

Rojo López, Ana María and Muñoz Martín, Ricardo (eds) (2025). *Research Methods in Cognitive Translation and Interpreting Studies*. Amsterdam: John Benjamins, pp. 352, 36.00 €. ISBN 978 9027219503.

The rapid growth of Cognitive Translation and Interpreting Studies (CTIS) has been accompanied by an increasing diversification of research perspectives and analytical approaches. For early-stage scholars in particular, the resulting proliferation of methods and paradigms can be difficult to navigate. Responding to this expanding methodological repertoire and the attendant uncertainty among novice researchers, *Research Methods in Cognitive Translation and Interpreting Studies*, edited by Rojo López and Muñoz Martín, offers a timely and comprehensive introduction to the field's research landscape. The volume provides a systematic and in-depth account of major approaches to the study of the cognitive dimensions of relevant translation and interpreting tasks and activities. Structured around an introductory section followed by fourteen chapters, the book offers a coherent roadmap for research design, experimentation, data analysis, and the reporting of results in CTIS.

The introduction by the editors situates CTIS within its methodological lineage, tracing its roots in psycholinguistics and cognitive science while highlighting its development into an independent yet interdisciplinary field. CTIS is presented as both an applied and experimental domain, in which cognitive theories are tested through translation and interpreting tasks. It is further positioned at the interface between theory and professional practice, with clear relevance for real-world multilingual communication. By foregrounding methodological pluralism and ecological validity, the introduction frames CTIS as a mature and reflexive discipline that integrates theoretical innovation with professional relevance while continuing to refine its methodological tools for the study of human cognition.

Chapter 1 provides a methodologically grounded discussion of participant selection and participant profiling, underscoring the central role of these two procedures in ensuring the validity and replicability of CTIS research. Whyatt, Hatzidaki, and French emphasise that transparent reporting of participants' demographic and language-related characteristics, including language history and translation expertise, is indispensable for internal validity and for enabling meaningful cross-study comparisons. Their advocacy of standardised recruitment procedures and psychometrically informed instruments signals a move towards greater methodological consistency in a field that continues to grapple with heterogeneous reporting practices.

Chapter 2, authored by Mellinger, Spinolo, Ehrensberger-Dow, and O'Brien, examines how naturalistic task design can enhance ecological validity in CTIS research. The



authors argue that experimental tasks should approximate real-life translation and interpreting by accounting for participants' habitual tools, motivations, and task environments. The chapter's principal contribution lies in its pragmatic framework for balancing authenticity with methodological rigor, as well as its attention to emerging technologies, such as virtual and mixed reality (VR and MR), that can be used to simulate realistic conditions. That said, the discussion could have been taken further by engaging more explicitly with the conceptual underpinnings of ecological validity. Although naturalistic task design is foregrounded, it is largely treated as a methodological concern, with limited engagement in broader theoretical debates, such as those surrounding situated cognition. A more sustained examination of these theoretical dimensions would have strengthened the chapter's overall contribution.

Chapter 3, by Dorer, Kuznik, Orrego-Carmona, and Zwischenberger, presents surveys and interviews as flexible and widely used methods in CTIS. The authors outline the core components of survey and interview design and address key ethical considerations, including informed consent, anonymity, and confidentiality. Semi-structured interviews are identified as particularly well suited to exploring complex cognitive and socio-professional phenomena, while structured questionnaires are shown to be efficient tools for large-scale data collection and background profiling. Although issues such as standardisation, pretesting, and technical implementation are carefully addressed, the chapter pays less attention to how surveys and interviews themselves shape the data they generate, for instance through interviewer effects, response biases, or culturally specific interpretations of key concepts. Cultural and linguistic variability in CTIS is acknowledged only indirectly, and a more explicit interrogation of the comparability of responses across populations and research contexts would have strengthened the discussion.

Chapter 4 introduces cued retrospection as a predominantly qualitative method for eliciting participants' reflections on translation and interpreting processes shortly after task completion, using cues such as screen or video recordings. Tiselius, Schwieter, da Silva, and Massey explain how this technique, rooted in psychological research, can generate introspective data without interfering with task performance, thereby supporting ecological validity. Although the authors acknowledge concerns such as the epiphenomenal status of verbal reports and the influence of researcher prompts, the chapter stops short of examining how retrospective accounts may be socially co-constructed, post hoc rationalised, or shaped by power relations within the interview setting. Overall, the chapter makes a valuable contribution to the CTIS methodological toolkit, but offers a relatively limited interrogation of the epistemological constraints of introspective data for capturing cognition in action.

Chapter 5, by Borg, Heine, and Risku, examines observation- and diary-based



approaches as complementary qualitative methods for capturing translation- and interpreting-related cognitive processes in authentic settings. Observation, whether participatory or non-participatory, is presented as a means of accessing real-world behaviour, while diaries, kept by researchers or participants, provide longitudinal insight into cognitive processes, affective states, and work routines. While the chapter offers a persuasive account of the importance of rich description for achieving ecological validity in research on translation- and interpreting-related cognitive processes, its engagement with underlying epistemological tensions remains limited. In particular, a more sustained reflection on how subjective interpretation can be reconciled with demands for empirical rigor would have strengthened the discussion. Nevertheless, Chapter 5 effectively demonstrates how observation and diary-based methods illuminate the socio-cognitive dynamics of translation and interpreting as lived, situated practices. Furthermore, in conjunction with the preceding chapters, it consolidates the qualitative strand of CTIS as a crucial foundation for mixed-methods research and robust data triangulation.

Chapter 6 by Enríquez, Angelone, and Olalla-Soler presents screen recording as an unobtrusive, extrospective method for analysing translators' behaviour. By logging on-screen activity, such as text navigation, dictionary use, and revision patterns, the method traces cognitive and ergonomic processes over time. The authors emphasise its value for linking observable behaviour to key CTIS constructs like cognitive effort. They also acknowledge challenges, including data overload, privacy concerns, and the limits of what screen activity alone can reveal. The chapter offers practical guidance on software choice and workflow analysis, making it a useful reference. However, it tends to assume that more visible behaviour provides better access to cognition, downplaying the gap between recorded actions and mental representations. It could also engage more critically with the ways in which digital interfaces shape cognition and reconfigure translation tasks within increasingly technologised work environments.

Chapter 7 by Muñoz Martín, Sun, Du, and Puerini focuses on keylogging as a cornerstone method in process-oriented translation studies, offering millisecond-level precision for investigating various types of behaviour. The authors provide a comprehensive overview of software tools and explain how keystroke data can reveal the temporal dynamics of mental, decision-making processes. This chapter recommends combining keylogging with eye-tracking, retrospection, or physiological approaches to enhance interpretive validity. The authors also highlight the problem of oversimplified mapping between behaviour and cognition in keylogging research, including the dubious assumption that typing speed or pause duration directly reflects cognitive effort. Additionally, concerns about participant fatigue and the ecological validity of keyboard-mediated tasks warrants further consideration. Overall, the chapter provides a methodologically thorough and updated account of keylogging as a

research method.

Chapter 8, by Ahrens and Janikowski, examines speech recording as a method for studying translation and interpreting processes. It outlines key speech-related constructs and indices, from prosody and fluency to indicators of cognitive load. The authors highlight the value of acoustic data for identifying temporal alignment, disfluencies, and coordination between the stages of comprehension and production. The method's versatility across naturalistic and controlled settings is clearly demonstrated, and the potential for triangulation of its findings with other data types enhances its relevance. Nonetheless, the chapter could engage more critically with challenges to ecological validity in laboratory-based speech recording, where experimental constraints may affect task naturalness.

Chapter 9, by Walker, Hvelplund, and Lei, introduces screen-based eye tracking as a powerful extrospective method in CTIS. The chapter focuses on core eye-tracking concepts used to investigate cognitive load and attentional distribution in translation and interpreting. It provides a comprehensive account of experimental design, eye-tracker operationalisation, and the selection and interpretation of variables. In line with the volume's aims, the chapter foregrounds the methodological trade-off between measurement precision and task naturalness, highlighting the value of triangulating gaze data with complementary data sources to develop a fuller understanding of translator and interpreter cognition. That said, the discussion would have benefited from a more explicit epistemological interrogation of the assumptions underlying the eye–mind hypothesis (Just & Carpenter, 1980) and its implications for interpreting visual behaviour as evidence of mental processes.

Chapter 10, by Kornacki and Kruger, extends eye-tracking research to mobile devices suited to studying translation and interpreting in naturalistic settings. The authors show how wearable eye-trackers overcome spatial constraints and enable observation of gaze behaviour in interactive environments, enhancing ecological validity and offering multimodal insights into how interpreters allocate visual attention. The chapter would have benefited from more critical engagement with how wearing a device may alter gaze behaviour and heighten participant self-awareness. In addition, the emphasis on technical feasibility tends to overshadow deeper reflection on how “vision in action” relates to cognition and embodiment. Despite these limitations, the chapter makes a substantial contribution to the CTIS methodological toolkit by introducing dynamic eye-tracking approaches that balance experimental precision with real-world complexity.

Chapter 11 by Rojo López, Ramos Caro, Patalas, and Jasielska reviews psychophysiological methods as tools to quantify translators' and interpreters' emotion and cognitive load. The authors stress the value of combining physiological signals



with keylogging or self-reports to better capture cognition–emotion dynamics. The chapter's strength lies in its nuanced consideration of ethical and technical issues, including participant comfort, data anonymisation, and interpretation of noise data. It also exemplifies the tension between physiological precision and ecological validity: while biomarkers can be used to quantify arousal, they themselves do not directly reveal cognitive mechanisms or subjective experiences. The risk of reductionism, namely the treatment of psychophysiological data as objective truth detached from social and contextual meaning, could have been interrogated more fully.

Chapter 12, by García, Koshkin, and Paiva, examines electroencephalography (EEG) as a neurophysiological method for capturing real-time brain activity during translation or interpreting. The method is presented as offering high temporal resolution and relative affordability compared with other neuroimaging techniques, such as functional magnetic resonance imaging. Its limitations are also acknowledged, such as limited spatial resolution and susceptibility to artefacts (i.e., unwanted signals caused by eye blinks, muscle movements, or external electrical noise). Although the chapter provides detailed guidance on data processing and analytical procedures, the discussion would have been strengthened by a more explicit emphasis on the interpretive caution required in cases where event-related potential components are linked to specific cognitive processes.

Chapter 13, by Hervais-Adelman and Babcock, introduces magnetic resonance imaging (MRI) methods for analysing the neural substrates of CTIS. The chapter shows how neuroimaging can identify brain regions associated with executive control, language switching, and semantic integration, supporting a neurocognitive account of bilingual expertise. The authors outline key challenges in this type of research, including motion artefacts (i.e., distortions in the data caused by participants' physical movement), small sample sizes, and the risk of overinterpreting activation patterns, and call for hypothesis-driven research. They also provide a clear account of MRI's methodological strengths and limitations. At the same time, given the complexity of translation as a socially situated activity in which cognition is distributed across people, tools, and contexts, the assumption that cognitive processes can be mapped directly onto discrete brain regions warrants deeper critique. Further discussion is also needed of the epistemological implications of importing neuroimaging paradigms from monolingual psycholinguistics into CTIS.

The final chapter, by Santiago de Torres, Meseguer Cutillas, and Valenzuela, examines reaction time (RT) as a behavioural index of processing speed and decision-making in CTIS. It introduces common RT-based tasks, including lexical decision and semantic priming, and argues for RT as a robust and comparable measure given its long-standing use in psycholinguistics. A key strength of the chapter lies in its discussion of statistical modelling and its attention to individual differences. At times, however, the



cognitive interpretation of RT effects risks oversimplification, inasmuch as it underplays the contextual and strategic factors that mediate response latency. Moreover, the chapter's strong reliance on controlled laboratory paradigms sits uneasily with CTIS's growing emphasis on ecological validity. A more critical examination of how RT tasks, despite their measurement precision, risk fragmenting complex translational cognition into decontextualised micro-responses remains necessary.

A defining feature shared by all methodological chapters is a strong commitment to data triangulation. Across these chapters, triangulation emerges both as a methodological strategy and as a philosophical stance towards complexity. Triangulation is thus not treated as a mere technical add-on but as a core principle for dealing with multi-layered cognitive phenomena in multilingual communication. It reflects what Muñoz Martín and Halverson (2020) argue for — a “multi-level cognitive ecology” of translation, in which data from different levels are interpreted in a broader activity system. This pluralist ethos constitutes one of the volume's most important contributions: it advocates a multi-method research approach that more accurately captures the cognitive complexity of bilingual mediation.

The collection is not without limitations. Chapters on dynamic eye-tracking and psychophysiological methods at times presuppose a level of technical expertise that may limit accessibility for students and early-stage researchers. Coverage of emerging technologies, notably artificial intelligence (AI) and augmented reality (AR), remains sparse, despite their growing impact on translation and interpreting tasks and workflows. Although the introduction foregrounds the “digital revolution” (p. 3), sustained methodological reflection on AI-mediated cognition is largely absent, except for a brief discussion in Chapter 8. These lacunae, however, also point to future directions for CTIS research methods. This volume captures the field at a moment of consolidation, offering a panoramic account of the methods that have underpinned empirical research over the past four decades. Its emphasis on ethical reflection, methodological rigor and transparency, and multimodal triangulation provides a robust platform for innovation and lends support to calls for a pluralist approach within CTIS (Marín García, 2021). The volume thus suggests that the next phase of the field will require closer integration of cognitive-experimental paradigms and more systematic theorisation of AI-driven and immersive technologies.

The book also marks a transitional moment in CTIS's methodological self-understanding. As observed in Chapter 2, “tasks that might be considered naturalistic today may very well be outdated in the near future” (p. 64), a point that applies equally to research methods themselves. Since digital infrastructures, professional practices, and communicative norms continue to evolve, the methodological toolkit mapped in this book will inevitably require reconfiguration. The volume edited by Rojo López and

Muñoz Martín, however, ensures that such reconfiguration proceeds from a well-articulated baseline, namely a set of shared standards, conceptual distinctions, and ethical commitments that continue to inform experimental, naturalistic, and hybrid research designs. In this regard, it constitutes a substantial methodological contribution to CTIS scholarship. It offers both a systematic consolidation of established practices and a clear orientation towards methodological renewal. The volume should be regarded as essential reading for students, researchers, and practitioners seeking to understand the core concerns of CTIS and the principles guiding the design, conduct, and interpretation of empirical research in the field.

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