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Steps to Prepare Bilingual Data for Analysis: A Methodological Approach

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Abstract

Abstract content This methodological paper offers a five-step model for preparing bilingual data for analysis. The article is guided by research in translating bilingual data into qualitative research. A systematic analysis of the research studies was conducted to identify workable options for preparing bilingual data for analysis. The proposed five-steps model comprise of (1) translator's worldview and professionalism, (2) epistemological, ontological, and methodological considerations, (3) line of translation, (4) responsiveness to cultural terms and (5) eagerness to trustworthiness and reliability of the data. Researcher's worldviews encompass the visibility of translator's positionality for reflexivity, avoidance of biasness, and demonstration of professionalism. The bilingual data needs treatment based on epistemological, ontological, and methodological orientations which the translators need to be mindful of. The researcher must be clear on the line of translation in opting for direct translation, back-translation, single translation, or multiple translations. The translated data must be responsive to the cultural contexts to carry on sense and meaning. Depending on the methodological approaches and contextual requirements, the translation work must meet the needs of trustworthiness and validity. The literature is silent on the translations of non-verbal cues. Therefore, this problem should be dealt with separately in future research endeavors. Similarly, future research on linguistic contexts and translation work in diverse research approaches such as quantitative, qualitative, and mixed methods is needed.

Keywords

bilingual data, translation, bilingual data, qualitative research, systematic analysis. methodological approach

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Steps to Prepare Bilingual Data for Analysis: A Methodological Approach

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Abstract content This methodological paper offers a five-step model for preparing bilingual data for analysis. The article is guided by research in translating bilingual data into qualitative research. A systematic analysis of the research studies was conducted to identify workable options for preparing bilingual data for analysis. The proposed five-steps model comprise of (1) translator's worldview and professionalism, (2) epistemological, ontological, and methodological considerations, (3) line of translation, (4) responsiveness to cultural terms and (5) eagerness to trustworthiness and reliability of the data. Researcher's worldviews encompass the visibility of translator's positionality for reflexivity, avoidance of biasness, and demonstration of professionalism. The bilingual data needs treatment based on epistemological, ontological, and methodological orientations which the translators need to be mindful of. The researcher must be clear on the line of translation in opting for direct translation, back-translation, single translation, or multiple translations. The translated data must be responsive to the cultural contexts to carry on sense and meaning. Depending on the methodological approaches and contextual requirements, the translation work must meet the needs of trustworthiness and validity. The literature is silent on the translations of non-verbal cues. Therefore, this problem should be dealt with separately in future research endeavors. Similarly, future research on linguistic contexts and translation work in diverse research approaches such as quantitative, qualitative, and mixed methods is needed.

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Introduction

The data needs to be prepared in qualitative research before its analysis (Patton, 2015; Silverman, 2013). The process of data preparation becomes challenging when the data is collected from a non-English context because preparing data for analysis is a process of transformation (Morse & Richards, 2002). A generally asked question from a non-English context is why it should be believed that the translated data from the source language to the target language carries the sense and meaning that participants attribute. Language is embodied in culture (Bradby, 2002; Choi et al., 2012), without understanding that culture, it is impossible to convey proper interpretation by translating data from one language to another. Language is the expression of culture (Pennycook, 1998; Tsui & Tellefson, 2004), and translating bilingual data is like translating lives (Li, 2011). This happens particularly in translating cultural terms, national symbols, metaphors, proverbs, and non-verbal cues (Neubert & Shreve, 1992; Temple & Edwards, 2002; Wong & Poon, 2010). Without rendering due care, translation blurs language, identity, and culture (Temple & Edwards, 2002).

There are voices (Neubert & Shreve, 1992; Temple, 2005; Temple & Edwards, 2002) suggesting that data should be manipulated by excluding such cultural terms, which seemingly would challenge not only the sense-making of the data but also threatens the validity and trustworthiness of the entire inquiry (Esposito, 2001; Squires, 2009).

Methodology

The data gathered in specific contexts and languages need special treatment in pursuance of its preparation for analysis (Halai, 2007). This paper draws on research articles to suggest ideas for preparing bilingual data for analysis. The literature on the translation of bilingual data was systematically reviewed. The review led to the identification of necessary considerations for translating bilingual data. The review process was conducted systematically. The literature search was conducted in accordance with the requirements of the research focus embedded in the research purpose (Card, 2012; Petticrew & Roberts, 2008).

Selection and exclusion criteria

Researchers explicitly address aspects of bilingual or multilingual data analysis. We preferred peer-reviewed articles published in reputable journals and conferences. This criterion aims to ensure the reliability and validity of the information obtained.

General Search

The first step carried out consisted of looking for journal articles, review reports, dissertation abstracts with a broader scope using broad terms and phrases, preparing bilingual data for analysis, translating bilingual data, etc. The forums for identifying related literature include PubMed, IEEE Xplore, Scopus, and Google Scholar. In the process, 63 articles were considered, following the criteria of

Specific Search

The next phase consisted of a specific search. All the lined-up articles were carefully reviewed. This was a rigorous two-level process. At the first level, 42 articles were dropped for lesser proximity, relatedness, and meaningfulness to the purpose of the current work by closely reading the title, abstract, and conclusion. At the second level, 21 articles were finalized based on their relatedness, including the research approach (in this case, the qualitative approach), research focus, methodological alignment (see Table 1). These articles were the only available sources that talked about the possible ways of preparing bilingual data for analysis using a qualitative approach.

Table 1

Selected articles

S. No	Title	Author(s) and year
1	Challenges and strategies of translation in a qualitative and sensitive research.	Turhan and Bernard (2021)
2	Analytic methods' considerations for the translation of sensitive qualitative data from Mandarin into English.	Ho et al. (2019).
3	The bilingual researcher's dilemmas: Reflective approaches to translation issues.	Lee (2017)

4	Incorporating translation in qualitative studies: Two case studies in education.	Sutrisno et al. (2014)
5	Meaning: lost, found or 'made' in translation? A hermeneutical approach to cross-language interview research.	Fersch (2013)
6	Understanding the language, the culture, and the experience: Translation in cross- cultural research.	Choi et al. (2012).
7	QUAGOL: A guide for qualitative data analysis.	Dierckx de Casterlé et al. (2012)
8	Bringing translation out of the shadows: Translation as an issue of methodological significance in cross-cultural qualitative research.	Wong and Poon (2010)
9	Language differences in qualitative research: Is meaning lost in translation?	Nes et al. (2010)
10	Understanding the processes of translation and transliteration in qualitative research.	Regmi et al. (2010)
11	Interview and translation strategies: Coping with multilingual settings and data.	Filep (2009)
12	Translation and back-translation in qualitative nursing research: Methodological review.	Chen and Boore (2009)
13	Lost and found in translation: An ecological approach to bilingual research methodology.	Jagosh and Boudreau (2009)
14	Translation barriers in conducting qualitative research with Spanish speakers.	Lopez et al. (2008)
15	Making use of bilingual interview data: Some experiences from the field.	Halai (2007)
16	Multilingual Translation Issues in Qualitative Research: Reflections on a Metaphorical Process.	Larkin et al. (2007)
17	Translation as an ecological tool for instrument development.	Vinokurov et al. (2007)
18	Revision from translators' point of view.	Shih (2006)
19	Qualitative research and translation dilemmas.	Temple and Young (2004)
20	Interpreters/translators and cross-language research: Reflexivity and border crossings.	Temple and Edwards (2002)
21	From meaning to meaning: The influence of translation techniques on non-English focus group research.	Esposito (2001)

Analysis and Synthesis

The authors thoroughly extracted data from selected articles, focusing on key elements such as research objectives, employed methodologies, used datasets, and major findings related to bilingual or multilingual data analysis. The synthesized information helped us understand the current landscape of bilingual data analysis and identify gaps in the existing literature.

We found that the literature on translating bilingual data is silent on two significant occasions: (1) translation of the non-verbal cues and (2) translation of the bilingual data specific to each of the linguistic contexts. Considering the available literature, this paper suggests steps to be applied in preparing bilingual data for analysis. These steps are prioritized so that the translated data sustains sense and meaning and remains trustworthy.

Findings

The Steps for Preparing Bilingual Data for Analysis

The literature on translation studies offers diverse approaches for translating data from the source language to the target language. This process is undertaken to prepare bilingual data for analysis. At a general level, the data in the source language is directly translated into the target language. However, this approach has been extensively criticized because the meaning of the source language is usually lost in direct translation to the target language (Fersch, 2013; Filep, 2009; Regmi et al., 2010; Sutrisno et al., 2013). Therefore, this section of the paper presents a meaningful understanding of the literature to conceptualize a workable model for translating bilingual data to ensure that the meaning of the source language is sustained to the maximum while translating it to the target language.

Step-1. Translator's worldview and professionalism

In the realm of research, it is of utmost importance for researchers to possess a comprehensive understanding of the viewpoint held by translators. Translators bring their own experiences and cultural predispositions into the translation process, influencing the resulting data. Recognizing this viewpoint is of utmost importance in elucidating latent dimensions of significance and cultural milieu within the dataset (Turhan & Bernard, 2021; Wong & Poon 2010). This helps in facilitating multiple ways of knowing. However, all translation work is not equal. The variation in translation work needs different treatment (Wong & Poon, 2010), for example, the number of participants, the methodological approaches applied, interpretation in linguistic contexts, cultural differences, subject area differences, etc. Attending the translator's position, experience, and worldview help determine how the translation work might be influenced. Understanding could be optimistic or biased, but the visibility of the positionality increases validity.

Additionally, the researcher's epistemological orientation validates the spirit of translation and interpretation. Translation is a social practice that can be used to suppress, free, or help create a new paradigm (Neubert & Shreve, 1992). This is because language is a social phenomenon that takes place within a specific cultural like discourse analysis and pragmatics (Ulrych & Bosinelli, 1999). The relationship between the translation of data and paradigm is established by the interpretative nature of translation and the potential impact of the translator's worldview, which is aligned with their paradigm, on the manner in which data is communicated. Choosing the paradigm of words (Levi, 2019) in relation to the cultural backstop the translation brings in is a prominent example. It is essential for researchers to exercise caution about these factors when dealing with translated data, since they have the potential to affect the credibility and dependability of their study outcomes. The paradigms or worldviews of both the translator and the researcher must be clear. The translation work needs to focus on the researcher's and translator's insider and outsider positionality (Temple & Edwards, 2002). Trying to make both the interpreter and the researcher visible shows how difficult it can be to represent other people's views.

In addition to the translator's positionality, the translator must understand the specifics translation tasks and their sensitivities to the purpose of the work. The literature (Lee, 2017; Merriam & Tisdell 2016; Polkinghorne, 2005) highlights that researchers should be clear while seeking the services of a professional translator. A researcher should be aware of the qualifications of the translator, and whether the translator is an expert in research methods. In the context of bilingual data analysis, it is important for researchers to seek guidance from

experienced translators who possess proficiency in both the source and target languages (Lee, 2017).

These issues become crucial when it comes to the translation of metaphors, either in quotes or findings (Chapman, 2006). When confronted with circumstances that include confidential data, such as material pertaining to juvenile offenders or persons diagnosed with AIDS, it is imperative for the researcher, in their role as an analyst, to seek the assistance of a qualified translator. The selection of this option is of utmost importance due to the fact that the translator's job goes beyond simple linguistic translation. Their duty entails the proper portrayal of the distinct and sometimes intricate experiences of the study participant (Polkinghorne, 2005; Riessman, 1993). Qualitative interviews are usually the stories of the experiences that study participants share (Merriam & Tisdell, 2016).

This range of conditions emphasizes that the researcher may require the assistance of multiple translators to ensure the timely completion of the project when dealing with extensive or massive data. However, this would also depend on the budgetary allocation for the project. Usually, research projects are time-bound. Therefore, the researcher invests all the available resources for the completion of the project within the timeline. Notably, key translation strategies include providing untranslatable phrases in the original language, back-translation, the awareness of the critical circumstances and positionalities, recognizing the indexicality of language, and supporting some explanations with brackets, which should be highlighted on how to provide adequate and appropriate translation in qualitative data. (Turhan & Bernard, 2021). One critical part of bilingual translation work is assessing the translator's proficiency in the source language. The researcher needs to consider reflexivity that would help her/him divorce from influencing the data towards biasness. The reflexivity approach is necessary to increase validity (Esposito, 2021; Turhan & Bernard, 2021).

Step-2. Addressing epistemology, ontology, and methodology

Despite using a professional translator, research in translation studies should pay special attention to the epistemological, ontological, and methodological segments of translating bilingual data (Temple & Young, 2004). From an epistemological point of view, the translator should know the methods, validity scope, and the distinction between justified belief and opinion. Similarly, the translator should also be mindful of the variety of techniques used in qualitative studies. For example, this means understanding the origin of a particular phrase or words of the language, and how it is approached epistemologically by considering a specific context to portray its actual meaning. So, a translator must be aware of the ontological roots of a language (a word or phrase in short) and the epistemological patterns.

As far as the theoretical underpinning is concerned, the ecological model would do best (Vinokurov et al., 2009). From the ecological perspective, all hypotheses are true, even contradictory ones; the task is to uncover the contexts (Trickett, 1996).

The transformation of the original data leads to the unfolding of all the processes of the analysis. In the case of a bilingual setting, the data are translated from the source language to the target language (Clandinin & Connelly, 2000; Halai, 2007).

Several scholars (Filep, 2009; Halai, 2007; Regmi et al., 2010) deem culture vital in translating one language to another. Cultural knowledge of the source and target languages helps keep the text's meaning valid. Halai (2007) asserts that "translation is essentially a boundary-crossing between two cultures" (p. 345). Researchers (e.g., Filep, 2009; Halai, 2007) working in bilingual or multilingual settings agree that translating data is very challenging. They think most issues arise while working with translators. These scholars suggest that researchers should not rely entirely on translators, but instead should familiarize themselves

with data through different research techniques, including triangulation, reflexivity, trustworthiness, etc.

One of the critical questions in handling bilingual data is whether to do a literal or verbatim translation or a free translation. Some scholars (Filep, 2009; Regmi et al., 2010) support the “free” translation method. They admit that verbatim translation may increase rigor but extensively reduce readability. Therefore, the focus should be on meaning and sense. However, words that have specific cultural meanings and are meaningful to the phenomenon should be paraphrased. Regmi et al. (2010) believe that “with careful consideration, the process of translation can widen the academic audience for a piece of research without jeopardizing its validity” (p. 22). They suggest that crucial themes and quotes in the context should be focused on. Birbili (2000) calls this process “piecemeal” or “elegant free” translation.

Inhetween (2012) suggests that there should be a double translation – oral and written. The double translation has a heuristic function in preparing the data for analysis. Furthermore, ethical consideration should be given priority in translating from one language into another.

In their study Lopez et al. (2008) present the following steps guided by literature in the translation of bilingual data:

1. Items are “translatable” or free of colloquialisms and idiomatic phrases.
2. Competent translators familiar with the content are selected, where one bilingual individual is instructed to translate from the source to the target language, and another blindly translates from the target to the source language.
3. Several individuals— “raters”—examine the original, target language, and back-translated versions for inconsistencies that might lead to differences in meaning.
4. If there are inconsistencies, changes to the original item should then be made (“decentering”). Why are there inconsistencies with the original? Won’t it challenge the meaning?
5. If there are no inconsistencies, test individuals that speak the target language.
6. The translated and/or original versions are revised if needed.
7. Responses are similar, as evidenced by similar means, standard deviations, and correlation coefficients.
8. The outcome of the translation adequacy is analyzed and compared with the pretest results, evaluating for equivalence.

The above study brackets items of the transcripts to be translatable in multiple ways, which limits translation practice. The method used is quantitative studies, which questions the results. The process reveals the manipulation of the original text and the translated one. This approach results in losing the cultural meaning of the interviews while translating.

Therefore, the translation work should consider epistemological, ontological, and methodological options so that each verbal and non-verbal cue receives due attention for translation. So, the translated information would keep as much of its meaning and sense as possible.

Step-3. The line of translation

Several researchers suggest the involvement of a professional translator through back translation. Others (Dierckx de Casterlé et al., 2012; Larkin et al., 2007) criticize this approach for its weak conceptual equivalence. Some scholars advise researchers to work as translators themselves. However, if it is not possible, there should be mutual reciprocity between the researcher and translator for a greater possibility of nuance and meaning. This goal could be

achieved through a multi-centric approach, including cohesion, congruence, clarity, and courtesy (Larkin et. al, 2007).

The approach of back translation has been critiqued because of its epistemological nature, which is embedded in the positivist paradigm. In this approach, the meaning of the source language is strived to be found in the target language at the expense of ignoring the cultural context (Larkin et al., 2007). In response to back translation, Ho et al. (2019) suggest pretesting research instrumentation by saying, “pretesting research instrumentation allows language discrepancies to emerge organically from the process” (p. 112). This way, a back-translation could translate the research tool instead of what was said in the interviews (Brislin, 1976).

However, back translation has become a tradition in translating bilingual data. This tradition needs to be improved by revising the translation twice (Chen & Boore, 2009). Similarly, two translators should be employed for both the source language and the target language to increase rigor and capture the meaning of the source language (Shih, 2006). An important aspect during the back translation is the application of the decentering technique. The decentering technique demands that the original and target languages be treated on equal grounds (Beck et al., 2003).

Therefore, it can be concluded that the line of translation, regarding the number of professional translators, single or double translation, depends on the data and language variation. The researcher might want the approach to be flexible so that it fits the needs of the study's setting.

Step-4. Responsiveness to cultural terms

The most pressing demand, as is evident from the literature, turns out to be the translation of cultural terms, including literary terms, phrases, metaphors, similes, proverbs, and national-level political, religious, economic, legal, and bureaucratic terms. Should experts in the field in which the research is carried out be involved as translators? This step again calls for choosing a team of translators who are experts in the area and native speakers of the language.

Culture is embedded in the language; therefore, cultural requirements need attention during translating bilingual data (Wong & Poon, 2010). Cultural conditions require special attention in translating bilingual data, such as the translation of expressions and linguistic phrases (Neubert & Shreve, 1992). Translation is a border-crossing process between cultures. How interpreters produce borders between cultures and identities in qualitative research should become the focus of the kind of scrutiny that such issues have received in translation studies (Temple & Edwards, 2002). Translation blurs language, identity, and culture (Temple & Edwards, 2002).

The translation is the interpretation of the cultural meaning and/or cultural concepts such as metaphors (Nes et al., 2006) and national concepts such as jokes, proverbs, and other geopolitical concepts (Filep, 2009). Social reality is conceived differently depending on cultural differences (Chapman, 2006). Koskinen (2004) considers translation as cultural mediation or intercultural communication. Usunier (1998) noted that “comparing across cultures without awareness of language always results in biased and impoverished findings” (p. 49). Terminologies grounded in a language cannot be universally applied (Jagosh & Bourdreau, 2009).

As meaning is conveyed through language and is mediated by sociocultural context (Berger & Luckmann, 1966; Bühler, 2002), translators need to be particularly sensitive to the influence of social context in their expressions (Wong & Poon, 2010). In the emic perspective, culture is conceptualized as being incorporated into an individual; thus, behaviors cannot be

separated from their diverse cultural contexts but form their contexts just as individuals collectively form a culture (Berry, 1994; Helfrich, 1999). The literature emphasizes why translating cultural terms is difficult and how attention is needed to avoid losing sense and meaning (Bradby, 2002; Choi et al. 2012). However, the literature is silent on whether experts from fields such as anthropology, law, sociology, and cultural studies should be involved to ensure reliability in the translation. We recommend that in this step, experts from the field in which the study is being carried out should be included in the research endeavor. This should usually be followed by third-party validation.

Step-5. Earning trustworthiness and reliability

The study is more likely to be accurate if the data are translated carefully and come close to what the participants meant. The translation process must consider lexical and conceptual equivalence (Squires, 2009). Multiple translation methods could be used, ranging from single translation, back translation, parallel translation (team or committee approach), and third-party validation. One way of ensuring good translation is to evaluate the translation criteria through the qualification and proficiency of the bilingual translator and third-party verification (McDermott & Palchanes, 1994; Squires, 2009). Thus, using different data collection methods could increase the trustworthiness of the translation of bilingual data (see Table 2). However, regarding trustworthiness, the literature offers minimal perspectives (Sutriso et al., 2014).

Table 2

Steps for preparing bilingual data for analysis

Steps	Purpose
Step-1 Translator's worldview and professionalism	The translator's positionality must be visible for reflexivity, avoidance of biasness, and demonstration of professionalism.
Step-2 Addressing epistemology, ontology, and methodology	Bilingual data needs treatments based on epistemological, ontological, and methodological orientations.
Step-3 Line of translation	The researcher/s and translator/s must be clear on the line of translation in opting for direct translation, back-translation, single translation, multiple translations, and so on.
Step-4 Responsiveness to cultural terms	The translated data must be responsive to the cultural contexts to carry on sense and meaning.
Step-5 Earning trustworthiness and reliability	Depending on the methodological approaches and contextual requirements, the translation work must meet the needs of trustworthiness and validity.

Discussion and Conclusion

This methodological paper is presented to offer a systematic five-step model for translating bilingual data and preparing it for analysis following a qualitative tradition. Initially,

there were no clear guidelines that could be used by the researchers in a non-English context. In previous studies on the subject, guidelines were presented in scattered and opaque form. The previous studies had distinct and context-based focuses. This means either the studies guide how bilingual data should be translated in relation to a specific subject area, contextual and, linguistic requirements. Based on the findings of the current study, the proposed five-step model can be used in any context while dealing with varied contexts and linguistic requirements. This claim is made because the current paper has analyzed and arranged all the available options for translating and preparing bilingual data for analysis.

This five-step model is not a generic one. The researcher(s) must go through it and find ways, with the help of these guidelines, to suit distinct requirements pertaining to preparing bilingual data for analysis. The authors of this paper face several challenges while preparing their qualitative data for analysis. For example, the data were collected either in their national language, Urdu, or other indigenous languages. They had to rely on only the Halai (2007) model of translating Urdu data into English. This paper is one of several that discusses the translation of the data and preparing it for analysis in a specific linguistic context and study requirements.

One of the main motivations for the researchers in this paper was to offer a paper that guides researchers in any context dealing with any of the languages and subject areas. The paper does not claim generalizability; however, the proposed steps can be used in any setting or situation. The earlier studies focused particular setting or situations, for example, attending to distinct cultural milieu (Turhan & Bernard, 2021; Wong & Poon, 2010), researchers' positionality (Lee, 2017; Merriam & Tisdell, 2016; Polkinghorne, 2005; Temple & Edwards, 2002), cultural requirements (Filep, 2009; Halai, 2007; Regmi et al., 2010), involvement of professional translators (Beck et al., 2003; Brislin, 1976; Chen & Boore, 2009; Larkin et al., 2007), translation of cultural terms (Chapman, 2006; Filep, 2009; Koskinen, 2004; Nes et al., 2006; Nguyen & Tangen, 2014; Usunier, 1998), ensuring trustworthiness and reliability (McDermott & Palchanes, 1994; Squires, 2009; Sutriso et al., 2014).

The guidelines generated by the current study will be useful for researchers who intend to conduct research in a bilingual context. The study can also guide publication forums to make sure the data collected in bilingual contexts is truly representative of the expression the study participants wanted to make. Since this paper provides guidelines for qualitative researchers, future research could be conducted to explore relevant ideas while doing quantitative or mixed-methods studies.

Upon review of the literature, it emerged a singular model cannot be used for translation purposes across languages. Separate models are needed from bilingual and multilingual perspectives. The literature confirms that language is the expression of a specific culture. Therefore, diversity in culture invites diverse methods of translation and linguistic sensitivity. The literature is silent about the non-verbal clues of expression specific to a culture and language. Therefore, non-verbal cues need particular attention.

Do we need different translation methods invented for each language – or do the leading rules of thumb for translation from one language to another (apply to all languages)? Translation issues are always present in all types of studies, be it quantitative, qualitative, and mixed method. Therefore, should we use the same methods for these three categories or different approaches? These questions must be addressed in future research on the phenomenon under study.

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