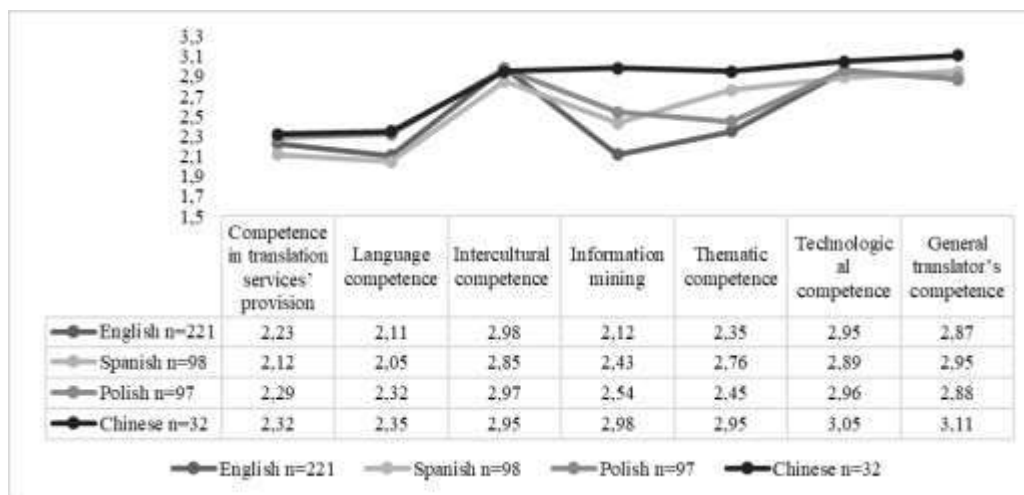


Fig. 5: Evaluating the impact of using machine translation on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)

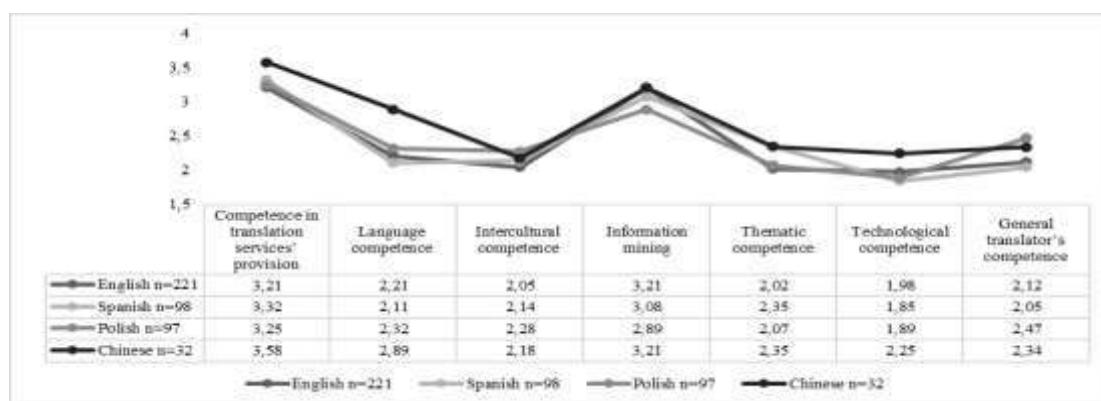


Fig. 6: Evaluating the impact of using correction and proofreading tools on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)

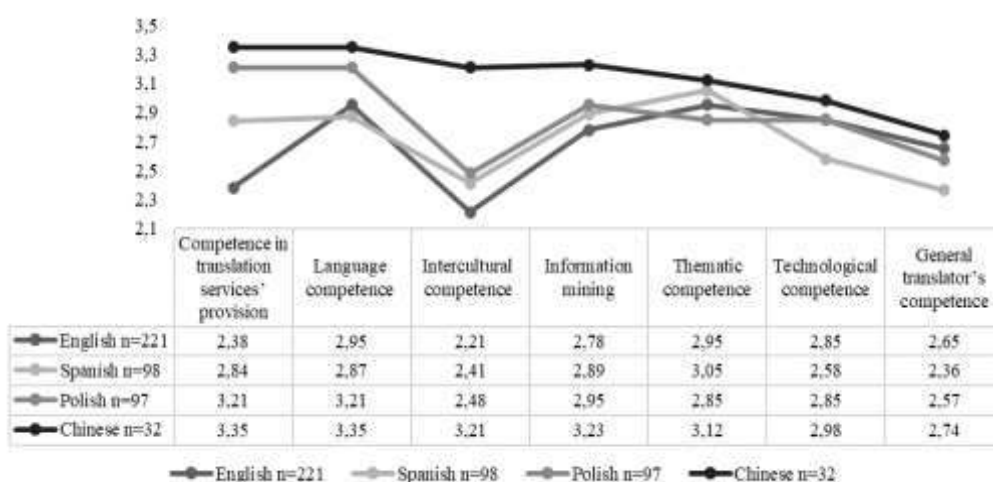


Fig. 7: Evaluating the impact of using online language learning services on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)

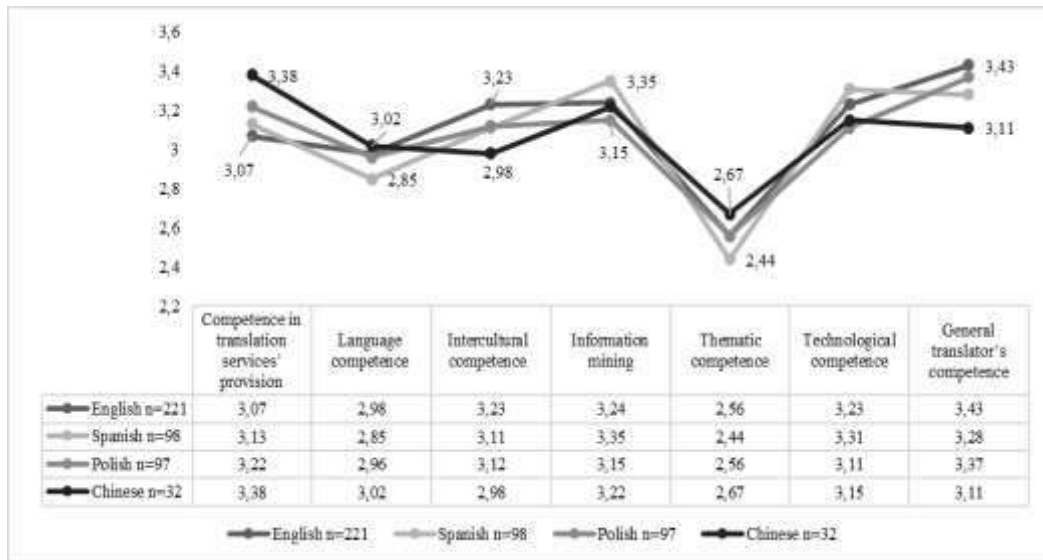


Fig. 8: Evaluating the impact of using platforms to perform tasks and collaborate between translators or customers on the formation of competent translators according to the survey of students (1 - less impact, 5 - very strong impact)