Translation Technology for Student Translators: A Study on Perceptions

Suwarni Wijaya Halim

English Language and Culture Department, Bunda Mulia University, Indonesia
suwarni@bundamulia.ac.id

Abstract: *The aim of this research is to discover the perceptions of student translators on translation technology. This topic was chosen because translation technology can be considered as a novelty for student translators, and they have just learnt about translation technology in Computer-Assisted Translation class in the previous semester. The researcher, therefore, is interested in investigating how the student translators perceive translation technology in general. To acquire the data, the researcher conducted focus group discussions towards three 8th semester students of English Language and Culture Department. The data were analyzed using qualitative content analysis. The findings show that the student translators have positive perceptions on translation technology. This can be seen from how the student translators frequently used translation technology and how they believed translation technology is beneficial to use despite its shortcomings.*
Keywords: *Perception, student translators, translation technology*

I. INTRODUCTION

Currently, the notion of "computer literacy" (Samson, 2005) has been a heavily emphasized issue in the area of translation studies. Along with the advancement of technology, the practice of translation has become more mobile, complex and sophisticated. Clients nowadays prefer communicating with translators via email or chatting apps and sending their documents to translators in the form of digital files. To accommodate the clients, translators also make use of not only digital-based communication platform but also machine translation, online resources, and translation software to assist them in the translation process. In other words, computers and the Internet have brought significant changes to the translation landscape and translation activities, and those changes have become relevant to other areas of translation studies as well.

The popularity of computers in translation also occurs in Indonesia albeit a bit later compared to other countries. Recently, many institutions and universities provides training programs for translators, both professional and amateur, which focus on the advantages and implementation of computer-assisted translation (CAT) tools and machine translation (MT) tools. Translator organizations and agencies hold talks and seminars about CAT tools. Companies that specialize in CAT tools (e.g. SDL Trados, Wordfast, MemoQ, and so on) compete with each other to offer paid software with various distinctive features and specifications to translators. Many translation academicians conduct studies and research on the topics related to translation studies and technology. Naturally, educational institutions which

offer degree in translation studies or subjects of translation would need to adjust their curriculum in order to keep abreast of the current development (Samson, 2005).

English Language and Culture Department of Bunda Mulia University is one example of many university programs in Indonesia that include translation studies as one of its major, and this major can be undertaken when the students are in their 6th semester. Among numerous subjects of translation offered to the students, one subject namely Computer-Assisted Translation (BIH14) is compulsory, and it is worth four credits. In this class, students learn about the technicalities of computer-assisted translation and machine translation tools. Furthermore, they also learn how to implement those tools in the translation process.

Currently, the 8th semester students of English Language and Culture Department have completed all the translation subjects in the curriculum, including the Computer-Assisted Translation class. This group of students in particular experienced a leap from mainly translating manually with passive help from offline and online sources to actively utilizing various online tools and software to do the translation. In the 6th semester, the students only minimally use their computers and Internet access to help them translate texts and do translation assignments. They were not introduced yet to the software for CAT tools, MT tools, and other computer- or Internet-based resources. Their experiences in utilizing computers and Internet access were limited to using word and number processors, electronic dictionaries, online resources, and machine translation tools such as Google Translate or Bing Translator. In the 7th semester, however, they were formally taught to use other technological tools in translating.

Many previous studies discuss about how translation technology could work for the benefits of the translators in general (Désilets, Melançon, Patenaude & Brunette, 2009), what the professional translators think about the use of translation technology (Arenas, 2013), and how translation technology are taught and implemented in the area of translator training (Kenny, 1999; Kis, 2004; Zhou & Gao, 2016; Kornacki, 2017). However, there has been limited studies on the topic of the student translators' perceptions on translation technology. A research conducted by Alotaibi (2014), for instance, researched about Arabian student translators' expectations and attitudes in learning translation technology, particularly CAT tools. Another study conducted by Mahfouz (2018) analyzed both Egyptian student and Egyptian professional translators' attitudes to translation technology, specifically CAT tools. As far as the researcher found, there was no previous research which discusses the perception of Indonesian student translators on translation technology. Therefore, the researcher would like to fill the gap in the existing literature by conducting this research.

The researcher believed it is necessary to elicit their opinions on translation technology so that the teaching and learning for this particular class can be improved and tailored further to fit the needs of those students. Based on that understanding, the researcher formulated two research questions:

1. What are the benefits and shortcomings of translation technology?
2. How do student translators perceive translation technology?

The objective of this research is to find out the students' perceptions on translation technology, particularly after they learn every topic which is specified in the syllabus of Computer-Assisted Translation class. By conducting this research, the researcher hopes that it would be beneficial for other lecturers who wish to introduce and incorporate the teaching and

learning of translation technology in the translation classroom. It is hoped that this research would provide valuable information on how the students feel about translation technology and how the lecturer can anticipate and utilize the feelings to reinforce the teaching and learning process. Furthermore, the researcher hopes that this study would be useful for lecturers who would like to gain more information on the teaching of translation technology.

II. THEORETICAL REVIEW

As translation industries have become more and more digitized, the demand for more flexible and more efficient translation process has also increased. Along with the advancement of technology, the use of technology-based translation tools has become more and more common. In fact, some clients might demand the translators to use translation technology in order to increase efficiency and accuracy of the final translation products.

To keep up with the industries, it is imperative for translator education institutions to provide courses that promote digital and computer literacy in order to prepare the future translators so that they would be ready for the job. Zhou and Gao (2014) added that besides meeting the demand and the expectations of the industries, it is necessary for student translators to learn how to use translation technology in order to increase their competitive edge.

As the result to the ever-growing and ever-changing demand and landscape of translation industries, it is expected for the student translators to at least possess knowledge about translation tools. Proficiency in both source and target languages is no longer sufficient. In addition to extensive bilingual and bicultural knowledge, the student translators also need other skills, including skill to understand and operate translation technology, or in other words, computer literacy. However, the literacy in this case does not only entail "configuration of the user's workstation, file management, digital text production (word processing) and basic Internet use" (Samson, 2005, p. 102), but also skill to utilize computer software and application that would be beneficial for translation process such as online dictionaries, corpora, digital parallel text, online encyclopedias, MT tools and CAT tools.

With such great demand for translators who know how to utilize translation technology and with such extensive repertoire within translation technology that the translators need to have, it should be logical that lessons and courses concerning translation technology are given heavy emphasis in the curriculum. However, Zhao and Gao (2014, pp. 854-855) listed down several drawbacks in teaching translation technology to student translators. Among those drawbacks are the limited number of translator trainers that have vast experiences and knowledge on translation technology, the expensive price of some types of translation technology, and lacking of local research and studies concerning translation technology.

This sentiment was also echoed by Kornacki (2017) who stated that it is not easy to incorporate teaching and learning about translation technology in translation classes since many resources are needed in order to make the lessons effective. Universities have to provide student translators with sufficient computer laboratory with proper Internet connection that can support access to different forms of translation technology. Furthermore, the lessons have to organized as such so that the activities are completely digital and flexible by utilizing cloud services or online sharing platforms.

Regarding the previous studies, Alotaibi (2014) conducted a study which investigated student translators' perceptions and attitudes towards computer-assisted translation (CAT) tools. The respondents were students who studied in Computer Applications in Translation course at the College of Language and Translation, King Saud University in Riyadh. Alotaibi (2014) utilized questionnaires, interviews, and class observations as the research instruments.

In Alotaibi's study, it was found that the students experienced apprehension before they participated in the class. In the previous classes, they minimally used translation technology in translating, and their translator trainers also discouraged them from using translation technology or online resources due to the lacking in reliability. However, their attitudes gradually became more and more positive the more they learned about CAT tools. They also expressed frustration during the course of learning about CAT tools since they had overly high expectations on the results of translation produced by CAT tools. Nevertheless, the researcher explained that the student translators learned that the machine and the computers cannot produce the high-quality result as they desired and learned to reset their expectations accordingly. Their apprehension and anxiety towards CAT tools did not go away completely by the end of the class. However, by the end of the session, it could be concluded that the student translators became more open to the idea of utilizing CAT tools in translation and more confident in operating the CAT tools.

Another study in this topic was conducted by Mahfouz (2018). The respondents of Mahfouz's study were student and professional translators in Egypt. He used questionnaires and interviews as his research instruments in order to find out the respondents' attitudes towards CAT tools.

In this study, it was found that both student and professional translators had positive attitudes towards CAT tools. They admitted that CAT tools brought considerable benefits for them such as faster translating time, higher consistency in translating terminology, higher productivity, and higher translation quality. Furthermore, regarding the ease of use, there had been mixed responses. Some of the respondents believed that CAT tools were easy to operate whereas other respondents expressed their frustration towards CAT tools because they thought CAT tools were too complex to utilize. Regarding the compatibility, mixed responses were cultivated as well with some respondents believed that CAT tools worked perfectly and compatibly with their work while some other respondents expressed otherwise. Moreover, Mahfouz (2018) also found that the more experienced the translators, the more varieties of CAT tools they had tried, yet the more negative their perceptions towards CAT tools.

The studies above attempted to answer how specific groups of respondents perceived CAT tools as a form of translation technology. The respondents, however, were limited to Arabian and Egyptian translators (both students and professionals). This research would use theme that is similar to the previous studies, but the researcher used different set of respondents, namely Indonesian student translators.

The other difference between those research with this research is the fact that the researcher utilized focus group discussion instead of interviews, questionnaires, and observation. While the conducting interviews, administering questionnaires, and doing observation would reach a lot of people and provide both qualitative and quantitative data, the researcher believed the research in this area can be enriched and diversified further by conducting focus group discussion in order to capture another unexplored sides of the issue. As a result, the researcher decided to conduct focus group discussion to gain more depth on the topic.

III. RESEARCH METHODOLOGY

This research was conducted using qualitative method. The researcher used focus group discussion towards three student translators in order to elicit the student translators' perceptions on translation technology. Since the data would be in the form of statements, the researcher believed that qualitative method would suit this research better.

The source of data for this research is the three 8th semester student translators of English Language and Culture Department of Bunda Mulia University. Currently, they are finishing their thesis. These pool of students was chosen because they have previously studied in translation classes such as Theory of Translation, Literary and Popular Translation, Audiovisual Translation, Legal Document Translation, Introduction to Interpreting and Computer-Assisted Translation classes.

The participants for this research were chosen using purposive sampling. The criterion that the researcher established was that the participants must pass all subjects of translation classes with minimum GPA of 3.00. The reason why the researcher established this criterion was because the researcher would like to ensure that the informants were sufficiently knowledgeable in the areas of translation, which means that they could give more extensive information about their experiences and their opinions about using translation technology.

As explained previously, the researcher utilized focus group discussion in order to acquire the data. A focus group is "a group of people, usually between 6 and 12, who meet in an informal setting to talk about a particular topic that has been set by the researcher" (Longhurst, 2003, p. 103). In this type of setting, the moderator establishes the topic for discussion and allows the informants to discuss freely about the topic with minimal interference on the flow of discussion. According to Gill, Stewart, Treasure and Chadwick (2008) and Morgan (2012), the ideal number of participants in a focus group discussion is six to eight participants. However, small groups as few as three participants could also work well.

For this research, the researcher used mini focus group discussion format with three participants. While it is preferable to have more participants in the focus group discussion, the researcher believed that three participants would be ideal since the flow of discussion would be easier to maintain and much in-depth information could be acquired. Moreover, the possibility for the participants to digress from the topic can be minimized, and each participant would have greater opportunity to express their personal opinions and views—something which would be difficult to achieve with a focus group discussion involving four to twelve participants (Gill, Stewart, Treasure and Chadwick, 2008).

Before the researcher collected the data, the researcher had composed the protocol and a list of questions for the student translators. The questions were composed and partially modeled after the questionnaire from Mahfouz (2018), along with more prompts to prod for more detailed answers from the student translators.

According to Krueger and Casey (2001, p. 4), focus group discussion should be conducted in the native language of the participants. Therefore, the researcher used Indonesian in the discussion, which is the researcher's and the participants' mother tongue. Even though the participants are students of English Language and Culture Department and they can speak English well, the researcher believed that conducting the discussion in English, which is not their mother tongue, might hamper the process of voicing their opinions because they would be more concerned with speaking properly in English. Moreover, there would be a risk of

misunderstanding if the discussion was conducted in English. As a result, the researcher decided to conduct the discussion in Indonesian and translate the content of the discussion into English later.

To collect the data, the researcher followed the steps mentioned below:

1. Composing the protocol and a list of questions;
2. Contacting the student translators to ask for their willingness to participate in the research;
3. Schedule the focus group discussion;
4. Meeting the participants;
5. Conduct and record focus group discussion;
6. Distribute tokens of appreciation for the participants;
7. Listening to the recording and transcribing the content.

To analyze the data generated from the focus group discussion, the researcher used qualitative content analysis since the data is in qualitative form. According to Hsieh and Shannon (2005, p. 1278), qualitative content analysis is "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or pattern." Based on the understanding of the definition, the researcher formulated the following procedures:

1. Reading the transcript over and over again;
2. Determining the codes which emerge across the transcript;
3. Labelling utterances based on the matching codes;
4. Categorizing the codes into themes.

IV. FINDING AND DISCUSSION

4.1 General Understanding about Translation Technology

Before diving into their perceptions and feelings about translation technology, the researcher asked several general questions about translation technology beforehand. This step was conducted in order to ensure that the participants have proper understanding on translation technology.

The first question that the researcher asked was about what translation technology is. The 2nd participant responded by saying "all types of machine, all things that can help us in the process of translation", and this definition was also agreed by the 1st and the 3rd participants. The 1st participant also stated that translation technology is "any types of tools that can help ease the humans' work in translating."

Then the researcher asked what can be included under the umbrella of translation technology and what are the examples of translation technology. All participants simultaneously answered "Google Translate". The 3rd participant added Wordfast Anywhere and Google Translator Toolkit. The 1st participant also added Bing into the pool of answers. Then the 2nd participant also mentioned some websites that can be found on the Internet, and the 3rd participants mentioned some websites that are locally created such as Sederet.com.

When they were asked which translation technology they used the most often, all of them agreed that they used machine translation, specifically Google Translate, the most. The 2nd participant explained it was because Google Translate is the most accessible since she only needs to browse for it on the Internet. Moreover, there is a mobile application version of Google Translate that can be downloaded by anyone, and the result of the translation is adequate. Moreover, Google Translate is a complete package because it covers a lot of languages and it is equipped with pronunciation feature.

The translation technology that the participants are most familiar with is machine translation. They also frequently used CAT tools, accessed search engines and websites, and utilized online dictionary and encyclopedias. Meanwhile, the translation technology that they almost never used is the corpora because they do not understand its application in the translation field. This is probably caused by the limited number of parallel corpora in English-Indonesian language pair that can be accessed freely by the public.

Based on the participants' answers and explanation, despite the fact that the responses were quite general, the researcher concluded that all of the participants understand what translation technology means. They were able to explain the general definition and purpose of translation technology quite accurately. Furthermore, they have the correct perspective on what translation technology does and what can be categorized and included as translation technology.

However, from these introductory questions, the researcher found that the participants seemed to strongly associate translation technology with machine translation, particularly Google Translate when translation technology actually covers broader areas than machine translation. As a result, in order to get valid data for the research, the researcher reminded the participants about other forms of translation technology, such as CAT tools, word processors, search engines, and so on.

4.2 Purposes of Using Translation Technology

To delve further into the students' perception on translation technology, the researcher started by confirming about how often the participants use translation technology, and the participants agreed that they frequently use translation technology. Moreover, when the participants were asked about the degree of usefulness of translation technology, they asserted that it is very useful.

The researcher then asked the participants to discuss in what way they considered translation technology as useful and what drove them to use translation technology in the first place. The participants revealed that they found translation technology useful for academic purposes because they are students of English Language and Culture Department and because they were studying about translation subjects. They stated that translation technology helps them a lot in their study. In fact, there are two reasons why they used translation technology. First is because they would like to keep up with the academic demands, and second is because they would like to learn more about languages.

According to the participants, keeping up with academic demands is the major factor that prompted them to use translation technology a lot. Since they are students of translation major, they were given a lot of translation assignments by the lecturers. To keep up with the load of assignments, they turned to translation technology and relied on it because by using translation technology, specifically machine translation, the process would be much easier and they could save much time. In the end, they only need to conduct post-editing. This can be concluded from

the statement of the 2nd participant who mentioned "I don't mind [using translation technology and] post-editing the result of translation afterwards", and this statement was also agreed by the 1st and 3rd participants' point of view.

The other factor that caused the participants to use translation technology is to learn about languages. The 3rd participant stated that aside from finishing assignments from translation classes, she used translation technology to check "whether the sentence construction that she made was correct or not." From this statement, it could be concluded that the 3rd participant considered translation technology as a way to proofread her statements and utterances so that she could minimize the chances in committing grammatical mistakes. Meanwhile, the 1st participant also mentioned that besides for academic activities, she used translation technology to find meanings of unfamiliar words or vocabularies that she found in books or movies. In other words, in the 1st participant's point of view, translation technology could also act as a tool for language learning.

The researcher then inquired what types of text that they often translate using translation technology. All three participants once again based their answers on the translation subjects that they studied. They said that they generally used translation technology to translate broad scopes of texts, starting from news articles, fiction and non-fiction works, legal documents, and so on, depending on which texts had been given by the lecturers as assignments or homework. When they were not translating for classroom assignments or homework, they often used translation technology with any types of text.

4.3 Benefits of Translation Technology

The next aspect that the researcher asked the participants to discuss was the advantages or benefits of using translation technology. According to the participants, there are several benefits of using translation technology.

The first benefit is that translation technology is practical and easy to access. They do not need to go through the long process of thinking or mulling over appropriate translation when translating. Translation technology solves a lot of problems in the translation process for them since it provides information only with a few clicks of buttons. In the case of machine translation, for example, the participants only need to input the source text into the machine translation, let the machine do the work, and post-edit the result afterwards. The participants believed that using translation technology is more efficient. The 1st participant explained "compared to looking up for meanings or equivalence of a certain word in a dictionary, it is easier to use translation technology because we only need to type and the result will appear immediately; we do not need to flip over pages and pages of the dictionary." In other words, practicality or simplicity of translation technology is considered positively by the participants.

The second benefit, according to the participant, is that translation technology saves much time. The result of translation technology is almost instantaneous. Machine translation, such as Google Translate and Bing, can process different units of translation from words to paragraphs, and it takes only a few seconds to generate the result of translation. This also applies to other tools, such as search engines, online dictionaries, and so on.

The third benefit is the quality result. In terms of the quality of the end-product, the participants stated that the result of translation is fair and acceptable. When they were asked about the quality of the translation generated by machine translation, all of the participants agreed that the result of machine translation, specifically Google Translate, is adequate enough

despite some minor mistakes. The 1st participant stated that "the quality of Google Translate in translating has improved a lot." Indeed, some minor problems could be identified after the machine translation translates the source text. However, as mentioned before, they do not mind post-editing the result, so the minor problems are not an issue. The 3rd participant provided further explanation by stating:

> *"In my opinion, we as English Language and Culture Department students already have the capabilities to form proper English structures. We know the basic of the languages. What makes Google Translate great is the fact that when we input properly-structured sentences into it, most of the time the output would be properly structured as well in the target language. When the input is properly formed and ordered, the output would reflect the same quality."*

The 2nd participant admitted that the result of translation by translation technology is not totally perfect, and she always found something that she must revise or improve in order to get the result that she wanted, and this statement was followed with agreement from the 1st and 3rd participants. However, they considered it as a good start to work on since they did not need to translate from scratch.

The next benefit that the participants discussed is the fact that translation technology is integrated to many platforms. For instance, by using Google Translator Toolkit, which is a CAT tool, the participants could directly translate the transcription provided in Youtube videos. The transcription is already set with proper timings and sequences so the participants do not need to adjust the timings by themselves. They only need to translate the transcription which have been provided by the Youtube videos without worrying about when the subtitle must start or end. The same concept also works for website localization. The participants do not need to adjust the tags, layouts, and paragraphing in the websites they translate. The CAT tool would ensure that the translated website has the same configuration and layout as the original website, so all the participants need to do is translate the content of the website. This integration with other platforms and media, according to the participants, is very convenient, and it simplifies translators' workload since they only need to concern about the quality of the target text instead of fussing about technicalities as well.

The final benefit, according to the participants, is the fact that translation technology allows flexibility in collaboration. Prior to learning about translation technology, when the participants were given group tasks, they usually needed to gather together to discuss and do the translation. Otherwise, they needed to divide the portion of translation works among their team members, individually work on their own portion, and gather together to edit the results. However, with translation technology, they could work on a single file collaboratively without having to meet face-to-face. Furthermore, the team members could share their glossaries and translation memories with each other.

4.4 Shortcomings of Translation Technology

After inquiring about the benefits of translation technology, the researcher asked the participants to discuss about the shortcomings of translation technology. The participants mentioned that there are three shortcomings.

The first is that the participants need to continuously maintain the devices in which translation technology is used. The 2nd participant mentioned that some forms of translation technology need Internet connection to work, and this causes inconvenience since she is not always connected to Internet. Some electronic devices, such as electronic dictionary, also use batteries and need to be maintained and charged regularly.

The second shortcoming is the limited performance in certain areas. In the previous sections, it was pointed out that the participants thought that the result of translation by translation technology is fair. Despite their belief, the participants also thought that translation technology underperforms in certain areas. The 2nd participant explained that the translation produced by translation technology is not specific enough to the context of translation. For example, when translating polysemous words or specific terminology, translation technology—particularly machine translation and CAT tools—would render the words with the most general meaning. However, if the participants looked at the context, they actually needed the other meanings instead of the general meaning. As a result, they needed to conduct further research in order to find more proper and contextual equivalence to those words by accessing other forms of translation technology, and this creates inconvenience for them. For example, to translate legal terms, instead of relying only on machine translation, they needed to cross-check the translation with information from search engines, websites, online encyclopedias, online dictionaries, and so on in order to find the most appropriate translation for the terms.

The last shortcoming, according to the 3rd participant, is that not all CAT tools are designed to simplify the translators' works. In the previous semester, the participants studied Computer-Assisted Translation subject, and in that class, they were taught how to operate two CAT tools, which are Google Translator Toolkit and Wordfast Anywhere. She thought that the first CAT tool is very practical and easy to use. The user interface is straightforward and clear. The second CAT tool, however, is much more confusing and complicated to use, in her opinion, and this statement was also agreed by the 1st and 2nd participants. The user interface in the second CAT tool is impractical, so instead of helping them do the translation, they spent much of their time trying to figure out how to operate the tool. Moreover, all of the participants stated that this tool actually went error a lot of time, and this caused them to feel frustrated. The researcher tried to get further clarification about this issue from the participants because previously, the participants believed that translation technology is easy to use. The participants then clarified that not all translation technology is easy to use; some of them are actually quite complex and requires much time to learn. In their opinions, Wordfast Anywhere is an example of that.

4.5 Discussion

As explained in the findings, the participants have sufficient understanding about translation technology, and they often use it for academic purposes. There are five benefits that the participants revealed. Translation technology is fast and easy to use, provides quality result, integrates well with other media, and enables more flexible collaborative work. Meanwhile, the shortcomings involve continuous maintenance of devices, limited performance in certain areas, and complexity of the users' interface.

Despite all their arguments, all participants agreed that the advantages that translation technology gives outweigh the disadvantages. All three participants believed that despite some shortcomings, translation technology is helpful in assisting them in the process of translation. It means that all of the participants have an overall positive perception on translation technology.

This can also be seen from how they actually preferred to use translation technology to pre-translate the source text and edit the translation afterwards instead of translating from scratch.

Some of the advantages mentioned by the participants are in line with the statement by Mahfouz (2018) who conducted research on the Egyptian student translators' attitudes on CAT tools by using questionnaires and interviews. Mahfouz (2018) stated that "the benefits [of CAT tools] on which most participants agreed include working faster, increasing productivity and making translation easier" (p. 75). Furthermore, majority of the respondents in Mahfouz's research (2018) asserted that CAT tools are easy to use and improve collaboration within the team.

Meanwhile, one of the disadvantages, i.e. complexity of the interface, is also in line with the result from Mahfouz's study. Mahfouz (2018) stated that "a considerable portion of the participants revealed some negative attitudes regarding ease of use. For instance, about 18% indicated that they are sometimes frustrated while using CAT tools, whereas 15% believe that they are complicated." As mentioned previously, even though all participants believed that most translation technology is easy to use, there is one or two types of translation technology that have overly complex interface, and similar to Mahfouz's result of study, the participants experienced frustration when operating these tools.

On one hand, some issues such as the compatibility, the costly price of CAT tools, and so on, unfortunately were not addressed by the participants in this research. Therefore, the researcher believed that those issues were not considered as major problems for the participants. Nevertheless, another studies towards different pool of student translators using focus group discussion might yield distinctive result. On the other hand, however, there are some themes that emerged in the focus group discussion that were not in the previous studies, such as the issue on integration of translation technology with other media.

V. CONCLUSION

This study was conducted in order to answer the following research questions: "what are the benefits and shortcomings of translation technology?" and "how do student translators perceive translation technology?"

Regarding the benefits of translation technology, the participants revealed that translation technology is easy to use and fast. Moreover, the result provided by translation technology is acceptable, and it integrates well with other platforms. Finally, translation technology promotes more flexible collaboration within groups. The shortcomings, on the other hand, is related to the continuous maintenance of devices, limited performance in certain areas, and complicated interface of certain translation technology.

Regarding the perception, after conducting the research process and analyzing the findings, the researcher found that the student translators who participated in this study have generally positive perception on translation technology. They displayed sufficient understanding about translation technology and used translation technology frequently. Moreover, after discussing the advantages and disadvantages, the participants agreed that the benefits of using translation technology trump its shortcomings. This means despite the disadvantages of translation technology, the participants would continue using translation technology because it

offers more benefits for them.

As students majoring in translation studies, they viewed translation technology as a tool to help them in the process of learning about language and translation, and they expressed that they were generally satisfied with the result produced by translation technology. This again shows that the participants have embraced the existence of translation technology and viewed it as something important in the process of translation.

By conducting this research, information on the student translators' perception on translation technology was acquired. The information generated by this research can be useful for translator trainers or lecturers who are going to compose curricula, syllabuses, or teaching materials that are related to the teaching of translation, particularly in the teaching of translation technology. It is hoped that the knowledge on the student translators' perception can be used to enrich the materials further. In addition, the information can be used to reinforce the teaching and learning process. By finding out how the student translators perceive translation technology, the translator trainers can devise appropriate ways and activities in their teaching of translation technology in order to highlight its benefits and mitigate its shortcomings.

Nevertheless, the researcher is aware that the low number of participants in this study means that the result of this study cannot be generalized to other cases. Therefore, the researcher would like the readers to consider this study as preliminary research on Indonesian student translators that can be expanded further by adding and diversifying the participants. The future researcher who are interested in this topic can consider adding the number of participants or conducting focus group discussion with three to four groups of participants in order to discover more evidence. Furthermore, the future researchers can consider using more varieties in the research instrument so that the result generated by their studies would be more complete and extensive. Finally, the future researchers can consider conducting focus group interview with other stakeholders in the translation activities such as professional translators, lecturers of translation studies, clients, or heads of translation agencies, in order to get broader view on the matter.

REFERENCES

[1]   Alotaibi, H. M. (2014). Teaching CAT tools to translation students: An examination of their expectations and attitudes. *Arab World English Journal, 3,* 65-74.

[2]   Arenas, A. G. (2013). What do professional translators think about post-editing?. *The Journal of Specialised Translation, 19,* 75-95.

[3]   Désilets, A., Melançon, C., Patenaude, G., & Brunette, L. (2009, August). How translators use tools and resources to resolve translation problems: An ethnographic study. In *MT Summit XII-Workshop: Beyond Translation Memories: New Tools for Translators MT.*

[4]   Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, *204*(6), 291-295.

[5]   Hsieh, H-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. doi:10.1177/1049732305527668.

[6]   Kenny, D. (1999). CAT tools in academic environment: What are they good for?. *Target, 11*(1), 65-82. doi: 10.1075/target.11.l.04ken.

[7]   Kis, B. (2004). Technology in the Translation Class: Introducing CAT Tools to Hungarian Translation Students.

[8]   Kornacki, M. (2017). *Computer-assisted translation (CAT) tools in the translator training process* (doctoral dissertation). University of Łódź, Łódź, Poland.

[9]   Krueger, R. A., & Casey, M. A. (2002). Designing and conducting focus group interviews. In R. A. Krueger, M. A. Casey, J. Donner, S. Kirsch, & J. N. Maack (Eds.), *Social analysis: Selected tools and techniques* (pp. 4-23). Washington, D.C. : The Social Development Family of the World Bank.

[10]   Longhurst, R. (2003). Semi-structured interviews and focus groups. In N. Clifford, S. French & G. Valentine (Eds.), *Key methods in geography* (pp. 103-115). London: Sage Publications.

[11]   Mahfouz, I. (2018). Attitudes to CAT tools: Application on Egyptian students and professionals. *Arab World English Journal, 4,* 69-83.

[12]   Morgan, D. (2012). Are We Too Limited on Group Size? What About 2 or 3 Person "Mini-Groups"?. Retrieved from https://www.methodspace.com/are-we-too-limited-on-group-size-what-about-2-or-3-person-mini-groups/.

[13]   Samson, R. (2005). Computer-assisted translation. In M. Tennent (Ed.), *Training for the new millennium: Pedagogies for translation and interpreting* (pp. 101-126). Amsterdam: John Benjamins.

[14]   Zhou, W., & Gao, B. (2016). Study on the Application of Computer-Aided Translation (CAT) in Translation Teaching. *US-China Foreign Language, 14*(12), 849-856.