# The Challenges and Possibilities of Machine Translation for Transnational Higher Education
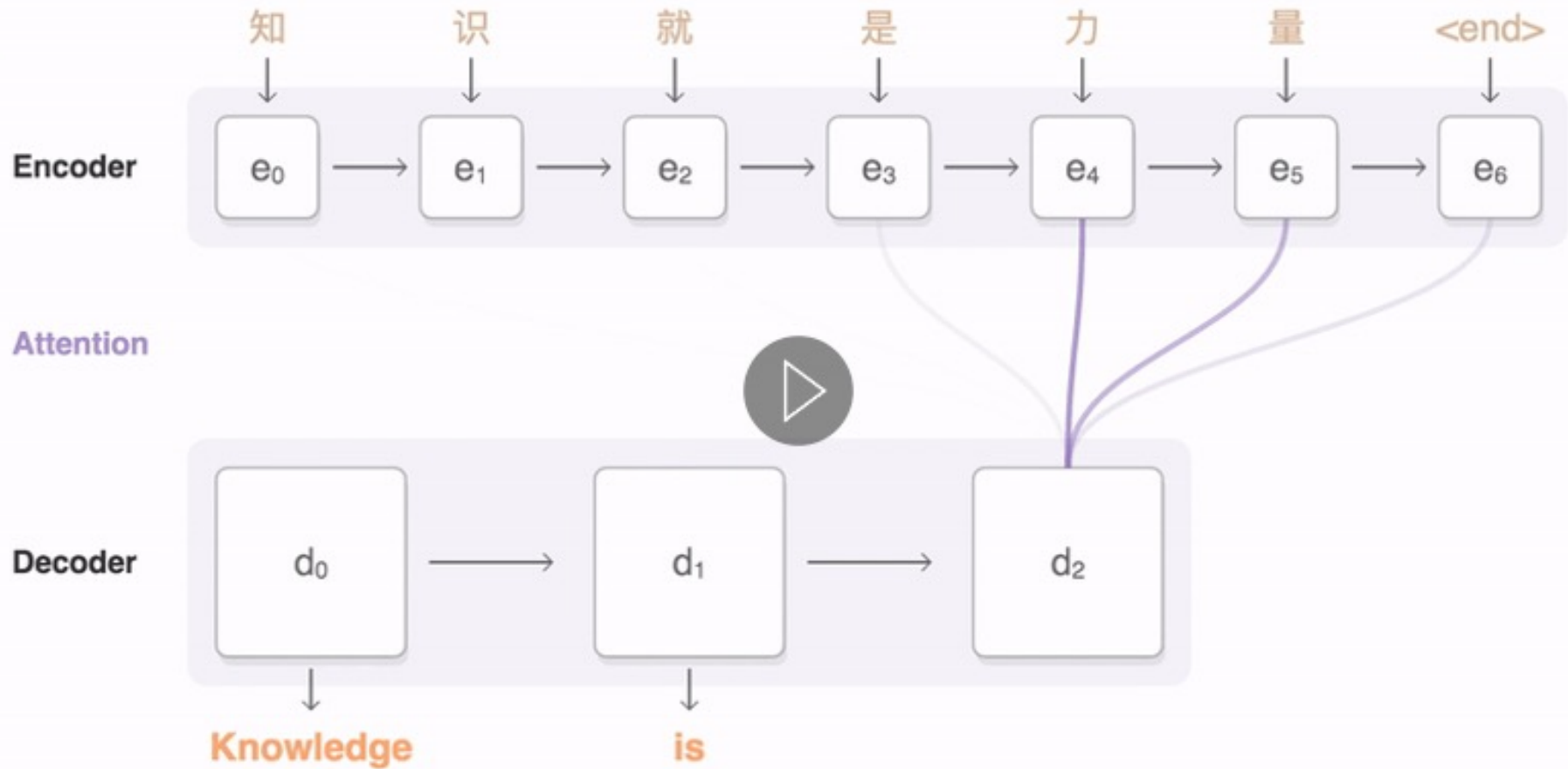
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# MACHINE TRANSLATION (MT)

# MT USE

- A study of English majors in Saudi Arabia found that 96.2% reported using Google Translate (Alhaisoni & Alhaysony, 2017, p. 77).

- A study of Korean undergraduate students in elective English courses found that 85% of students used MT inside and outside the classroom (Briggs, 2018, p. 10)

- 56% of international students at the University of Nottingham Trent University reported using MT most days, quite often, or sometimes (Nowlan, 2019).

- At Xi'an Jiaotong-Liverpool University over 75% of pre-sessional master's students reported using MT daily to look up words and phrases, 50% reported using it daily to look up entire paragraphs, and 50% reported using it daily to look up longer chunks of text (Song et al., 2021).

# TRANSNATIONAL HIGHER EDUCATION (THNE)

**Push
(Provider Country)**

Funding cuts
Privatization
Demographic shifts
Cultural imperialism
Transnational capitalist class
Transcultural understanding
Internationalization

**Pull
(Host country)**

Demographic Shifts
Lack of higher education access
Desire for Western-based education
Endocolonialism
Transnational middle class
Transcultural acceptance
Global opportunities

Jean Francois, E. (2016). What is Transnational Education? In E. Jean Francois, M. B. Avoseh, & W. Griswold (Eds.), *Perspectives in transnational higher education* (pp. 3–23). Sense Publishers.

# LANGUAGE LEARNING AND EDUCATIONAL CONTEXT

- THNE has helped the spread of English Medium Instruction (EMI).

- In 2021, there were 27,874 English taught bachelor's and master's programs outside of the U.S., the U.K., Canada, and Australia, up 77% since 2017 (The Changing Landscape of English-Taught Programmes, 2021).

- International education research shows that non-native speakers face considerable linguistic challenges (such as difficulty understanding spoken lectures and course content and taking notes in class), undermining academic success and leading to hesitance to participate in class and loss of confidence. International students also often have trouble understanding their institution's national and regional academic conventions (Andrade, 2006; Campbell & Li, 2007; Khanal & Gaulee, 2019; Peters & Anderson, 2021).

# LANGUAGE LEARNING AND EDUCATIONAL CONTEXT

- Research on EMI students has found that they encounter similar language challenges as international students (Kagwesage, 2012) and that there may be little language support for them after pre-sessional and English for Academic Purposes courses as content instructors in EMI contexts do not feel it is their responsibility to teach language (Chang, 2010; Kir & Akyüz, 2020; Trent, 2017).

- There is still considerable debate as to whether EMI leads to increased English language proficiency (Bowles & Murphy, 2020; Macaro et al., 2018).

# Challenges

- **Language Learning (Replacement)**
  - Students when surveyed claim that they use MT very infrequently or never use it to translate entire texts while reading and writing (Chompurach, 2021; Nowlan, 2019; Organ, 2019; Song et al., 2021) .

  - Interviews with students show the opposite (Niño 2009). Some students "rely heavily on GT, do not read the English text and cannot retrieve or guess the meaning of unknown words. Furthermore, they do not write English based on their own efforts and they rely on GT to help them" (Alhaisoni & Alhaysony, 2017, p. 78).

- **Miscomprehension**
  - MT usage can lead to miscomprehension, especially when the user's language ability in the target language is low, the amount of translated text is long, when the language datasets are limited, or when the original text has errors.

# Challenges

- **Miscomprehension**
  - While research shows that students are aware that MT is not perfect (Lee, 2021; Song et al., 2021), students with a lower ability (tested and self-reported) in the target language are less able to recognize errors in MT output (Briggs, 2018; Fredholm, 2019; Kol et al., 2018; Lee, 2020; Ryu et al., 2022).

  - If students rely on MT in their content courses, they will not learn correct terminology in the language of instruction and will instead use literal translations from their native language when they speak or write unassisted in the language of instruction.

  - The use of MT in TNHE is also problematic because the technology remains imperfect and TNHE is inherently culturally complex.

# Challenges

- **Authorship**
  - It "is open to question as to whether what the student was doing [translating their text in whole with MT] was any more or less serious than asking a friend (or paying a stranger) to proofread work before submission. After all, if what is important in the academic community is critical merit, originality of ideas and a contribution to knowledge, then writing in one's own language and translating the text by means of technology should be acceptable, given that the content does not suffer significantly in the translation process. The intellectual merit, then, would still be the student's" (Mundt & Groves, 2016, p. 395).

  - Lack of guidance from style handbooks

  - "Authorship, in the algorithmic context, is both pluriform and problematic" (Uricchio, 2017, p. 134).

# Challenges

- **Academic Integrity**
  - International and THNE students are accused of academic integrity violations more than native students at domestic institutions (Jordan & Belkin, 2016).

  - General lack of institutional policy on TM use

    - In 2019, York St John University added the following statement to its Academic Integrity Policy, "Inappropriate use of online translation tools to conceal the source of text, or otherwise present work that it not a student's own," and students in language classes suspected of extensive MT use must reproduce their work unassisted (Organ, 2019).

  - Cross-language plagiarism and back-translation plagiarism (Barrón-Cedeño et al., 2013; Jones & Sheridan, 2015).

# Challenges

- **Institutional Reputation**
  - Instructors of international students have expressed concern over students' use of MT and its adverse effects on institutional reputation (Mundt & Groves, 2016).

- **TNHE Value**
  - Research in international education indicates that professors adjust their mode of delivery and possibly the content, deadlines, and rigor of their courses to accommodate non-native English speakers (Andrade, 2009; Peters & Anderson, 2021).

  - As Risager (2007) insists, language is always cultural, which is to say, it is languaculture: it conveys semantic and pragmatic information about the history and culture of the people who use it, relies upon specific phonological and syllabic relationships, and allows for identification and self-identification along sociolinguistic lines.

# Possibilities

- **Language Learning (Aid)**
  - Overall, research on MT in foreign language learning demonstrates a positive impact (Lee, 2021, p. 16).

  - Research has repeatedly shown that MT is perceived as beneficial by foreign language learners studying independently and in higher education (Alhaisoni & Alhaysony, 2017; Chompurach, 2021; Niño, 2009, 2020; Nowlan, 2019; Organ, 2019; Ryu et al., 2022; Xu, 2022).

  - Furthermore, as research shows that allowing students to use their native language can increase EMI content understanding (Brock-Utne, 2007; Paxton, 2009), MT will become a means for integrating native language support without code-switching aloud in the classroom.

# Possibilities

- **Writing (Aid)**

  – The research on MT and foreign and second language composition indicates that it can be a valuable tool for increasing the quality of student writing (Tsai, 2019; El-Banna & Naeem, 2016; Fredholm, 2019; Garcia & Pena, 2011).

  – Lee (2020), in a study of unassisted and MT-assisted writing in English by South Korean students, found "that MT functioned similar to peer-editing: neither is perfect, but both are helpful to student writing" (pp. 168) and "greatly improved the quality of student English writing in terms of vocabulary, grammar, and expression, but it could not help the students beyond that" (pp. 169).

# Possibilities

- **Writing (Aid)**
  - Ryu et al. (2022) instructed Korean foreign language students on MT usage and had them complete five composition assessments over a semester while providing students with feedback on and strategies for MT use after each composition. The students "perceived the GUMT [guided use of machine translation] model as an effective automated feedback tool for clarifying meanings, correcting grammatical errors, and finding better expressions while also being aware of possible multiple meanings depending on the context of writing" (Ryu et al., 2022, p. 146).

- **Retention**
  - MT may especially benefit first and second-year EMI TNHE students as they struggle to understand assessment instructions, university policies, and academic culture (Evans & Morrison, 2011; Gabriëls & Wilkinson, 2020).

# Possibilities

- **MT Literacy**
  - MT literacy aims to instruct on the appropriate, efficient, and critical use of MT (Bowker, 2019). Educating students on how to use MT and the technology's limitations will make it more beneficial in that "whether an existing MT system is useful or not depends not only on how well it can translate but also largely on how it is utilized" (Kit & Wong, 2008, p. 321).

  - Many researchers recommend student MT literacy training (Bowker, 2019; Chompurach, 2021; Clifford et al., 2013; Ducar & Schocket, 2018; Jolley & Maimone, 2015; Knowles, 2022; Kol et al., 2018; Lee, 2020; O'Neill, 2016, 2019; Ryu et al., 2022; Song et al., 2021; Urlaub & Dessein, 2022).

  - Language instructors have increasingly come to accept MT usage as inevitable and, to a lesser degree, beneficial for language learning, but the belief that it is detrimental to language learning persists (Case, 2015; Clifford et al., 2013; Jolley & Maimone, 2015).

# Possibilities

- **MT Literacy**
  - Bowker (2019, 2020) has already developed MT literacy training focused on six topics: privacy/confidentiality, academic integrity, algorithmic bias, MT tool variety, task awareness, and the relationship between MT input and output.

- **Post-Editing**
  - MT Literacy will also introduce students to the practice of post-editing, which is the editing, modifying, or correcting of a text translated by an MT system (Allen, 2003). Post-editing has emerged as a professional translation practice that is likely to be widely adopted in many industries that require translation due to its efficiency and low cost (Rico et al., 2018).

  - Instructing students in MT literacy and introducing them to post-editing aligns with calls to move away from prohibitory and punitive approaches to academic integrity towards approaches aimed at "fostering a learning-oriented environment, improving instruction, enhancing institutional support for teaching and learning, and reducing institutional constraints to teaching and learning" (Bertram Gallant, 2008, p. 89).

# Possibilities

- **Transnationalizing TNHE**

  - For TNHE to be truly transnational, it must provide "an educative space in which individual identity and group culture are viewed as strengths and assets," in which there "is a lateral acknowledgment of equal status in the human race," and must facilitate "two-way interactions and exchanges of ideas and information" (Lowery, 2016, p. 63).

  - The devaluing of local culture can easily accompany EMI, resulting in "internationalization without a multicultural perspective" (Tsuneyoshi, 2018, p. 50).

  - Such devaluing (whether intentional or not) can affect students' sense of identity in diverse and complex ways (Gabriëls & Wilkinson, 2020; Le-Ha, 2017).

# Possibilities

- **Transnationalizing TNHE**
  - Staff at TNHE host institutions can bring local examples and knowledge into their courses with varying degrees of autonomy, thereby modeling respect for indigenous culture and cross-cultural knowledge production (Malete, 2016).

  - Through MT, non-locals will be able to bring in topical and even obscure local language texts into the classroom, addressing one dimension of EMI student culture shock: local culture (Flowerdew & Miller, 1995).

  - While the amount of machine translated content able to be integrated into TNHE provision is admittedly limited, and the inaccuracies of MT would have to be accounted for, integrating MT into instruction can nonetheless encourage students to look across linguistic and national boundaries and can help transform the TNHE classroom from a transmitter of American and European culture to a cultural "contact zone" (Pratt, 1991, p. 33).

# Recommendations

- Research on MT usage in EMI TNHE needs to begin in all areas.

- Engagement with and discussion of the benefits and drawbacks of MT should become part of entry-level courses in TNHE institutions if students are to use MT efficiently, critically, and ethically.

- Integrating MT literacy into digital and information literacy curricula, whether in language courses, research courses, or library instruction, should be undertaken as soon as possible.

- Instructors should likewise undergo MT training to encourage their use of the technology and make them better able to instruct and guide students in its use.

- Finally, EMI TNHE institutions should ensure that student language levels are high enough upon enrollment to use MT as a tool, not as a crutch.

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