

Machine translation output assessment and its impact on reading comprehension

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Abstract

Most studies in the application of machine translation in language teaching have focused on improving the writing of foreign language learners. The aim of this research is to assess the quality of machine translation and its impact on students' reading comprehension. To achieve these two goals, three types of texts were selected with varying levels of difficulty. These texts were translated once by a human translator and once by machine translation (Google translator). Finally, six texts were obtained. The output of machine translation was evaluated and analyzed. Students were then randomly divided into six groups, each group reading one of these texts and answering multiple choice comprehension questions at the end of the text. The T- test was performed on the data and it was found that from the three types of texts, the two types of texts, despite having some lexical and grammatical problems, were able to compete with human translation. The data showed that the quality of machine translation is improving and has now reached a degree of quality that can be used as a tool in educational environments. Some guidelines were also given on how to use this technology in the classroom.

Table 1. Variations of texts produced

Original text	Google translate	Human translation
<i>The pampas</i>	GT1	HT1
<i>The longest-living animals</i>	GT2	HT2
<i>The wolf and the lamb</i>	GT3	HT3

Table 2. T-test results for the simple text

	Variable 1	Variable 2
Mean	5.5	7.826087
Variance	14.57895	7.87747
Observations	20	23
Hypothesized mean difference	0	
Df	34	
t Stat	-2.2472	
P(T<=t) one-tail	0.015614	
t Critical one-tail	1.690924	
P(T<=t) two-tail	0.031228	
t Critical two-tail	2.032245	

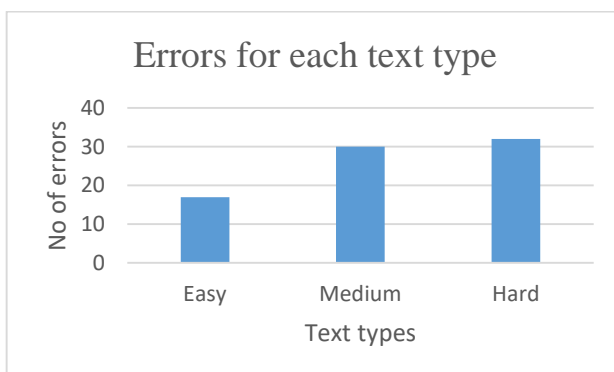


Fig 1. Number of errors in the hardest text

Conclusion

To identify if machine translation can compete with human translation, three types of texts were selected. They were translated by human and machine translation. They were given to different subjects. The data were compared using T-test. The data revealed that machine translation is mature enough now to be implemented in educational settings. Suggestions on how to use this technology in education were also explained.