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The impact of ICTs on surveys and interviews in Translation and Interpreting Studies

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Abstract

This paper evaluates the impact that information and communication technologies (ICTs) are having on empirical research in Translation and Interpreting Studies. Focusing on verbal report methodologies, it identifies important parameters that ICTs have changed, such as accessing participants, the speed of data collection, and research costs and evaluates potential challenges in its use. Two case studies conducted in respectively subtitling and conference interpreting by means of email interviews and an online questionnaire illustrate the main points made. The observations reveal the advantages of continuous fine-tuning of the tool, of collecting data from respondents living in remote time zones, and of repeated contacts with participants, allowing researchers to include more data in the analysis. Suggestions for further directions include the comparison of data gathered using different data collection techniques and the mining for data on social networking or video sites where translators and interpreters discuss topics of interest regarding their profession, while taking into account internet research ethics.

Keywords

Information and communication technologies, verbal report methodologies, sampling, piloting, data collection

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1. Introduction

In empirical Translation and Interpreting Studies (TIS), data acquisition follows several main pathways. One involves direct observation and measurement of variables, including behavioral variables such as features of source and target texts and reaction times and success percentages in tasks performed in the laboratory as well as pause data (e.g. Translog) and gaze data; and physiological variables such as variations in the diameter of the translator's or interpreter's pupils or electric and other phenomena observed and measured in their brain (e.g. Gile & Lei, 2020). The second pathway relies on verbal reports by translators, interpreters and other stakeholders, including recruiters and users of translation and interpreting services. This second pathway can be viewed as branching out into several methodological approaches, including immediate verbal introspection (TAP), cued and non-cued retrospective reports, and questionnaires and interviews, including focus groups. Ethnographic research, which has been gaining momentum recently, combines both direct observation of variables and verbal reporting through interactions with informants.

Technology has had a major influence on the potential of the direct measurement pathway with a far wider spectrum of phenomena being accessible to observation and accurate measurements with the new tools (Gile & Lei, 2020). The impact of technological advances on verbal report methodologies is less striking, but is far from negligible and deserves to be scrutinized and highlighted. The aim of the present paper is to discuss some of their effects and potential effects as regards research based on questionnaires and interviews. These two social science research methodologies, which have been in use in TIS for a long time, are as useful as ever as providers of data, if only as a complement to direct measurement of translational phenomena in the field or in the laboratory that helps to interpret objective data – this is a major branch of what is now referred to as the 'mixed methods approach' (Creswell & Piano-Clark, 2007).

Modern information and communication technologies (ICTs) extend their reach and offer a wider potential yet to be explored. Since 'Information and Communication Technology' arguably includes the use of electricity for the telegraph and telephone and of electromagnetic waves for radio communication as early as the 19th century, and since ICTs are evolving very rapidly so that in just a few years, they can be replaced by newer ICTs and become obsolete, some kind of chronological reference for the type of ICTs that are discussed here is useful. For the purpose of this paper, we focus on ICTs that use data processing technology and internet-related technology from the late 1990s on, when individual computers and internet as well as data processing software became available worldwide and affordable in most countries. Moreover, we will focus on their use for data collection and will not include technological tools that help process the data produced by questionnaires and interviews. An introduction to quantitative data analysis in translation and interpreting research is provided by Mellinger and Hanson (2017), whereas Saldanha and O'Brien (2014) offer practical suggestions regarding qualitative data analysis and the use of relevant software packages.

2. Operational determinants of survey and interview parameters in TIS environments

The principle of surveys and interviews in the social sciences is deceptively simple: obtain information about populations by asking questions and eliciting verbal reactions from respondents and analyze it to help answer research questions. However, making these tools effective requires knowledge, skills, work and resources (Braun *et al*., 2017; Coulson, 2015; King *et al*., 2019, Chapter 7). If any of the four fails to meet the applicable criteria, the data produced may be insufficient in volume and/or in quality. Particularly important points are outlined below.

2.1. Samples

Ideally, samples should be both representative, i.e. without bias, and sufficiently large to capture the targeted features of the population (demographic, behavioral, economic, psychological etc.). The absence of bias can only be guaranteed by probability sampling and is generally impossible to attain in the behavioral sciences, where second-best solutions are sought. Sample size depends on resources (time, human labor, budget, etc.), on the willingness of potential addressees to accept the interview or questionnaire, and on their willingness to cooperate for the full length of the interview or questionnaire.

In TIS, two major constraints are particularly salient:

1. Taken branch by branch (by translation and interpreting settings, by language combinations, by fields of expertise, etc.), the global population of translators and interpreters is geographically spread out with relevant subpopulations (for instance Finnish interpreters working with French) which can be very small.

2. Translators, and especially interpreters, are often reluctant to cooperate with researchers, and have their work scrutinized and disclose information when they feel their performance is being judged (see, e.g., Tiselius, 2019).

2.2. Resources

Resources required for questionnaires and interviews include available respondents, technical and financial means to access them, to conduct the data acquisition part and process the data, as well as time, meaning both time to completion of the project and time requirements for data collection and data processing.

Financial resources for the preparation and mailing of hard-copy questionnaires and for traveling expenses in the case of interviews in remote locations were a major requirement in the past and a strongly limiting factor. It will be argued later that thanks to ICTs, this is no longer the case.

Time limitations, however, remain a major constraint. Available time to completion is not necessarily problematic in research projects planned over several years on the basis of the estimated time for each step. However, in the case of doctoral dissertations, and even more so in the case of Master's theses, it remains a heavy constraint, mostly because, as explained below, fine-tuning the tool for every operation can be critical for the quality of the data collected and requires much time. In TIS, many surveys and interviews are undertaken for graduation and MA thesis projects.

2.3. Fine-tuning of the tool

When questions are prepared for questionnaires and interviews, wordings are clear to the investigators who formulated them because when read by them, they trigger the memory of well-formed ideas which are already in their mind. Respondents, however, have to construct these ideas from the words they read or hear on the basis of their own experience and perhaps expectations, and may well misunderstand the questions. This often leads to less relevant responses. This is one reason why it is standard practice to conduct piloting to fine-tune the tool before the actual data collection operation starts.

Another reason is that as the operation unfolds and data start to arrive, investigators often become aware of the need for more questions, or of the need to streamline the tools, which may be perceived as too long to elicit a sufficiently high response rate, or turn out to produce information that is less relevant than expected. Such fine-tuning takes considerable time, especially if it is done in more than one stage, which is good practice.

Since during piloting, the wording and/or order of questions put to the respondents may change, this entails the risk of producing changes in the information that respondents will provide both as regards form and substance. This jeopardizes the comparability of information gathered during piloting and information gathered from the final version of the tool. For this reason, data generated from piloting stages are generally not included in the analysis of the data collected through the final versions of the tool.

3. Operational parameters that ICTs have changed

Regardless of technological advances, some basic requirements from and issues related to surveys and interviews remain constant. They include concerns about the clarity of the questions for respondents and interviewees, about their willingness to disclose information and to tell the truth, taking on board the desirability bias (a bias of responses in the direction of what they consider desirable for their image – e.g. Krumpal, 2013), and about bias induced by the interaction between interviewers and interviewees, by the wording of questions put to respondents and by the order in which they are put.

What ICTs have significantly changed for empirical TIS over the past two decades or so are the following (interrelated) parameters, all linked to access:

3.1. Finding and locating potential respondents and participants

In translation and interpreting environments, the overwhelming majority of individual and organizational stakeholders (translators, interpreters, T&I service providers and users, trainers, students, universities, institutions and organizations, both national and international, both from the public and private sector), now have at least an email address and often a website of their own or a website on which they are listed. Identifying individuals and organizations for research in a far wider range of countries, cities and organizations worldwide is much easier than it was before the spread of ICTs, when this information had to be obtained through sometimes extensive investigation using written documents and verbal exchanges. Once potential respondents and participants are identified, there are electronic means to access them without having to travel. Examples of the use of online questionnaires in translation and interpreting research are Horváth (2010), who worked on creativity in interpreting; Alhalaki (2019), who used an online survey to collect information about interpreter training in Arab countries; Pires Pereira and Sorgetz Rodrigues de Vargas (2020), who investigated sight translation in public service interpreting tests in Brazil; Gile and Barranco-Droege (to be published), who collected information about theory in the interpreting classroom from 157 students from 23 countries and 76 trainers from 13 countries; Oziemblewska and Szarkowska (2020), who conducted an online survey with 344 subtitling professionals from 47 countries on the quality of templates; Rodríguez-Castro (2013), who also conducted an online survey on virtual translation teams, collecting information from 250 participants from a wide range of countries; or Liu's (2019) research into translator professionalism and status in Asia, which used an online survey to gather data form 425 translators from 10 Asian countries. When it comes to interviews, the situation is somewhat different, most reported research having been conducted face-to-face. The preference for face-to-face data collection in translation and interpreting research seems particularly pronounced in focus-group studies (e.g. Angelelli, 2006; Cadwell *et al*., 2018; Fidyka & Matamala, 2018; Xu, 2018). In signed language interpreting research (e.g. Barbosa, 2020), the advantages of online video links seem more salient, both because Deaf signers are more used to remote communication through screens and because for the purposes of research, even face-to-face interviews are generally videotaped in view of facilitating a systematic analysis of interactions.

3.2. Speed of access

Not only is it now far easier to identify and locate potential respondents and participants all over the world, but accessing them for a first contact can be very fast, since electronic communication via email is virtually instantaneous, and once they have agreed to participate, so is sending them questionnaires. As to conducting interviews, with the possibility of video or email interviews, this entails no complex organization to ensure physical availability at suitable meeting places; and no traveling, which also makes the time constraint as regards access virtually disappear.

3.3. Cost of access

Finally, electronic mail and face-to-face dialogue software and use, including Skype, Zoom, etc. being available free of charge, as well as the absence of traveling, make the cost of access to respondents and participants virtually nil, as opposed to the cost of printing, mailing, traveling and/or long-distance phone calls in the past. Maximum sample size in traditional postal surveys was limited by the available budget, and strategic choices had to be made, with selective non-coverage of some potential sub-populations on a cost-benefit basis depending on anticipated response rates; and investigators were highly dependent on the availability of research funds. There is no such limitation in online procedures.

4. Piloting vs. continuous fine-tuning

As mentioned in Section 2.3, fine-tuning of the tool (the questionnaire, or, in the case of interviews, a prepared sequence of questions, their order, nature as open or closed choice answers, as well as wording) is important in order to calibrate it for optimum quality data collection. Pilot work should be conducted even when the interview is unstructured and neither the precise questions nor their order are fixed. Researchers will still have to establish the relevance of the topics to be covered, to check whether participants understand the instructions, to try out the equipment, to ascertain how much time it takes to interview participants, and to obtain practice in conducting the interview (cf. Breakwell *et al.*, 2007, chap. 12.3.).

Fine-tuning can lead to corrections, deletions, additions and/or reordering of questions. Corrections, deletions (of questions) and reordering occur when the investigator finds or believes that the wording, order, or number of questions in an existing version of the tool is sub-optimal because of a lack of clarity or accuracy, the potential for introducing bias in the responses, or because of excessive length, which is likely to discourage respondents from completing a questionnaire or paying sufficient attention to questions during an interview. Additions are made when the investigator believes that more information is desirable than the information requested from respondents initially. This can occur over time, as s/he has more time to think about the research questions, and as s/he analyzes responses already obtained: these may open up new avenues for investigation at the cost of just one or a few items added to the questionnaire or interview, or turn out to be too general in view of the investigator's purpose in the study.

For instance, in a recent survey on the place of theory in the training of conference interpreters (Gile and Barranco-Droege, to be published), students were asked what interpreting theories were used in the classroom, and some comments indicated that this depended on the language combinations taught in the class. Since the investigators were interested in the spread of the influence of theories developed in certain countries, this led to the addition of a question about the respondents' language combination in the questionnaire, which initially had not sought information on the respondents' working languages. Two other examples of post-piloting adjustments are explained later in this paper.

As mentioned earlier, accepted good practice has it that data collected during piloting is not included in the final analysis. When using a data collection method in which responses are potentially sensitive to even minute changes in the wording of questions, this is clearly important in order to maintain the comparability of responses.

However, when the number of potential respondents is small, as is often the case in TIS, they are a rare and precious resource which traditional piloting depletes. For instance, when the target population is less than 100 people strong and only a fraction of them are assumed to be willing to cooperate with the investigator, piloting with 10 or more people will probably ensure better data quality from the final tool, but perhaps at a high price in terms of sample size and an attendant loss of information.

The question therefore arises as to the cost-benefit ratio of this canonical approach. If one or several questions out of many in a questionnaire or interview are found to be clumsy or unclear, does it make sense to discard the information generated by all the others?

One alternative is to proceed in steps, each of which will generate data, part of which can be incorporated into the final analysis. This does not preclude piloting (see later section about challenges), but the piloting process can be shorter than in its canonical form, where ideally it only stops when a 'final' version of the tool is attained. For his doctoral work on documentary research among technical translators, Lagarde (2009) applied this principle in a slightly different form: he alternated between questionnaires and interviews, using each questionnaire to fine-tune the interview that followed, and then using the interview in order to improve the wording and introducing slight changes in the following questionnaire. In his analysis, he included data from all interviews and questionnaires. It is clear that including data from pre-final versions of the questionnaire or interview tool increases sample size. But how damaging is it to the quality of the data?

Looking at the types of questions and the types of changes introduced during the fine-tuning, the answer varies greatly. For instance, if two versions of a questionnaire or interview differ only in that one has a few questions at the end that the other does not have, there is generally no reason to believe that the quality of the data obtained from the shared part of the questionnaire differs between the two versions. In such a case, including these data in the analysis has the advantage of increasing sample size without damaging the quality of the data. If one or several questions in a previous version were not clear and their wording was corrected in a later version, depending on whether the investigator considers that these changes are likely to have influenced answers to other questions or not, it could make sense to use data from answers to all other questions from the earlier version, but not information collected from responses to these specific questions. If the order of the questions was changed, or questions were added or removed and investigators believe this may have influenced answers by introducing or reducing bias, the responses to earlier and later versions may not be comparable.

For instance, if, in a study on quality expectations in translation, one version has preliminary questions which draw the respondents' attention to terminological usage, and other questions ask about the relative importance of various quality parameters, the initial questions may have primed the respondents about the issue of terminological adequacy and perhaps given greater salience to it as a quality component. If investigators only become aware of this possibility after a first batch of questionnaires has been sent out or a first set of interviews and decide to remove these 'priming questions' from the next version of the questionnaires or interviews to avoid the validity problems associated with the priming questions, answers before and after the change cannot be considered comparable, at least as regards aspects of quality related to terminology.

This means that the best cost-benefit ratio of continuous fine-tuning with inclusion of data from earlier stages of fine-tuning vs. extensive piloting before a 'full production' phase needs to be assessed on a case-by-case basis – not with a canonical norm presumably inherited from physics, where utmost accuracy counts, and which led to the emergence of a rigid experimental paradigm in several behavioral disciplines, inter alia cognitive psychology and psycholinguistics. In some cases, the estimated loss associated with non-compliance with this norm is smaller than the gain achieved by the increase in sample size associated with the use of data from pre-final versions of the tool.

5. Taking advantage of ICTs

As explained earlier, ICTs have dramatically increased the possibilities of finding, locating, and accessing potential respondents and participants rapidly and at very low cost, which has the effect of making it possible to recruit far larger and more diversified samples for questionnaires and interviews than in the past. Ease of access to respondents and participants also makes it convenient to access them more than once if desirable, for instance for clarification or follow-up questions, or in more than one mode, say face-to-face interviews or questionnaires followed by email exchanges.

At first sight, the fact that more potential respondents and participants can be identified and accessed means that the cost of piloting in terms of depletion of the potential pool of respondents is smaller than in the pre-ICT era. In the case of a large target population, say in a study on the general social status of translators, thorough piloting therefore becomes more attractive. But when there are potentially interesting small sub-populations with features that investigators wish to explore, piloting may become less efficient.

One alternative offered by ICTs and its advantages in terms of ease and cost of access to respondents is to use repeated contacts with respondents in order to clarify questions put to them and/or information provided by them, which makes it possible to include more responses out of those that were not clear initially, but also to ask more questions and provide more data to include in the analysis.

This should not jeopardize the quality of the data but would mean that for different questions, there could be different sample sizes. This is not a problem per se, but should be taken on board when using statistics: answers are only partly comparable, and inferential statistics may not apply or only apply to a subset of the responses.

Does this limitation weigh more heavily than the gain in sample size, the possibility to clarify answers and to request further information? Again, the answer to this question should be considered on a case-by-case basis.

6. Potential challenges in the use of ICTs

One potential challenge in the use of ICTs is bias in populations sampled, and the 1936 US presidential poll of *The Literary Digest* comes to mind. In that poll, which failed miserably, sampling was done on the basis of telephone directory information, and at that time, many households in the USA did not have a telephone. Such a bias in studies on the population of translators and interpreters in the 21st century is unlikely, except in some remote areas in a few least-developed countries. However, a somewhat related bias is possible if researchers rely on directories of organizations, including businesses and professional associations: not all translators and interpreters have their names and email addresses in such directories, especially freelancers. In other words, the very easy access to such directories is a temptation to forego more rigorous sampling procedures.

Similarly, the ease of access to respondents afforded by ICTs may tempt beginning researchers to launch their survey (for instance, using Survey Monkey) or interviews without sufficient preparation – serious preparatory reflection is needed besides piloting – and thus fall prey to the numerous methodological pitfalls that surveys and interviews have always entailed. The problem is similar to that generated by the general availability of user-friendly statistical packages, which may have given the impression that statistics are a matter of using recipes and technology when the underlying logic which should guide the selection of statistical tools can be quite complex.

7. Respondents' attitude to online questionnaires and interviews

One interesting question is whether ICTs have a positive effect on response rates and on the amount of information that respondents are willing to offer.

Some studies of response rates to online surveys and comparisons with surveys by mail have been published (e.g. Deutskens *et al*., 2004; Fincham, 2008; Saleh & Bista, 2017). Sinclair *et al.* (2012) compared response rates for postal, internet and telephone surveys with generic or personalized recruitment approaches, finding that the telephone survey produced the highest response rate, followed by the personalized postal survey, generic postal survey, and then the internet survey (4.7% for the personalized approach and 2.2% for the generic approach). Christensen *et al.* (2014) examined the effect of the research technique (face-to-face-interviews vs. self-administered questionnaires) on response patterns, and found that the non-response rate was higher in the self-administered survey (37.9%) than in the face-to-face interview survey (23.7%). However, no similar studies have been published in TIS, and the experience of the authors of the present study (see Section 8) suggests that translation and interpreting stakeholders, and particularly translators and interpreters, who feel their profession is not well-known by the public at large and that their social status is lower than what it should be, are more likely to be interested in studies that explore their professional environment. More specifically, many trainers are very interested in sharing information on interpreter and translator training, and many practitioners in sharing information about challenges and frustrations they encounter in their everyday lives. ICTs provide them with better opportunities to do so than traditional surveys, especially video or email interviews, which can often be conducted at leisure from their home or office at a convenient time: Alhalaki (2019) reports on eight online Skype interviews with interpreter trainers in Europe, in the Arab world, in North America, and the Far East which lasted from 30 to 70 minutes. The advantage of online surveys vs. 'paper surveys' is not so clear, as online respondents still have to formulate in writing whatever information they wish to/can convey, even though they no longer have to do this on paper and then mail the survey in an envelope. Alhalaki (2019) reports a response rate of 58% (35 respondents out of 60 addressees) to a fairly long and sensitive questionnaire which required some work to complete; a reasonably successful operation in a survey.

As regards the amount of information that respondents are willing to offer, McCoyd and Schwaber Kerson (2006) report on a study in which respondents were interviewed using one of three interview formats – face-to-face, telephone, email – but all utilizing the same interview guide. The analysis of the data revealed that the email interviews tended to be more complete, to include more self-reflection by the respondents, and to be seemingly more candid. Similar comparative studies in translation and interpreting research are still lacking.

8. Case studies

In this section, the two authors report on one study each to illustrate the points made so far.

8.1. Exploring the presence of theory in the conference interpreting classroom project

8.1.1. Background

This study (Gile and Barranco-Droege, to be published) was conducted as a contribution to a collective volume: it sought to acquire preliminary information about the use of interpreting and interpreting-related theory in conference interpreter training programs; more specifically about how much theory was taught, what theories, in what form (separate theory classes or integrated into practical interpreting classes), and whether such use of theory had changed over the years. The editors had initially proposed that Gile review the main theories taught in conference interpreter training programs, but considering that a number of such overviews had already been published, he set out to produce empirical data on the presence of theory in conference interpreter training. The schedule was tight: eight months to submit a manuscript, including the design of the study, data collection, data analysis and drafting. A canonical survey-based or interview-based study would have taken too long, and an ethnographic study, possibly the best way to collect authentic information, was not feasible either. As an alternative, Gile, the initiator of the study, opted for a flexible approach, with a modest objective at the start, and extension if at all possible. ICTs turned out to be very helpful.

8.1.2. Initial stages of the study

After initial exploration of the data collection possibilities, it was decided to use short questionnaires: one for students (and former students), and one for trainers. The questionnaires included demographic information plus a total of less than 15 questions and sub-questions, mostly very simple yes/no/forgot or questions with Likert-scale answers, and a few open questions. Students were asked about the types of classes they remember, about classes in theory and research methods, about theory in practical classes, and about the training paradigm in the relevant training program, with factual questions – there were no evaluative questions. Trainers were asked whether they used theory, which theory/theories they used; and whether they used theory as a conceptual framework for their own guidance, for explanatory purposes for students, and/or for other purposes. Again, no evaluative question was asked.

The first questionnaires were sent to colleagues and former students that Gile, the initiator of the survey, knew personally. Several colleagues and one former student outside France showed interest in the project and agreed to help disseminate the questionnaires among their acquaintances, colleagues and/or students. Respondents could either send in their questionnaires directly to Gile and identify themselves, or send them anonymously to a colleague or trainer who would forward them. Within four and a half months, 157 student questionnaires and 80 trainer questionnaires were received – note that the total number of respondents was not the arithmetic sum of student respondents and trainer respondents, since a number of trainers filled out two questionnaires, one as a trainer and one as a former student. Most of the responses came from Europe, but some came from Asia, Latin America, Canada and the USA, and Australia.

8.1.3. Post-piloting adjustments

The questionnaires were sent out gradually so as to be able to further fine-tune them after considering the answers received in succession. This resulted in three post-piloting adjustments in the student questionnaire and one adjustment in the trainer questionnaire:

1. The student questionnaire started with the following preliminary question: "If you were trained as a conference interpreter at one or several institutions, please indicate each and the year/s during which you were trained at each. If there are more than 2, we would be grateful if you could reply to the questions for each."

It turned out that some respondents interpreted "year/s" not as the relevant calendar years, but as the 1st or 2nd year of interpreting studies. The missing calendar years were found when Gile asked for clarification in follow-up mails, but he also decided to change the wording of the relevant sub-question slightly from "Years" to "When? (Years)" when sending out the next batches of questionnaires.

This did not change the question but clarified it, and there was no reason to believe it would affect answers to other questions.

2. As mentioned earlier, from some answers, it turned out that theories used in some training programs depended on the language combination, as trainers had different preferences which were at least partly associated with their main languages (e.g. Russian theories for trainers with Russian, French theories for trainers with French, German theories for trainers with German). This led to the decision to add to the preliminary question another part, namely:

"In what language combination?_____"

Again, there was no reason to believe that this factual question about the student's background would have an effect on other answers in the questionnaire. It was introduced after about 30 responses were received, many of them from anonymous respondents who could not be reached to provide clarification. Valid answers to other questions from the pre-adjustment version of the questionnaire were therefore included in the final analysis.

3. In a number of cases, trainers mentioned that they use theories which differed from those they mentioned in their (former) student questionnaire. This prompted the addition of another question at the end of the trainer questionnaire, asking them when they learned about these theories ("as a student", "later" or "other – please explain").

This third adjustment was also considered to have no effect on answers to other questions, especially as it came at the end of the questionnaire.

8.1.4. Comments

This case study, the findings of which are presented elsewhere (Gile and Barranco-Droege, to be published), illustrates the advantages of online surveys discussed earlier. In terms of financial cost, there was no need for a budget for mailing, for piloting or for the rollout of the final versions of the questionnaire. Thus, there was no externally imposed limit to sample size. Both sample size and population coverage depended on the sampling method and on response rate. As regards the latter, remarkably, when asked at the end of the trainer questionnaire whether they would be willing to be contacted for further discussion, 67% of the respondents answered they would be. In other words, there was no sign that the online procedure resulted in a lack of willingness to cooperate. The topic of this survey was close to the daily concerns of the respondents, so generalizing to all online surveys is not possible, but the positive reactions deserve to be noted.

Another point has to do with time. A mail survey with or even without follow-up interaction would probably have taken much longer to complete, especially if the more traditional (and more orthodox) extensive piloting before the rollout had been done so as to prevent the need for later adjustments, if only because mail delivery delays in some countries from which responses were received are rather long.

The strategic choice of continuous fine-tuning, as opposed to the traditional method of extensive piloting before the rollout of the survey, was efficient in this case, because post-piloting adjustments made were few and minor and arguably did not invalidate the use of pre-adjustment collected data. Had the necessary adjustments been major, this would not have been the case. At least some piloting is therefore highly advisable, even with online surveys conducted with a strategy of fine-tuning during rollout.

Investigators who have a formalistic view of research norms might argue against this strategy, claiming that comparability is only guaranteed if the wording and context of questions are the same. If so, how do they feel about ethnographic research, in which investigators partly rely on reports by informants who respond to questions which are generally not put to them under exactly the same circumstances and with exactly the same wording? Empirical research cannot avoid uncertainty, and perhaps considerable uncertainty in the behavioral sciences. Possible sampling bias is one example of uncertainty which, as recalled early in this paper, can only be overcome through probabilistic sampling. And yet, probabilistic sampling is impossible in most cases. Researchers therefore use alternative sampling methods and only endeavor to reduce the effect of bias. In experimental research, perhaps the most demanding methodology when seeking to establish causality, investigators seek to control relevant variables but cannot control all possible confounds. Moreover, the quest for maximum control can have a considerable negative impact on ecological validity. In both cases, and actually in empirical research in general, a calculated benefit/risk ratio is the basis for strategic decisions. The same principle should apply here. Comparability risk was not ignored, but the benefit in data collection was deemed far superior to the possible loss in comparability.

8.2. Exploring subtitling professionals' perception of changing working conditions

8.2.1. Background

This research (Künzli, 2021) aimed at investigating subtitlers' thoughts and feelings regarding the changes that their job is undergoing by means of email interviewing. It was conceived as a follow-up study to a mainly quantitative survey among subtitling professionals (Künzli, 2017). Email interviews can be defined as an interview form based on asynchronous online communication between a researcher and a research participant, exchanging a series of messages over a period of time. This exchange is generally conducted by means of a semi-structured or unstructured guide that does not restrict the possible answers from the participant. The main difference between questionnaires and interviews is that interviews presuppose a two-way communication between researcher and participant (Hunt & McHale, 2007, p. 1415). Therefore, this type of exchange can be regarded as an interview, even if it is conducted in writing and not orally.

Email interviews have been used for data collection in psychology and sociology for fifteen years or so (cf. Hunt & McHale, 2007). In translation and interpreting research, they are virtually absent. Benjamin's Translation Studies Bibliography (last access: April 30, 2021) contains 210 references comprising the term "interview", but only one of the studies listed mentions email interviewing: Lehoux-Jobin (2012) posed a series of questions to four freelance translators working in the language pair Japanese-French. The focus was on tapping translators' thoughts on different aspects of their professional practice. Email interviews as a research tool are not discussed. When it comes to the research literature on audiovisual translation, Li (2019) does refer in her methodology article on ethnographic research to elicited data "co-created by the researcher and the participants through personal and communal interaction" (p. 385) as one type of data collected in netnography. The potential of email interviewing, however, is not

mentioned. As regards subtitling research more specifically, several studies have made use of interviews. They seem to have been conducted either as face-to-face or telephone interviews, with not all studies detailing the modalities under which the interviews were carried out.

On this basis, it may be concluded that the following statement of Saldanha and O'Brien (2014) still holds true:

> The use of the Internet to conduct interviews or focus groups is becoming more common; however, online qualitative research is a methodology that is still being experimented with and the lack of examples of actual practice in translation studies research means that any discussion can only be speculative. Therefore, for a detailed discussion we direct readers to reference works in other disciplines […] (p. 187; emphasis in the original).

Potential advantages and challenges of email interviewing will therefore be discussed in the next section. Data collection of the study reported took place from November 2019 to January 2021. To recruit participants, a convenience sample was chosen. Several organizations of subtitling and translation professionals were asked to advertise the study among their members (by email, on their intranet or by any other internal communication means). The email interviews were conducted with fourteen female and five male subtitling professionals working into German. Six predominantly open-ended questions were asked. Question 1 aimed to collect background information and build rapport with the interviewees. Question 2 aimed to identify major changes in the subtitling profession. Questions 3, 4 and 5 dealt with quality criteria for subtitles, quality assurance steps, and the expected skills of subtitling professionals. Question 6 collected feedback on email interviewing as a research tool. Participants were asked what they thought of this way of answering questions and whether they would have preferred face-to-face interviews. Only one subtitler indicated a preference for face-to-face interviews. Moreover, none of the 19 participants dropped out during data collection whereas in the previous self-administered questionnaire study only 59 out of 82 respondents completed the survey in full. This suggests that it is possible to build rapport even in an entirely virtual research context.

8.2.2. Perceived advantages and challenges of conducting email interviews

The data collection coincided with the outbreak of the COVID-19 pandemic. The possibility to interact with subtitling professionals by using the internet as a research tool turned out to be particularly helpful in this situation. Another advantage of email interviews over face-to-face and even video interviewing is salient when respondents live in remote time zones: the difficulty of finding a convenient time for both interviewer and interviewee does not apply, as each reads and sends messages at a time convenient for him/her. Email allows the interview to occur in "chunks", at the participants' own pace. This of course would also be the case in more traditional exchanges by mail, but the cost in time and mailing expenses would be prohibitive, while no such constraint applies in email interviewing. Email interviews also do away with expenses linked to the purchase or rent of recording equipment, and with the cost of transcription, whether human- or software-mediated, since the answers are already in written form.

A further advantage, already mentioned, is the fact that topics that arise in one email interview, and that the researcher had not thought of, can be taken on board in other interviews currently being conducted. For instance, after one subtitler had spontaneously shared an anecdote that turned out to yield a richer picture of the working environment than that provided in exchanges already conducted and analyzed, a new sub-question was introduced halfway through the project ("Tell me a [happy, sad, pleasant, unpleasant…] anecdote about your life as a subtitler"). This type of continuous fine-tuning was considered legitimate as it

did not invalidate the data collected before adjusting the interview guide. The answers to this question revealed, moreover, that emotion can be denoted even in the absence of visual cues as revealed in face-to-face or video interviews. The participants used many symbols and punctuation marks to convey emotions. Also, some of the anecdotes referred to experiences that had occurred in the distant past and might not have been remembered at the precise time of a face-to-face or video interview, whereas email interviews gave participants time to reflect upon the question and perhaps come up with more data. This assumption could be checked in a separate study.

When answering question 6 of the interview guide ("What do you think of this way of answering questions? If you had the choice between face-to-face interview and email interviews, what would you choose next time?"), several subtitlers expressed the belief that they delivered more detailed and accurate responses during these email interviews. Rather than being paced by the interviewer, participants were the ones who decided when they had finished formulating an answer and when to press the Send button. Again, this avoided possible frustration when interviewees think back and regret not having formulated clearer and/or richer answers and comments. The same applies to the researcher. Asking the right follow-up question is difficult in face-to-face and video interviews since the interviewer has to listen while making a (mental) note of such questions. In this particular study, the possibility to clarify information provided by the subtitlers through follow-up questions was used in 16 out of the 19 email interviews, which allowed the researcher to include more data in the analysis. Due to their drawn out nature and the number of potential interactions, email interviews may therefore be considered a more intensive form of conducting an interview.

On the other hand, arguably, increased time for reflection may have an adverse effect on the quality of the data. It cannot be ruled out that rather than offering a spontaneous reaction, as is most often the case in interviews, in email exchanges, participants construct a 'correct' answer before replying. They may also do so in face-to-face or video interviews but have less time for it. In such cases, answers might not so much reflect their personal views but a more or less commonly shared standpoint in the literature. This is why Künzli stated after a couple of email interviews in the message accompanying the question on subtitle quality that the participants should answer from their own experience rather than basing their responses on existing evaluation grids. He did so after one subtitler told him that the professional association of which she is a member was working on a code of good subtitling practice at the time of conducting the interview. One may, however, argue that participants in email interviews feel less pressure than in face-to-face or video encounters, due to the lack of the visual co-presence of researcher and participant, which might wrongly give them the feeling of being anonymous. On the other hand, relevant information may be provided spontaneously in oral exchanges too, because the spoken word is considered more volatile even if participants previously agreed to have their answers recorded, transcribed, and analyzed.

8.2.3. Comments

Interpersonal communication in everyday life is increasingly shifting from face-to-face to written conversation using instant messaging programs or email (e.g. Dürscheid & Frick, 2016). This is why in many contexts email interviewing may have become very natural. Its main advantages in the study reported above turned out to be cost and time savings, access to a wider range of potential participants, increased flexibility, and control over providing one's perceptions. Several issues remain, however. A major one is that of the quality of the data collected. Some subtitlers only gave brief answers to certain questions, even if follow-up questions prompted them to deliver more accurate accounts. This raises the question of whether they would have

been encouraged to say more by the physical presence of an interviewer. Leaving potential interviewees in a future study the choice between face-to-face or video interviewing and email interviews would be one way to help the investigator to identify participants' preferences, and also to compare the data gathered from the different collection methods. Distinct studies exploring such differences could also be undertaken, just as Bartłomiejczyk (2007) compared introspective methods.

9. Conclusion

This initial exploration of how ICTs affect empirical TIS methodology only looked at three interpersonal exchange-based methods, but the possibilities do not stop there. Focus group methodology, an extension of interview methodology, can also benefit from ICTs if conducted online, not only to save costs, but also to allow participation of geographically spread-out participants, as long as time-zone differences are reasonable.

But beyond these existing research methods, there are obvious avenues for further exploration of the uses of ICTs. Examples are mining for data on social networking or video sites where translators and interpreters discuss topics of interest regarding their profession; translation and interpreting-related blogs, which are particularly fruitful if they contain reactions by the readers of these blogs; exchanges between participants in online training programs which are becoming increasingly numerous; online user comments and testimonials that reveal lay persons' opinions of translation-related issues (e.g. the usefulness of machine translation tools); or translators' and interpreters' forums that give access to professionals' views and experiences. This type of research can be called online ethnographic work (or "netnography" – see Janta, 2018, or Li, 2019, for examples in audiovisual translation research) – with the possibility of identifying individual participants in such exchanges and contacting them to seek more data. In such studies, ethical considerations become salient. Researchers must ask themselves for instance whether bloggers should be asked to give their consent to having their posts used as research data, even if these posts are in the public domain, i.e. extracted from the source, reassembled and/or reproduced verbatim in scientific publications; and whether they could be harmed in any way by such research. At the same time, the potential of internet-based research has become particularly striking in the current health crisis during which numerous research projects based on face-to-face exchanges with human participants are running the risk of being cancelled or not being carried out in time. Technological advances can be expected to continue to reveal their potential in empirical TIS in the years to come. A useful source for TIS researchers wishing to familiarize themselves with internet research are the sources provided by the Association of Internet Researchers (www.aoir.org). They can be used as a starting point for their reflections and inquiries on research conducted in an entirely virtual context.

However, in order to take full advantage of ICTs, it is desirable for investigators to move away from excessively formalistic requirements inherited from experimental physics. The requirements should be understood and the potential effects of non-compliance should be assessed in all cases, but research strategies should be determined so as to obtain the best results with minimum risk, and this may require some out-of-the box (and out of the formal rules) thinking.

10. References

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