EXAMINING DIGITAL TECHNOLOGY LITERACY OF PROFESSIONAL JAPANESE LANGUAGE TRANSLATOR AND INTERPRETER

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How to Cite: Djafri, F. & Wahidati, L. (2022). Examining digital technology literacy of professional Japanese language translator and interpreter. *Lingua Cultura, 16*(1), 89-96. https://doi.org/10.21512/lc.v16i1.7768

ABSTRACT

The research measured the digital technology literacy skills of professional Japanese language translators and interpreters. A modified version of the digital literacy skills checklist constructed by Open University was employed in the research. The questionnaire consisted of four sections, i.e., understanding general digital practices, finding, using, and creating information related to Japanese translation and interpreting, and the use of translation and interpreting technology. The result shows that respondents have confidence in their digital literacy skills to find, use, or create information online. However, most of them are still unfamiliar with the application of Computer Assisted Translation (CAT) and Computer Assisted Interpreting (CAI) tools to assist the translation or interpreting jobs. The result indicates that many Japanese businesses and industries do not require translators and interpreters to use specific CAT or CAI tools. However, the rapid development of digital technology and the market trend toward the use of technology are inevitable. Basic knowledge of these tools is necessary because they offer many advantages for translators and interpreters to work effectively. Therefore, it is highly important to incorporate the basic knowledge of CAT and CAI tools and other digital technology resources into the curriculum for students translators and interpreters.

Keywords: digital technology literacy, Japanese language, Japanese language translator, Japanese language interpreter

INTRODUCTION

The Language Service Provision (LSP) industry is an ever-growing market, both in the number of the revenue as well as jobs created by it. The annual growth of the global LSP market has reached 6,46% and could even reach 10% every year in Europe (Marczak, 2018). In the United States, the number of jobs in this industry is predicted to grow by 46% from 2012 to 2022 (Marczak, 2018). Translation and interpreting in the LSP industry are part of what is known as the GILT business, which stands for Globalization, Internationalization, Localization, and Translation (Brashi, 2021). Studies also show that the LSP industry is greatly supported by translation and interpreting technologies (Alonso & Vieira, 2021; Gentile, 2021).

As part of the 21st-century skills, Information and Communication Technology (ICT) literacy, as well as media and internet literacy, have become indispensable for all, not to mention translators and interpreters. De Céspedes (2019) has stated that being acquainted with new resources in telecommunication technology and using them to retrieve, handle, and disseminate information is the new challenge faced by translators and interpreters. The research results show that it is necessary for professional translators and interpreters to strengthen their digital information competency, including technological and language skills. Ivanova (2016) has emphasized that ICT has greatly affected the translation and interpreting profession, which puts technology at the centre of its process. The research also discusses that the development of digital competence, which refers to the information and technology literacy of prospective translators and interpreters, is indispensable.

Nonetheless, other research has indicated inadequate computer literacy among translators (Man et al., 2019). It has become a challenge to the effort to integrate ICT into the curriculum of translation and interpreting courses. A question then arises on the digital technology literacy readiness of professional translators and interpreters. While the discussion is concentrated on the importance of digital technology literacy skills for translators and interpreters to adapt to the global market demand, little is known, however, on the extent of their readiness to employ digital technology literacy skills. The research aims to address this issue by conducting a survey of professional translators and interpreters of the Japanese language in the Indonesian context.

Organization for Economic Cooperation and Development (OECD) has defined literacy as the ability to understand, evaluate, use, and engage with written texts (including digital texts) in order to participate in society, achieve one's goals, and develop one's knowledge and potential (OECD, 2019). The term 'new literacies' (West, 2019) has arisen due to the rapid development of the internet and technology. It is associated with several other terms, such as digital literacy (Falloon, 2020; Pangrazio, Godhe, & Ledesma, 2020), literacy of the 21st century (Van Laar et al., 2020), information literacy (Li, Chen, & Wang, 2021; Sample, 2020), internet literacy (Harrison, 2017; Soroya et al., 2021), media literacy (Kahne & Bowyer, 2019; Knaus, 2020), ICT literacy (Aydin, 2021; Park, Kim, & Park, 2021), web literacy (Keshavarz, 2020; Virtue, 2020), and computer literacy (Mitra & Dangwal, 2017; Tsai, Liang, & Hsu, 2020). These terms are rooted in the utilization of the internet and technology to find, use, and share information (Leu et al., 2017; McDougall, Readman, & Wilkinson, 2018; Van Laar et al., 2017). Lazonder et al. (2020) have mentioned that besides collecting information, it also includes the ability to create information. These terms might be summed up as digital information literacy, which refers to the skills needed to find and evaluate information online (Weber, Hillmert, & Rott, 2018). These skills include an individual's competencies to search, access, use, evaluate, and present information using technologies (Gündüzalp, 2021).

Prior to the internet era and the development of various translation and interpreting technologies, translators, in particular, used to employ several offline resources available around them, such as paper dictionaries for specific fields (business, tourism, etc.), paper glossaries, word list clippings, chronicles, index cards for specific terms, as well as library and living experts (Gough, 2018). During the internet era, with speedy access to diversified online resources, there is a changing trend toward more positive perceptions of how these resources have supported the workflow of translators and interpreters (Gough, 2016). It also goes in line with the growing demand of the global market and industry for high-quality and low-cost translation and interpreting products. Therefore, knowledge of the interaction process between translator with translation tools (Bundgaard & Christensen, 2019), as well as between interpreter and interpreting tools, is needed.

According to Gough (2018), there are two types of interactions in the translation and interpreting process, namely 'interaction with texts and speeches' during the process of translation and interpreting activities, and 'interaction with external resources' during the process of research activities for translation and interpreting. Technologies employed in the translation and interpreting activities are considered as tools, such as Computer-Assisted Translation (CAT) and Computer-Assisted Interpreting (CAI) tools. Meanwhile, technologies used for translation-related research activities are considered as resources, such as online dictionaries, Wikipedia, Google, and webpages. The use of resources in the translation and interpreting process is related to information behaviour, which is defined as all behaviours related to information people receive and exchange, including media use and all the communication activities between people (Jiang, 2019). Previous studies related to information behaviour examine the search strategy used in the translation process (Whyatt, Witczak, & Tomczak, 2021), the behaviours of students and professional translators in web searching (Ohnishi & Yamada, 2020), the interaction between translator and computer (Bundgaard, 2017), and between translator/interpreter and information (Havnen, 2021). It may be concluded that research on this particular topic has become more pragmatic, focusing on problem-solving for technology development, time efficiency, and high quality to meet the global market demand.

The changing demand of the global market as well as the rapid development of information and technology in the 21st-century requires professional translators and interpreters to have both informational and technological competencies (Gough, 2018; Krajcso, 2018). However, research conducted by Zaretskaya, Pastor, and Seghiri (2018) has found that many translators only use the standard tool of translation machine software and are not familiar with the existing translation technologies to help with their tasks. The research has also found that the general computer skill of translators is a significant predictor of their understanding and the utilization of electronic tools (Zaretskaya, Pastor, & Seghiri, 2018). The development of new technology also helps many interpreters prepare for their assignments (Fantinuoli, 2018) and deal with the topic they need to interpret and its reference materials and specific terminologies (Costa, Pastor, & Duran-Munoz, 2018). Still, the feasibility of CAI tools is not fully well-recognized by many interpreters.

As the digital era keeps expanding, education for translators and interpreters focusing on digital technology literacy is especially significant. The focal point of the curriculum must be real-life skill application of digital competence (Mellinger, 2017; Nitzke, Tardel, & Hansen-Schirra, 2019). Therefore, it is important to measure the digital technology literacy level of professional translators and interpreters to

prepare the curriculum that will be relevant to this purpose.

METHODS

The research applies a quantitative approach using a modified version of a self-assessment questionnaire, "Being Digital: Digital Literacy Skills Checklist" (Open University, 2012). The actual questionnaire consists of four skills categories, i.e., understanding digital practices (8 items), finding information (9 items), using information (7 items), and creating information (6 items). A modified version is translated into bahasa Indonesia and proofread by a research team member. The three skills categories other than understanding digital practices are modified into finding, using, and creating information related to Japanese translation and interpreting. The number of items in each skills category of the modified version is the same as the actual one. Each item scale ranges from 1 (not confident) to 3 (very confident). In the last part, a new section of the questionnaire examining the use of technology in Japanese translation and interpreting is added (12 items). Questions consist of respondents' knowledge and experience in using CAT tools, the "Language Interpretation" feature on Zoom online meeting application, the Remote Simultaneous Interpreting (RSI), SDL Trados Studio, Memsource, Smartcat, Wordfast, and Interprefy. Respondents are also asked to list the translation software they employed.

Online meeting application Zoom offers a language interpretation feature that allows up to 20 interpreters to work during an online meeting session. With this feature, each interpreter is allowed to provide their own audio channels for the language they will translate to. SDL Trados Studio is a CAT software to edit, manage, and review translation projects. The software employs intelligent translation memory technology and neural machine translation. There is also Memsource, a cloud-based CAT software with the commercial translation management system, combining artificial intelligence and conventional translation technology. Smartcat is also a cloud-based combination CAT and translation management system to enable translators, businesses, and translation agency connect in a localization ecosystem called connected translation. Wordfast is a CAT tool that consists of several translation memory products, such as Wordfast Classic, which runs inside Microsoft Word; Wordfast Anywhere, which is a free browser-based version; and Wordfast Pro, which can be used in Windows, Mac, and Linux. Interprefy is a cloud-based RSI technology that enables interpreters to work mobile and do real-time interpreting, whether on this platform or by adding it to other online meeting applications, such as Zoom and Webex.

The distribution of the questionnaire is conducted using several social media platforms. The questionnaire is written in Google forms. Prior to filling in the survey, each respondent is presented with a detailed explanation of the survey and their rights. Only those who agreed to become the respondent are asked to continue the survey.

RESULTS AND DISCUSSIONS

The questionnaire begins with the respondent's background. There are 21 respondents (females 86% and males 14%). Sixteen respondents (76%) hold a postgraduate degree. Regarding Japanese language competence, ten respondents (48%) have a Japanese Language Proficiency Test (JLPT) certificate N1, which is the highest level. Meanwhile, there are 30% of respondents have a JLPT certificate N2 level. It indicates that most respondents (78%) have advanced skills in the Japanese language. Respondents are also asked about their professional work experiences in Japanese translation and interpreting. Their work experiences include working at Japanese companies, the Japanese embassy in Indonesia, Japanese language learning projects (such as the making of online learning applications *Online Japanese Accent Dictionary*/ OJAD and *Tsutaeru Hatsuon*), as well as full-time freelance translators and interpreters who work at different projects (such as bilateral meetings, master of ceremony, video production, and tourism magazine). The findings of the research are further discussed further in five sub-sections, i.e., understanding digital practices in general, finding, using, creating information related to Japanese translation and interpreting, and the use of translation/interpreting technologies.

The first sub-section assesses respondents' literacy of digital practices in general. There are several skills measured, which are reflected in eight statements. Those skills include knowing the types of online users and how to establish contact details online, understanding of one's digital footprint and how to present one's digital identity, knowing the right tools and how to use them in finding, using and creating information, as well as understanding the legal issue of using online information.

Most respondents are quite confident in knowing what kind of users they can find online (66%) and also in finding a person and establishing their contact details online (63%). Around 52% of respondents are quite confident about their digital footprint and how to present their digital identity. The 81% of respondents know the right tools for finding, using, and creating information, and around 52% know how to use them. Meanwhile, there are around 67% of respondents who quite confident in knowing to find out the owners of the information and ideas they found online. Also, respondents who are quite confident and very confident in their awareness of what kind of information they could reuse legally share the same percentage. Table 1 shows questionnaire result on understanding digital practices.

Based on the finding presented in Table 1, it can be concluded that most research respondents

Table 1 Questionnaire Result on Understanding Digital Practices

Items	Skills	Not confident	Quite confident	Very confident
A1	Knowing what categories of users you can expect to find online	14%	67%	19%
A2	Explaining what happens to information you put online: your digital footprint	5%	52%	43%
A3	Choosing the right tool to find, use, or create information	0%	19%	81%
A4	Presenting yourself online: your digital identity	10%	52%	38%
A5	Finding a person online and establishing their contact details	0%	63%	37%
A6	Using online tools and websites to find and record information online	10%	38%	52%
A7	Establishing who owns information and ideas you find online	19%	67%	14%
A8	Establishing what online information you can legally re-use	4%	48%	48%

Table 2 Questionnaire Result on Finding Information

Items	Skills	Not confident	Quite confident	Very confident
B1	Knowing what information you can find on the web	0%	24%	76%
B2	Knowing what information you can find in an online library	19%	24%	57%
B3	Using advanced search options to limit and refine your search	14%	33%	53%
B4	Using keywords related to the theme of your translation/ interpreting to search for information online	5%	19%	76%
B5	Using social networks as a source of information	0%	76%	24%
B6	Knowing when to change your search strategy or stop searching	10%	33%	57%
B7	Filtering large numbers of search results quickly	10%	52%	38%
B8	Scanning/skimming a web page to get to the key relevant information quickly	5%	28%	67%
B9	Keeping up-to-date with information from authoritative people or organizations by subscribing to RSS feeds	62%	33%	5%

have adequate literacy in digital practices. They have moderate to high awareness of their self-presentation and other people in the digital world. They also have sufficient knowledge of the appropriate online tools and how to use them. Moreover, the research also shows that respondents are aware of the ethical issues related to the proprietary right of information and ideas. They are also aware of copyright infringement of online information. These findings provide important insights into the readiness level of Japanese translators and interpreters to satisfy the job market demands for digital-savvy translators and interpreters.

The second sub-section is to find information digitally. Finding and collecting necessary information related to the translated or interpreted materials is considered one of the important skills needed by a translator and interpreter. There is immense information available online. Translators and interpreters need to know what kind of information and how and where

to find them in the digital world. This part assesses respondents' skills in finding the information related to Japanese translation and interpreting digitally. Items B1, B2, and B5 deal with the 'What' question of the type of information and the 'Where' question of how to find them. Items B3, B4, B6, B7, B8, and B9 are related to the 'How' question of strategies to find the information. Regarding the information, all respondents are confident in knowing what kind of information they can find on the web. However, using an online library is quite unfamiliar for some respondents (19%). It might be caused by the type of information that a translator and interpreter needed to find. All respondents can find extensive information on the web, while the online library is used more for searching specific information, such as scientific writings.

Regarding strategies to find the information online, most respondents could employ several

strategies, such as the using of the advanced search option, keywords related to translation/interpreting topics, the searching filter or webpage scanning to find favourable results and information quickly, as well as social networks as a source of information. There is one item that most respondents do not have confidence about, which is an RSS feed subscription to keep updated with the latest information. Table 2 shows the questionnaire result on finding information.

The third sub-section is about the skill of using information. In using information relevant to their work as a Japanese translator and interpreter, all respondents have high self-confidence in assessing whether the information is credible and trustworthy, using it without committing plagiarism, and correctly citing references. These skills are equally important when translators and interpreters are conducting research to collect essential information related to their work.

The instrument also measures the organization and the sharing of the information they find online.

Most respondents are confident in how they organize the information and the ethical standard of what kind of information they could share and how to share it with others. Table 3 shows the questionnaire result on using information.

The fourth sub-section is about creating information. Compared to skills in using, finding, and sharing information, of which most respondents feel quiet or very confident, the skill of creating information is quite a contrast to the previous ones. Many respondents are not confident in creating information, such as writing online on a blog or web page. Meanwhile, they are more confident in doing online communication with others through blogs, forums, or social networks. Regarding working online with others, it is interesting to know that 19% of respondents are not confident. This result might indicate that for some respondents, working offline with others in Japanese translation and interpreting is preferable. Table 4 shows the questionnaire result on creating information.

Table 3 Questionnaire Result on Using Information

Items	Skills	Not confident	Quite confident	Very confident
C1	Using information in different media, such as podcasts or videos	14%	53%	33%
C2	Assessing whether an online resource (such as a web page, blog, wiki, video, podcast, academic journal article) or a person is credible and trustworthy	0%	52%	48%
C3	Using other people's work (found online) without committing plagiarism	0%	19%	81%
C4	Citing a reference to an online resource using the correct format	0%	43%	57%
C5	Keeping a record of the relevant details of information you find online	4%	48%	48%
C6	Using social bookmarking to organize and share information	29%	52%	19%
C7	Sharing files legally with others	14%	33%	53%

Table 4 Questionnaire Result on Creating Information

Items	Skills	Not confident	Quite confident	Very confident
D1	Adding comments to blogs, forums or web pages, observing netiquette and appropriate social conventions for online communications	19%	29%	52%
D2	Writing online for different audiences, such as a web page or blog entry for private use, for reading by your fellow translators or interpreters or your colleague or anyone in the world	52%	29%	19%
D3	Writing in different media for people to read on-screen	57%	29%	14%
D4	Communicating with others online (forums, blogs, social networking sites, audio, video, etc.)	0%	38%	62%
D5	Working with others online to translate or interpret a shared document or presentation	19%	19%	62%
D6	Using media-captured devices, such as recording and editing a podcast or video	29%	38%	33%

Regarding the use of translation and interpreting technology, on the question "Do you ever use CAT tools?", 71% of respondents answer that they never use CAT tools before. Whilst, 29% of respondents who answer "yes" to the questions explained that CAT tools are beneficial and save time efficiently because they could have side-to-side files. Regarding the interpreter feature on the Zoom online meeting application, 91% of respondents say that they never use it. 9% of respondents who ever used it say that it is easy to use and only needs concentration when switching the language pair's buttons. They also say that it is beneficial. Depending on what kind of online meeting application is being used by the customer, the use of this specific feature is not common yet among Japanese interpreters.

All respondents say that they have never used RSI tools before. Also, regarding the use of some specific applications, only a small number of respondents answer that they have used it before (*SDL Trados* 3 respondents, *Memsource* 0 respondent, *Smartcat* 1 respondent, *Wordfast* 3 respondents, and *Interprefy* 2 respondents). Most respondents used a common translation tool, Google Translate. Meanwhile, some respondents mention several other tools, such as Macbook's dictionary, bing translator, Microsoft translator, mate translator, crowdin, translator feature on Microsoft Word, Poedit, and Deepl.com.

The result shows that even though all respondents have digital literacy skills to find, use, or create information online, most are still unfamiliar with the application of CAT and CAI tools to assist in translation or interpreting jobs. This is contrary to the result of previous research stating that an advanced computer user is more likely to have a higher understanding and capability to use these tools (Zaretskaya, Pastor, & Seghiri, 2018). One possible explanation is that it is caused by the requirement of their jobs that do not need the use of those specific tools. However, basic knowledge of the application of these tools is necessary because they offer many advantages for translators and interpreters to carry out their tasks. The result of the research also indicates that some Japanese businesses and industries have started to require their translators and interpreters to use translation or interpreting-assisted tools.

CONCLUSIONS

Digital technology and information literacy are closely entwined because they involve obtaining, understanding, evaluating, and using the information in various digital technology contexts. Literacy skills in general digital practices, as well as skills in finding, using, and creating information from online resources, are not a predictor of one's skills in the application of CAT and CAI tools, particularly related to Japanese translation and interpreting. However, there is a rapid development of digital technology, as well as the market trend toward the use of technology. Therefore, it is highly important to incorporate the basic knowledge of CAT and CAI tools and resources into the curriculum for students translators and interpreters.

ACKNOWLEDGEMENT

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