

The development and validation of a scale to measure machine translation literacy: Converting a theoretical framework into an empirical instrument

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Abstract

After entering general use in 2015, the neural approach to machine translation (MT) has proven to yield better translation quality than the previously dominant phrase-based paradigm. Incentivised by this quality improvement, the user base of freely available online MT systems has grown substantially. Against this background, the use of MT has become “the elephant in the [language] classroom” (Loock, 2022, p.118), whereas many students may not have sufficient awareness of the limitations and risks of this technology. Hence, the promotion of MT literacy, which is defined by O’Brien and Ehrensberger-Dow (2020, p.145) as the knowledge of “how MT works, how it can be useful in a particular context, and what the implications are of using MT for specific communicative needs”, has become vital in today’s foreign language education. So far, the research on MT literacy has primarily focused on the theoretical conceptualisation of this concept, accompanied by sporadic attempts to teach it. Absent in the previous studies is an empirical instrument that measures students’ MT literacy in a systematic and generalisable manner. Hence, based on Bowker and Ciro’s (2019) theoretical framework, this study develops a 24-item scale of MT literacy. Robustly validated with data from over 200 EFL students, this scale comprehensively measures MT literacy in eight dimensions: 1) awareness of different MT tools, 2) awareness of different translation tasks, 3) understanding of the data-driven mechanism, 4) understanding of sources of errors; 5) understanding of privacy risks, 6) understanding of academic-integrity risks, 7) pre-editing skills, and 8) post-editing skills.

Biography

Ms. Yue GUO is a PhD candidate in Translation Studies at the University of Nottingham Ningbo China. She received her M.A. in Translation Studies from the University of Melbourne. Her research interests include translator training and the use of translation for second language teaching. Her doctoral research focuses on English as a Foreign Language (EFL) students’ adoption of machine translation and the measurement of these students’ machine translation literacy.