

The Use of Machine Translation among Chinese Students

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Abstract The study aims at investigating how the use of Machine Translation, especially its latest development ChatGPT hinders or develops students' English language learning in a prestigious university in Southwest China. A qualitative approach is adopted, involving focus-group interviews, classroom observations and field notes. It is found that the use of Machine Translation is not an issue at all with many supervisors and yet the lack of cognitive engagement with the English language poses a serious threat to the ELT classroom. Implications for teaching practices are explored.

1. Introduction

With the requirement for publishing papers in prestigious international journals, most of the graduate students in China are confronted with an increasing number of course assignments related to English, including reading, writing, communicating, presenting in a classroom or at an international conference. However, inconsistent with the demand for international publications, the entry threshold for English is 40 out of 100 points at a Southwest China university¹ and in a lot of other universities, which is far from proficiency of English, not to mention mastery of the language. For a large number of EFL students in the university, doing course assignments in English, let alone publishing English papers, could be a major challenge, and even an impossible task if there is an urgent deadline.

Machine Translation, as a range of different tools, universally available and free of charge through personal computers and mobile devices, comes in handy for them. MT has gone through rapid updates in dozens of years since the Second World War from a rule-based model, to a statistical-based model, and then to a neural network one, and then the most recent Transformer model. With the rapidly enhanced quality of MT-assisted writing, and especially the latest development of MT in the form of ChatGPT, which enables users to have even the translated results polished grammatically or in any way as requested by the user, to the extent that the ChatGPT-assisted English writing by students from L1 language could even be aligned to the norms and expectations of the Western academic discourse community, it seems reasonable to argue that such technologies have an impact on ELT. After all, why would a student bear the burden and expense of learning a foreign language if s/he can produce an acceptable or even superb L2 writing from his/her own L1 language,

totally free of charge and instantly at a click of the mouse?^[1]

2. Literature Review

Researchers have a mixed feeling about MT. Lee^[2](2021) studies the use of MT from the perspective of students' perceptions and the comparison between MT output and students' versions, and he finds that students generally like using MT for language learning, and with the assistance of MT, students' output is much better than otherwise. However, he is also concerned about the long-term effects of the use of MT.

This misgiving is echoed by Groves & Mundt^[3](2021), who points out that a better English writing output assisted with MT is often associated with the possibility of showing limited demonstrable English skills, which may damage the university brand, and also inhibit students from incidental learning and other academic activities. The use of MT could lead to over-reliance on it, to such an extent that students could not wean themselves from it even at the end of their degree courses. After all, during the process of MT-assisted writing, the L2 cognitive process could be totally avoided^[4], reducing their cognitive burden and their chance to develop their English proficiency at the same time.

Nonetheless, used wisely, MT could serve the students well either by providing them with a convenient source of much better language samples or by supplying a good chance for students to identify and correct MT-produced errors or by facilitating their understanding in reading in L2 languages^{[5][6][7][8][9][10][11]}.

Although researches about the use of ChatGPT are yet to come, ChatGPT has crossed the ethical line. When students can key in the instruction from the teacher to ChatGPT and ask ChatGPT to do the assignment, some problems previously posed by MT have now become irrelevant. For example, when a sentence without

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¹ Please see the official document at <http://www.grs.ynu.edu.cn/info/1008/4293.htm>.

hedging in one language is translated by MT tool, the translation will contain no hedging^[12]. When the homework is done by ChatGPT, such a difference in language style disappears altogether. The real possibility for students to just copy and paste in doing their homework, thus subverting the very purpose of the homework and other academic assignments and training activities constitutes a serious problem for English teachers and possibly for the supervisors in different disciplines too.

My research focuses on the the use of MT among postgraduate students in a university in Southwest China, how they and their supervisors perceive the use of MT, how ELT teachers can intervene for effective uses of MT, including the latest technology ChatGPT to engage students cognitively so as to facilitate their language development. My research will contribute to the literature by providing new evidence concerning the use of MT and ChatGPT among EFL postgraduates in China.

3. Method

A qualitative method is used combining focus group interviews and classroom observations and field notes. The participants are all post-graduates pursuing a master’s degree in a prestigious university in Southwest China. They use textbooks published with China Renmin University Press in a common English course for master candidates in the university. The students are all Chinese and the lectures and assessments are delivered in both English and Chinese, or in a trans-lingual manner. The English courses are required, which is offered once a semester. The students are required to take the courses and pass the final exam, which functions like the degree English test. The final test of the English reading and writing course consists of 30% for reading comprehension, and 30% for essay writing, and the other 40% for vocabulary, translation and cloze, which means that students have to be proficient in reading and writing to pass the exam. And the overall assessment consists of 10% for classroom performance, 10% for mid-term test, and then 80% for the final. This further adds to the stakes of the final exam.

This study addresses the following three research questions about the use of MT by postgraduate students in higher education:

1. Is the use of MT widespread among postgraduate students’ essay writing and other academic assignments?
2. What do they think of MT in terms of preventing or facilitating their language learning and academic training?
3. How, as perceived by the postgraduate students, do their supervisors feel about the use of MT, and its latest development ChatGPT?
4. How does the ELT teacher intervene to facilitate English language development?

The interviews are conducted multiple times, one conducted in the Wechat, and the other in Rainclassroom, a common teaching app found in Wechat. Students in the common English Reading and Writing Course for Postgraduate Students are invited to participate on a

voluntary basis. The interviews aim at exploring more details and motivations about the use of MT among students and about the perceptions of MT usage.

A cohort of 15 students received the first interview; and then another 69 or so received the second interview. The focus group interview was conducted in the Wechat group and also during class breaks.

Table 1 How often do you read English literature?

7	46.7%	I often read English literature.
6	40%	I read English literature occasionally
2	13.3%	I read English literature every day.

Table 2 How often do you use MT in reading English literature?

13	86.7%	I often use MT in reading English literature.
2	13.3%	I rarely use MT in reading English literature.

Table 1 and table 2 indicate that for a large proportion of students, reading English literature and the use of MT in the process are quite common.

Table 3 Do you use MT when you do homework assigned by your supervisor and teachers of common English course?

15	100%	Yes
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Table 4 What MT tool/software do you often use in doing your homework? (1st interview of 15 students)

Youdao Translate(in one case Youdao Dicionary is used instead)	7 times	33.3%
Baidu Translate	5 times	23.8%
DeepL	twice	9.5%
Netease Translate/Netease Dictionary	twice	9.5%
Eudic	once	4.8%
Kongsoft dictionary	once	4.8%
ZY Translate	once	4.8%
ChatGPT	once	4.8%
Google Translate	once	4.8%
	14	100%

We can safely conclude from table 4 that the most frequently used top three MT tools by postgraduates in 2023 in this university under research include Youdao, Baidu and DeepL.

Table 5 How do you feel about the use of Machine Translation? (72 students responded to this question.)

55	76.4%	MT provides necessary assistance for them in reading and writing and doing home in English
13	18.1%	MT can be helpful without doing harms as students can use MT to help them to learn
3	4.2%	MT is a necessary evil as they sometimes have to hand in the homework in time
1	1.4%	MT does a lot of harms as it prevent students from learning in the true sense.

Table 6 What’s your supervisor’s attitude towards Machine Translation? (71 students responded to this question.)

22	31.0%	My supervisor is not aware that I use MT in doing my homework
16	22.5%	my supervisor is aware that I use MT, s/he allows and even encourages me to use MT to facilitate my learning
14	19.7%	my supervisor is aware that I use MT, s/he tacitly approves of it
11	15.5%	my supervisor is aware that I use MT, s/he tells me that MT is NOT allowed
8	11.3%	other
71	100%	

From the above data, we can see that only 15.5% of the supervisors ban the use of MT. When interviewed for further details, one of the students answered that his supervisor is concerned about his possible over-reliance on MT.

When interviewed for further information, one of the 8 students reporting “other” stated that the use of MT is not an issue worth exploring at all for her supervisor. Two students reported that their specialties (one majors in Chinese philosophy and the other majors in legal theory) do not require English proficiency so that English is not a problem for them. The fourth one reported that his supervisor has not talked about the use of MT although he surmises that his supervisor should know that he uses MT and yet he does not oppose it. The fifth one reported that his supervisor does not encourage the use of MT and yet he does not completely ban the use of it. His supervisor asks him to do the translation by himself to the best of his abilities, allowing the use of MT in reading only when he encounters particularly complicated sentences and some particularly difficult technical terms. The sixth one reported that he majors in computer science and needs to read English literature, his supervisor allows the use of MT to facilitate his understanding of the English text. However, as English papers often contain abbreviations coined by the author, MT may produce misleading translations. Thus, the use of MT is discouraged in writing while allowed in reading.

Table 7 Are you aware that ChatGPT is an optimal MT tool? (This question is asked after the teacher demonstrates how to use ChatGPT for improving translation quality).

30	46.2%	Yes, ChatGPT is an excellent MT tool.
19	29.2%	No, ChatGPT has limitations
16	24.6%	I don’t know.
65	100%	

Table 8 Which of the following showcases a good way to use MT?

35	47.3%	C This sentence contains redundancy, as startups are repeated.
18	24.3%	D This sentence is error-free.
11	14.9%	A This sentence contains an error about a technical term.
10	13.5%	B This sentence contains an error about tense.
74	100%	

- A. The prevention and control of the new crown epidemic entered a new phase.
- B. From these three points, I think English will become a global language.
- C. Since Silicon Valley Bank is one of the major VC players in the Silicon Valley region, its failure could lead to reduced access to funding, making it difficult for startups and startups to get the financing they need.
- D. In my opinion, English has become a global language mainly because of historical reasons.

(This question is meant to investigate whether the students are grammatically proficient enough to discern errors in the MT-produced texts.)

The data in table 8 show that only 24.3% of the students are cognitively engaged to tell which sentence is error-free. 14.9% of the students have not absorbed any knowledge after the teacher gave corrective feedback about the technical term (the Covid-19); 47.3% of the students are so impressed by the vocabulary and sentence structure of the MT-produced texts that they do not regard redundancy an issue at all. Or they just don’t care enough to read through the sentence word by word. 13.5% of the students do not care whether English as a global language is a reality that has formed or a possible future trend. They are not engaged with the language and the message conveyed.

4. Discussions

The first three research questions have been answered.

1. It is 100% sure that the use of MT is widespread among postgraduate students in doing homework; even if their specialty does not require English proficiency, they still need to show English proficiency in common English courses. (see table 3)

2. The majority (76.4%+18.1%) of the postgraduates interviewed reported that MT provides necessary assistance for them. (see table 5)

3. The use of MT is ignored (31.0%), allowed (22.5%), tacitly approved (19.7%) by supervisors, with only 15.5% explicitly banning the use of MT. (see table 6)

To answer the fourth research question, the lack of cognitive engagement is invoked. Despite the prevalence of MT and the celebrations of its convenience and ease of use, only a small proportion of the postgraduates (24.3%, see table 8) can detect errors in the MT-produced texts, compared to the 100% of them using MT in doing homework (see table 3), possibly causing the result that MT replaces rather than facilitates the learning of English, thus further worsening their reliance on MT for reading and writing academically. The enhanced output quality does level the playing field for students with low English proficiency, but without intervention of ELT instructors, ELT classrooms may turn into pretensions and false learning in the form of copy and paste motions. Besides, even if not all students are ready and enthusiastic to embrace ChatGPT, with 24.6% reporting “I don’t know”, (see table 7) the incredibly exceptional performance of ChatGPT in the field of translation, correcting grammatical errors and so on, further adds to the possibility that students play the game of presenting all the superb answers without actually learning and

developing their English proficiency. It is a real possibility that ELT class is reduced to a complete sham.

The role of MT in English language development, either replacing or facilitating learning, depends on whether the students have any cognitive engagements with English language (Garcia & Pena 2011). For this purpose, L2 writing is seen as more a process than a product. The teacher can intervene in the process of L2 writing to engage students in English language learning.

The teacher takes a diagnostic approach towards the L2 writing process as assisted by MT technologies. Some of the students are asked to describe their L2 writing process and post the description in the QQ or Wechat group. The steps described by students for writing an essay as a part of a discussion of a topic are quite similar.

Yang Rendan, one of the students in the focus group, describes her steps for essay writing as follows:

Step One: read the topic

Step Two: search related materials, both Chinese and English, on the internet

Step Three: write the essay in Chinese

Step Four: Translate the Chinese essay into English

Step Five: Use Machine Translation (Eudic) to translate the essay into English

Step Six: Compare her own rendition and MT version for correction and improvement

Step Seven: Submit the essay to the teacher.

Based on the above described steps, one of Yang Rendan's discussion contents, is presented as follows:

Although 2022 has passed, many major events have happened in China during this year; the most profound of which are the following two things.

The first event is the return of the Shenzhou 13 manned spacecraft to Earth. Then with the successful landing of the Shenzhou 13 manned spacecraft, the Shenzhou 14 manned spacecraft was successfully launched. The successful launch of Shenzhou 14 also means that China's space industry is constantly developing and progressing. The two big thing is the full liberalization of the new crown pneumonia epidemic. It has been more than three years since the outbreak of the new outbreak. Now, the new crown pneumonia epidemic is no longer under control as before, and positive infections can be treated in isolation at home.

In the final analysis,...under the leadership of the party, the country's scientific, technological, economic and cultural strength has been greatly improved, ...I believe that China will be better and better in the future. (The underline is added.)

It is found that despite the overall good quality of the essay, the underlined part is totally grammatically unacceptable and the sentences just do not make sense. Yang Rendan informs the teacher that she has used EUDic to have a whole Chinese paragraph translated. The key word “新冠疫情” was wrongfully translated into new crown epidemic. Thus, what goes wrong is that the students omit the step of looking up the English equivalent of key words in a dictionary before they have the whole paragraph translated by MT. The same error is also committed by several other students.

By composing the whole or parts of the essay in

Chinese and then having it translated into English by technologies, the students perfectly avoid having any cognitive engagements with the English language. When they scan the English sentence “the new crown pneumonia epidemic is no longer under control as before”, they find nothing wrong with it. What is even a worse scenario is that they don't even read the text so that they allow the sentence “the two big thing is...” to remain unchanged at all, although the word “second” and also “biggest achievement” should have been in their repertoire long before they became a postgraduate student.

By reducing cognitive burden for students in the degree courses related to the specialties, MT and ChatGPT threatens to turn ELT classrooms into a boring show. When the teacher asks class to correct the syntactic errors in the following:

Linguistic imperialism means a language due to its user which has stronger power is became dominant language, then it killed the local language.

The teacher gets one particularly standard sentence from the submissions:

Linguistic imperialism refers to a situation where a language with greater power and influence becomes dominant, leading to the demise of the local language.

Then the student admits that he has used ChatGPT to correct the run-on sentence.

MT and ChatGPT presents huge opportunities of English learning, thus reducing the burden of both teachers and students, for example, in providing corrective feedback. However, confronted with the elimination of instrumental motivation for learning English due to the latest technological developments, ELT teachers really need to redesign the classroom teaching to engage students cognitively with the English language, such as pointing to the importance of reading parallel texts both in Chinese and English, providing chances for spontaneous and unassisted reading, writing, and engaging students in discussions and even debates of topics that are meaningful to them, designing a lot of interactive chances to mobilize students' knowledge of the English language.

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