Title: Questionnaires and interviews in teacher research

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1. Introduction

Questionnaires (also known as surveys and sheets) belong to the most widespread tools of collecting research data perhaps because ‘asking questions is one of the most natural ways of gathering information’ (Dörnyei 2003: 5). Questionnaires may be conducted orally in the form of an interview. The primary focus of this chapter, however, is on the printed form for data collection, or so-called pen-and-pencil, questionnaires. Although most of the comments on questionnaires presented here is also valid for constructing oral interviews, additional information on oral interviews is also included in the final part of this chapter.

There are several justifications for the continuing popularity of questionnaires as research instruments. Apart from their relatively little time consuming administration, they are useful in gathering information about phenomena which are not straightforwardly observed, such as attitudes, propensities and self-concepts. They are also convenient to collect data on personal, social and linguistic background (Seligér and Shohamy 1989: 172). Interviewing the same number of people orally would require far more time and personal engagement on the part of a researcher. In comparison, written questionnaires gather large amounts of information, which can be obtained in a short period of time, the results can be relatively easy to calculate, and the costs of the questionnaires’ production and administration may be kept low. The data are more standard
and accurate because the same questionnaire format is administered to all the informants at the same time. In addition to that, questionnaires are suitable for various groups of people in different situations and they may cover a number of issues, i.e. they are extremely versatile. Despite these early advantages, certain limitations of questionnaires must be recognised. First of all, they are not a suitable device to measure the depth of a problem. This is dictated by the fact that respondents (also known as participants, subjects or informants) are generally not interested in completing lengthy surveys with complex statements. Sophisticated questions may trigger misinterpretations and misunderstandings and, as a consequence, contribute to the collection of unreliable data. For this reason, questionnaires should be straightforward and user-friendly. Yet another pitfall that a researcher may fall into is potentially caused by the psycholinguistic phenomena, to which subjects may be susceptible when producing their answers. It must not escape notice that some informants will intentionally provide misleading answers, and others will attempt to compensate for their lacks of knowledge by responding to questions to which they do not know the answer. Dörnyei (2003: 12—14) enumerates further disadvantages of the questionnaire as a research device stemming from the psychological considerations on the part of the respondents, i.e.:

- *Social desirability/prestige bias* is a tendency to provide false statements about oneself, e.g. one’s education, social background, race, bad habits, etc., so that to present oneself in a positive light to the researcher.

- *Transparent* questionnaire items leave the respondent with an exact idea of what answers are desired or expected by the researcher.

- *Acquiescence bias* is a tendency to agree with the questionnaire entries which are ambivalent or sound correct.

- *Halo effect* refers to the respondents’ positive or negative impression of the topic, or the researcher’s personality, which may influence the type of response, e.g. over-generalized positive or negative reactions.

- *Fatigue effect* is the feeling of monotony, especially when completing the final sections of questionnaires, which contributes to inaccurate answers, neglecting statements, missing things out, etc.

Furthermore, as Nunan (1992) points out, researchers should be careful to avoid *culturally biased questions*, for example, when the cultural backgrounds of the researcher and the informants are different. Thus, the researcher must consider factors such as:

- the willingness of respondents to make critical statements and to discuss personal topics, for example, salary, age, social and political issues,
the shared values and attitudes which can be assumed, such as the concept of freedom of the press (Nunan 1992: 145).

Finally, questionnaires are not to be used with people who have low proficiency in the language in which the questionnaire is composed for obvious reasons, such as inability to comprehend and provide accurate responses. As may be concluded, questionnaire design ought to be knowledge-driven since it may be quite simple to construct a questionnaire in search for answers to absorbing research questions and end up with dubious results. Therefore, apart from a careful planning of the questionnaire construction, it is strongly advised to combine questionnaires with other research methods described in this volume, depending on the research subject and the intended depth of problem analysis.

2. Description of the tool

Despite its name, a questionnaire rarely consists of solely standard questions with a question mark at the end but, more often than not, of a variety of statements either to mark or evaluate according to the provided scale. Nevertheless, these questionnaire items are, partially for the sake of brevity, referred to as ‘questions’. According to Dörnyei (2003), questionnaires elicit three kinds of information:

1. **Factual** data reveal who the informants are, i.e. age, education, social background, language learning history, etc.
2. **Behavioural** data deal with the respondents’ actions, habits, experiences, learning strategies, etc.
3. **Attitudinal** data refer to attitudes, opinions, beliefs, interests and values (Dörnyei 2003: 8).

The researcher must consider a number of factors during questionnaire design, such as length, layout, content, structure, sequencing, instructions, etc. As previously stated, the primary premise of questionnaire construction is to keep it relatively short, as it is not a proper device for elicitation of lengthy personal insights. No matter how tempting it may be for the researcher to ask more, it must be remembered that ‘in questionnaire design less is often more because long questionnaires can become counterproductive’ (Dörnyei 2003: 18). Dörnyei (2003) suggests that the length of a questionnaire depends on the degree of relevance of the topic.
to the respondents, however, in general terms it should not be longer than 4—6 pages and should not take more than 30 minutes to complete.

Any research tool, questionnaire included, has to be checked for its validity and reliability. The former means that it ought to measure what it has been designed to measure. For example, if a test is supposed to measure receptive skills but in fact focuses only on reading (while ignoring the listening aspects), the results may not be regarded as valid. The tool is reliable when it is free from errors of measurement. Questionnaires provide three types of data for analysis: **nominal** (categorical), **ordinal** and **interval** (metric). Nominal data help to categorize subjects or pieces of information according to some attribute, for instance, according to gender, nationality and other subject characteristics (e.g. type of motivation to learn). Nominal data may not be subject to mathematical manipulation, such as computing averages because it is impossible to talk about the sample in terms of average gender or average nationality. Ordinal data, similarly to nominal data, divide the sample into groups, however, according to the ranking order. This means that some hierarchical system exists, such as a level of proficiency, according to which the data are ranked. Finally, the interval data are measurements, which may be mathematically manipulated, such as e.g. proficiency test scores (cf. Seliger and Shohamy 1989, Nunan 1992, Dörnyei 2003).

3. **Questionnaire design**

The questionnaire design, apart from some differences in the order of item organization that different researchers introduce, consists of at least three broad sections: introduction, main body and closing part. The **introduction** is the source of basic information about the questionnaire for the respondent. It consists of several elements:

The **opening greeting** or **general instruction** should address such issues as (cf. Gruszczynski 2001, Dörnyei 2003):

1. The purpose of the study (the reasons for which it is so important).
2. Assuring confidentiality. Anonymous questionnaires invite more sincere statements, especially when they concern sensitive issues, such as evaluation of a FL teacher. However, if anonymity may not be preserved for the purposes of, for instance, longitudinal study, it is worthwhile to confirm the confidentiality of the contents and names by enclosing a notice, such as:
The contents of this form are absolutely confidential. Information identifying the respondent will not be disclosed under any circumstances (Dörnyei 2003: 23).

3. Reasons for which the particular group of respondents was chosen for the study.
4. Instruction how to deal with the questionnaire items if the researcher does not plan to enclose separate instructions to every single questionnaire item.
5. Appeal for serious and sincere answers.
6. Assuring respondents that there is no one correct answer (all honest answers are correct).
7. The way the questionnaire should be returned if it is not self-administered.
8. Expressing appreciation, e.g. saying ‘Thank you’ for the participation.

Finally, the title of the questionnaire should identify the area of investigation and activate the respondents’ schemata, i.e. the existing knowledge about the topic. The title is usually highlighted with the aid of various font styles and sizes and separated by spaces.

The main body contains a variety of closed and open questionnaire items and specific instructions, which explain and illustrate how to use the different scales and criteria when dealing with the content questions. According to Gruszczynski (2001), the main body should include the personal information section. Dörnyei (2003), however, recommends to attach it after the main body of items, for reasons such as seeking information on sensitive topics, which are reluctantly approached by the majority of respondents, may inhibit answers to the remaining items. Whatever the decision, the items enquiring about the personal background must be planned with the utmost caution.

The closing part may contain a request to the respondent to check whether all the fields have been completed. Some questionnaires close with additional space for further remarks concerning the questionnaire. It must not escape notice that the questionnaire design is not fixed but depends on the author to a large degree. For instance, Dörnyei (2003), unlike Gruszczynski (2001), suggests that it is the last part of the questionnaire that should include additional information, such as contact details, instructions on how to return the questionnaire, an invitation to participate in similar surveys, and/or, what is considered a kind gesture — a promise to send the summary of the obtained results to the respondent if they are interested in the outcomes of the study. Gruszczynski (2001), on the other hand, advises to place the contact details at the top left corner
of the sheet. A clearly indicated institution or person responsible for conducting the study gives the survey credibility. Last but not least, the final **Thank You** for the co-operation should not be overlooked.

4. **Questionnaire construction**

   It is probably common among inexperienced researchers to have a rough idea of the questionnaire design, but still be uncertain of how to commence its construction. The procedure of questionnaire production takes four basic steps outlined below. Let us take a closer look at them.

**Step 1. Content specification**

   The very first element which must be regarded when constructing a questionnaire is its **content**. The procedure adopted by the researcher must consist of specifying the primary focus/problem and selecting the areas of the problem which the questionnaire is supposed to measure. For example, if the general research focus is on the successful FL teacher, what still needs to be identified is what critical areas of the research problem will be addressed by the questionnaire, e.g. the teacher’s personality, teaching style, knowledge, attitudes to learners, etc. Initially, one may create an **item pool**, which is simply a collection of the researcher’s own ideas as well as ideas retrieved from one’s observation notes, group brainstorming, discussions, interviews, etc., and items which have often/always been used in the similar questionnaires so far.

**Step 2. Production of questionnaire items**

   Once the content is clarified, we may move on to designing the **questionnaire items**. The questions employed to elicit the data may be of varied types; however the broadest typology distinguishes between open-ended questions and closed-ended questions (Nunan 1992: 143), also known as open and closed, which differ in the degree of control the researcher decides to maintain over the results. Open questions invite respondents to produce longer answers of their own, whereas closed questions ask for specific information, such as age, or provide a respondent with ready
options to choose from. There are various types of both open and closed questions (which are discussed below in this section). Questionnaires can be constructed with the aid of entirely open or closed questions or a combination of both. Closed questions are subject to quantitative analysis, i.e. they may be statistically calculated. Open-ended questionnaire items provide qualitative data, which are subject to the researcher's individual and subjective interpretation. It must not escape notice here, that the requests for lengthy answers may have a counterproductive effect. Demands for long and detailed answers discourage the majority of respondents from providing comments and even from completing the questionnaire at all. Therefore, if the researcher is interested in retrieving personal insights, other, ‘supporting’ research method(s) need to be employed apart from a questionnaire. Yet, the questionnaire should be constructed with thought and care so that its completion is not a monotonous task but engages the informants’ interest as much as possible. Let us now consider the different varieties of open-ended and closed-ended questions that are of particular use when producing the questionnaire:

A. Open questions

Open questions do not provide the respondent with a series of options ready to choose from but invite individual statements. An open-ended question may be easily recognised by the blank spaces, usually marked with regular or dotted lines which are to be filled in with the informants’ ideas. Yet, keeping in mind the fact that the completion of the questionnaire should be minimally time consuming and because of the risk of obtaining unreliable and hard to interpret data, professional questionnaires rarely include truly open questions at all. Or, if they are included in the questionnaire, there are no more than a few. It may be thoughtful to conclude the questionnaire with open-ended questions rather than commencing it with them. If the respondents are short of time or unwilling to provide their own insights, the unanswered open questions will not impact the previous quantitative items. What is more, some respondents may put more effort to completing open questions knowing that it is the last task in the questionnaire. Dörnyei (2003) also suggests making use of guided open questions, such as:

- **Specific open questions** elicit short and concrete data, e.g. foreign languages learnt so far, range of subjects within a language course, etc.
- **Clarification questions** are employed whenever there is a need for explanation or specification of the previous answer. Such questions ask why the respondent chose the particular option.
• **Sentence completion items** refer to the incomplete sentences where only the beginning of the sentence is supplied and the remaining part is left to be finished by the respondent.

• **Short-answer questions** ask for responses not longer than a paragraph and not shorter than a phrase. The focus is still not general but reduced to certain aspects. Short answer questions are usually exploited when designing an evaluative questionnaire regarding a course, course book, teacher or particular lessons. For instance, short-answer questions may ask about activities the learners found particularly motivating in the course book, or activities which were the least absorbing, how they would change the book design to make it more attractive, etc.

### B. Closed questions

In contrast to open questions, closed questions do not invite free writing on the part of the respondent. Closed questionnaire items contain a set of answer options either to tick, cross or circle. A slight exception may be seen in the ‘other’ option which is often included in case the subjects have other ideas than those devised by the researcher. However, such options do not require writing longer than a single phrase. As in the case of open questions, closed questions may take various shapes, such as:

• **Rating scales** are answer options arranged in a scale according to their intensity. For example, if the question asks about the degree of importance of the particular concept, the rating scale may range from: very important — quite important — rather important — not very important — unimportant.

In a similar vein, if the question regards frequency of performing some activity, the scale will range from always to never (or from never to always), etc. The most widely known and applied scale is the **Likert scale**, named so after its inventor. The Likert scale is a multi-item scale in which the subjects indicate how strong their beliefs about the presented series of statements are. The original version contains five answer options as follows: strongly agree — agree — not sure/neither agree nor disagree — disagree — strongly disagree.

This basic pattern of answer options may be either expanded to six or seven options scale, contracted to three options (e.g. agree — unsure — disagree) or altered (e.g. in some scales the middle ‘unsure’ response is eliminated and in surveys for children the answer options may be replaced with smiley signs) depending on the research needs. For statistical analysis, the answer options may be coded with numbers 1—5, e.g. 1 for strongly disagree and 5 for strongly agree. Then, the
scores concerning the same content area may be calculated and averaged.

- **Semantic differential scales** are a variation of the standard rating scales. Here, the researcher provides only two opposite directions and the respondents are asked to mark their feelings between the two extremes, just like in the example:

  Important /........../........../X../........./........./ Unimportant.

- **Numerical rating scales** ask for evaluation of the concept in a chosen numerical scale, e.g. in a scale from 1 to 10.

- **Yes/No, True/False items** evaluate ideas according to the bipolar scale. The ideas to be assessed should not be debatable as they are to be judged only with the two extreme options. However, because of the fact that the respondents may feel uncomfortable with the absence of intermediate options, some surveys also contain the *I don’t know* or *I’m not sure* option.

- **Multiple-choice questions** are questionnaire items with a set of ready ideas to choose from, often marked with letters of the alphabet. The ideas should be clearly ordered either according to their popularity or in an alphabetical order. Multiple-choice questions may ask to mark one or a few responses depending on the question type. Since it is sometimes impossible to predict all the ideas to be developed by respondents, it is common practice to include a free entry, such as the *Other* category or at least leave room for some doubt in the form of *I don’t know/Not applicable/No response* category.

- **Rank order items** are one of the most challenging questionnaire items not only for the researcher because of the difficulty of interpretation but also for the respondent for the fact that each category has to be ‘weighed’ against the other(s). Therefore, it is not recommended to design more than five options to be numbered from the least to the most important/necessary/useful, etc.

- **Numeric items** are short-answer questions about the number (as the name suggests) of something or instances of the occurrence of something, e.g. age, English learning history in years, number of visits to the English speaking countries, etc. They are regarded as closed-ended items since theoretically the researcher might include the scale with all the necessary numbers, however this would be highly impractical in terms of the pen-and-pencil sheets in question.

- **Checklists** provide the subjects with a list of items to tick. Checklists may be in regards to teacher characteristics, learning styles and strategies, memorisation techniques, and the like. The conclusions are drawn upon summing the scores for each item and comparing the most frequently marked options with the least popular ideas.
The wording of questionnaire items is very important as has been shown that the use of different vocabulary can elicit various responses by the same subjects (Oppenheimer 2004). Therefore, it is not sufficient to measure one area of the research problem with one question only because it will not be reliable. In other words, more than one questionnaire item is necessary to address the same content area. Thus, a questionnaire should consist of multi-item scales, also referred to as summative scales, i.e. a set of differently worded questions which focus on the same target. Dörnyei (2003: 34) claims that one should include not less than 3—4 items per each sub-area of investigation so that it is possible to collate the answers for similar questions and obtain the average of scores. This largely limits the problem of inconsistency of responses stemming from the individual interpretation of questions. It is obvious that in the case of straightforward questions concerning age, gender, education, etc., where one questionnaire item serves its purpose, using multi-item scales is pointless. In order to assure the quality of the questionnaire items, the internal consistency reliability is measured. The internal consistency of the scales indicates that the items building the various multi-item scales within the questionnaire are homogeneous, i.e. they belong together. In order to ensure the internal consistency reliability, the Cronbach Alpha coefficient is obtained with the aid of modern statistical computer programs, such as SPPS. The Cronbach Alpha coefficient is a figure ranging from 0 to +1 and for short questionnaire scales made up of 3—4 items, the coefficient should not drop below .60 (cf. Seliger and Shohamy 1989, Dörnyei 2003).

**Useful tips**

Here are some tips how to write good questionnaire items:

1. Design questionnaire items which will **engage the respondents’ interest** in the research problem.
2. Create **short and simple** questions. Avoid metaphors, colloquialisms, double-barrelled/compound questions (i.e. addressing more than one issue/person in a question while expecting one answer, e.g. *Do you read books and like reading? Do your parents work?*), negative question types (e.g. prefixes -un, -ir, -im, etc.) ambiguous and complex statements, etc.
3. Structure the items in a logical order.
4. Use **natural language** (as opposed to the literary one) so that the items sound as if they had been said by someone in order to make the questionnaire meaningful and interesting. Refer the questions to the subjects’ opinions, beliefs and feelings.
5. **Avoid loaded/transparent phrases and sentences** which give the respondent a clear idea of the researcher’s expected and desired answer, e.g. *Don’t you think that the government should spend more money on the National Health Service?*

6. Do not form questions which assume possessing knowledge of certain facts/issues/affairs, etc.

7. Measure one content area with more than one item (3—4 items are preferable).

8. In order to **reduce the incidence of respondents’ reacting with reluctance and dishonesty** when seeking confidential data, try to reduce the number of these items to minimum and apply techniques which allow to:
   - present the tendency as common (*It is a common practice to...*),
   - assume things instead of asking whether they actually take place (*How often do you decide to skip the pronunciation section in the course book?*),
   - draw upon scientific findings and other researchers’ opinions (*Do you agree with the opinion of some scientists that...*),
   - formulate questions so that they seem to contain excuses for particular behaviour (*e.g. In the time of the economic crisis, can you afford buying the new version of the English book required for the course?*).

9. Remember to give justification for the personal questions and **provide reassurance of confidentiality** of the questionnaire. Do not include questions about private issues which are irrelevant to your study. You may arrange the questions seeking confidential information at the end of the questionnaire.

10. Ensure **attractive questionnaire design**.

11. There are a number of **computer programs** to use for statistical calculation of the collected data. The on-line databases, such as the Research Software Central database and the database of the Association for Survey Computing for description provide listings of such programs (Dörnyei 2003: 62).

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**Step 3. Organization of questionnaire items**

Having decided upon the content and designed the questionnaire items, the researcher now has to **arrange all the items** in a way that produces the impression of a well-structured survey sheet with the different sections and subsections for different clusters of question types clearly separated and embedded with instructions. The first one or two questions should be formulated in a way which attracts the subjects’ interest in the area of
study. Sequencing of the questionnaire items becomes a dilemma for the researcher. To give an example, Oppenheim (2004: 132) recommends to arrange open questions before the structured ones as a more secure way of not suggesting answers to the respondents. Quite contrary, Dörnyei (2003: 133) claims that leaving the open-ended questions toward the end of the questionnaire is less intrusive. The eventual decision depends on the researcher. The sequence, however, must be logical and well structured. Thus, drilling the respondents with non-applicable questions, such as enquiring about the frequency of contacts with native speakers of English after the respondent has already stated that he/she has no such contacts whatsoever, misses the point. It is important to bear in mind that the layout is an essential element contributing to the success or failure of the survey. As well as being short in terms of the content, the questionnaires must also be concise in appearance. Thus, they can take the form of smaller booklets instead of full sized separate pages. The study by Beebe et al. (2007) showed that a small questionnaire booklet in A5 format on white paper produces higher return rates than similarly sized booklet in blue colour or larger booklet sizes. The font styles and sizes are used to distinguish between the different parts of the questionnaire. So is marking the different sections and subsections of the questionnaire with Roman numerals, Arab figures and letters of the alphabet. To obtain more space for the questionnaire items one may decide to reduce the margins and print the answer options horizontally next to the questions. It is not advisable to eliminate the spaces between the instructions and questions as it produces the impression of a careless and chaotic layout and may work to discourage the respondent. It is rather suggested that the instructions and questionnaire items need to be clearly separated, not only by spaces but also by different font styles and sizes. The quality of the paper increases the attractiveness of the questionnaire, which, coupled with the careful design, should hopefully contribute to the compilation of reliable data.

**Step 4. Piloting**

Every aspect of the questionnaire, beginning with the choice of sample to texture of paper needs to be pre-tested before it is applied (Oppenheim 2004). Testing, or in other words, piloting the questionnaire should be performed on a sample (i.e. a small group of people chosen to represent the population, i.e. the larger group to which they belong) which is similar to the target sample. The questionnaire pre-testing helps the researcher to decide:
• whether the investigated problem actually concerns the sample,
• which statements are ambiguous, unclear or too difficult to answer,
• which questionnaire items do not measure what they are supposed to measure,
• which questions are too difficult for further analysis,
• what items have been missed,
• which questions are left unanswered by the majority of the respondents and what implications may be drawn for the questionnaire construction,
• the actual time needed for questionnaire administration and completion,
• the costs of the survey, and
• any other unforeseen problems concerned with the questionnaire instructions, implementation, sample, data, etc.

Piloting of the first draft of the questionnaire may be initially conducted on a few (3 or 4) people who are willing to help the researcher (they may be friends, family members, colleagues). They might be a valuable source of feedback on the questionnaire concerning its clarity, user-friendliness, suggestions for improvement and other comments. The proper piloting should be carried out on a larger group, which is in every aspect similar to the target sample. The outcomes of the pilot testing should be presented in the form of a report containing information about modifications of the questionnaire items and their final form. According to Oppenheim (2004: 80), doing research without pre-testing the research tool is a waste of time and effort for asking unclear questions which in turn elicit unreliable and difficult to interpret results. Rarely does it happen that the research instrument reaches perfection in every aspect. Nevertheless, carefully planned piloting helps to approach such an ideal.

5. Questionnaire administration

The sample on which the questionnaire is carried out must in every aspect resemble the target population (e.g. in terms of age, gender, social and educational background, and other demographics). There are several techniques of sample selection, which may be random, i.e. the researcher may choose representatives of the population on a random basis. The researcher may decide to classify the population according to certain criteria, e.g. according to gender, social status, etc. and arrange the proportions of the
sample so that they correspond to the proportions in the population, which is known as *quota sampling*. The researcher may also choose a number of representatives of the population and ask them to identify more members of the group, which is referred to as *snowball sampling*. However, the easiest technique of sample selection is dictated by *convenience*, which means the researcher chooses the particular sample because of its accessibility, e.g. in the place of work or study (cf. Dörnyei 2003: 70—73). Furthermore, the researcher may also ask people to *volunteer* in the survey.

Another question concerns the sample size. It is difficult to answer it unequivocally because it depends on how large the population is and how the researcher is going to carry out data analysis. As claimed by Oppenheim (2004) it is not the size of the sample that matters but its accuracy in terms of similarity to the target population. It may be quite roughly accepted that the minimum requirement is 30 (according to Hatch and Lazaraton 1991, quoted in Dörnyei 2003: 74) although to calculate the statistical significance the required minimum increases the number to 100 subjects or more.

The next issue is that of the questionnaire delivery, whether by traditional mail, Internet websites or self-administration. It is important to build a positive rapport with the respondents by presenting the aims of the study and their importance as well as promising to provide feedback on the results. Therefore, if the researcher has the opportunity to administer the questionnaire in person, it is important that he/she uses such opportunity to increase the positive motivation for questionnaire completion. If the questionnaire is to be delivered via traditional mail, the researcher has to think how to arrange sending it back (e.g. attach the addressed envelope with pre-paid postage fee and inform of the return deadline). As has already been mentioned one of the major drawbacks of questionnaires is their low return rate, which in consequence places the researcher in danger of gathering the sample data which are not representative of the target population. Here again, there are certain strategies to resort to. For instance, the envelope should be personally addressed so that it is not mistaken with junk mail. Sometimes little tokens of appreciation or the possibility to win a prize increase the return rate. Also in case of lack of the response for two weeks after the questionnaire delivery, the reminder mailing may be sent (Oppeheim 1992, Dörnyei 2003).
6. Questionnaire data and presentation

Last but not least, the researcher arrives at the point where the gathered data have to be processed. The sets of numerical data are described statistically. To describe the sample the researcher can make use of descriptive statistics and calculate the mean (i.e. the average set of scores), the range (i.e. the difference between the highest and the lowest values) and the standard deviation (i.e. the index of average dispersion of a set of scores from the mean). To draw more general conclusions on the basis of the results obtained from the sample, the researcher may employ inferential statistics to measure the statistical significance of the results. In other words, statistically significant results make it possible to draw more generalized inferences about the particular phenomenon observed on the sample. Results which are statistically non-significant may only be used to describe the particular sample and are ignored in research studies which attempt at revealing true tendencies. A more detailed overview of descriptive and inferential calculating procedures is provided, among others, by Nunan (1992), Brown (2001) and Oppenheim (2004). The degree of sophistication of calculating procedures depends on the researcher and the type the research objectives. The statistical calculation of the research conducted by a teacher for his/her school will be different than more scientific research about the larger population. It is, however, essential that the researcher is able to convince the readers that the methodology used to produce the results was appropriate. Describing qualitative data may be problematic not only in terms of large proportions but also in terms of interpretation, which remains highly subjective. On the other hand, responses to open questions may supply the researcher with illustrative comments, provide insightful information and point to the concepts which were not considered by the researcher. In order to reduce qualitative data to a manageable proportion, one may arrange comments according to the categories they belong to. For example, the researcher may group together comments referring to vocabulary learning strategies and collate them. This will allow to present the qualitative data in a reasonable format, e.g. in a table.

In the description of the FL/L2 research findings, it is important to keep certain order in data presentation and describe not only the outcomes of the study but also the study background. Thus the presentation of the background information about the study should commence with sample characteristics, such as age, gender, social background, language development history and any other details relevant to the study (e.g. number of language classes, occupation or type of studies). The sample
selection procedures should be described in the second place and if the sample were composed of groups, in what ways they were similar or different. Thirdly, the rationale for the choice of the content areas to be covered in the questionnaire as well as justification for not including other potentially important issues should be discussed. The description of the research instrument should cover the main sections and number of items addressing them. It is important to account for the choice of item types and their scoring. Since the research outcomes may be given credibility provided that the research instrument is reliable and valid, the research description should cover the piloting stage and any available data concerning its validity and reliability as well as any decisions concerning the attractiveness of the survey. The information about the questionnaire administration is also relevant as it belongs to the factors influencing the results. Thus, the researcher should inform readers about the person administering the questionnaire, how the questionnaire was administered, completion time and return rate. Next, the description of the variables and how they were handled should be presented. Since questionnaires are rarely if ever a perfect tool for investigation, the next step must involve recognizing any foreseen and unforeseen factors which may have lead to the distortion of survey results.

Table 1. Development and revisions of questionnaire items (after Spada et al. 2009: 73)

<table>
<thead>
<tr>
<th>Item*</th>
<th>First version</th>
<th>Second version</th>
<th>Final version</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 ISO</td>
<td>I find it easier to on the grammar point if the instructor teaches it on its own</td>
<td>I find it easier to concentrate on the grammar point if the instructor teaches it on its own</td>
<td>I find it easier to learn grammar when the instructor teaches it by itself</td>
</tr>
<tr>
<td>14 INT</td>
<td>I find it helpful when the instructor teaches a grammar point found in that text</td>
<td>I find it helpful when the instructor teaches a grammar point while we read the text</td>
<td>I find it helpful when the instructor teaches a grammar while we read a text</td>
</tr>
<tr>
<td>16 INT</td>
<td>I can pay attention to a grammar point being taught while I am also thinking</td>
<td>I can pay attention to grammar while reading or listening to a passage</td>
<td>I can learn grammar while reading or listening to a passage</td>
</tr>
<tr>
<td>20 ISO</td>
<td>I find it helpful if the instructor teaches a grammar point on its own before or after reading a text</td>
<td>I find it helpful if the instructor teaches a grammar point before reading a text</td>
<td>I find it helpful to learn a grammar point before I read it in a text</td>
</tr>
</tbody>
</table>

* Item number in the final version of the questionnaire (Appendix 1). ISO = isolated, INT = integrated.

The analysed data may be presented in the form of various graphical representations. Bar charts and line charts are useful to display
comparisons and changes over time. Pie charts are extremely handy when showing proportions and percentages. A description of complex relationships may be contained in schematic representations and statistical analyses and information summarizing the data about the respondents may be presented in the form of tables. Table 1 illustrates an example of the development and revisions of questionnaire items.

It is essential that the data are presented in a reader-friendly format. Therefore, visualisations of the results in tables and figures are very practical.

7. Interviews

As already mentioned above, interviews to some extent constitute an oral equivalent of written questionnaires. The main difference resides in the fact that they are one-to-one encounters of interviewer and interviewee, as contrasted with indirect written communications in the case of questionnaire forms. Also the contexts of use in second language acquisition and teacher research is similar to those of questionnaires (as discussed earlier in this chapter). Interviews are additionally used to observe the language development of an individual learner and constitute the main tool in examining oral fluency of FL speakers (Ingram 1984). Interviews can also serve as an instrument for determining learner awareness of various aspects of a learning process, motivations and attitudes, cross-cultural competence, etc. Interviews tend to be one of the most commonly used tools in teacher research focusing on teacher development, his/her reflectivity and the various affective factors involved in teacher identity perceptions (e.g. system of beliefs). An interview is also an important tool used as a supplementary to a questionnaire source of data (Stewart and Cash 2003), which allows the interviewer to extend his/her questions and receive additional information in the areas of enquiry.

An interview allows the interviewer greater flexibility in asking questions. Irrespective of the objectives and length of the interviews, they may differ in their degree of structure (Seliger and Shohamy 2001) (Table 2).
### Table 2. Different types of interviews (according to their structure)

<table>
<thead>
<tr>
<th>Type of an interview</th>
<th>Description</th>
</tr>
</thead>
</table>
| Open                 | — the main objective(s) of the interview established in advance  
|                      | — no questions are constructed before hand, only a general focus of the investigation  
|                      | — allows flexibility of questions and answers, questions derive from the answers received in the course of the interview  
|                      | — allows the investigation of the topic in greater depth  
|                      | — used mostly in qualitative and descriptive data collection  
|                      | — very difficult for inexperienced interviewers |
| Semi-open            | — the detailed objectives are defined  
|                      | — the main questions are constructed in advance but there is flexibility to deviate from them to receive additional and more in-depth data  
|                      | — used both in quantitative and qualitative research  
|                      | — safe form for less experienced interviewers |
| Structured           | — very carefully planned and precise  
|                      | — all the objective(s) rigidly established  
|                      | — all the questions constructed in advance  
|                      | — allows the collection of hard facts  
|                      | — reliable and replicable because of its rigidity of design  
|                      | — used to collect personal data, facts about the interviewees, describing an event, context, participants |

Irrespective of the rigidity of the form of an interview, its structure should follow the same stages:

a. *The opening*, which serves the functions of establishing the relationship and interaction pattern between the interviewer and interviewee, in other words, building rapport. It has a motivational function as well as confidence-building in both parties involved in the interview; as such it is one of the most significant factors in achieving interview success. It also serves the purpose of informing the interviewee about the purpose of the interview.

b. *The body of the interview*, which is the set of topics either translated into detailed questions (as is the case in structured interviews) or just serving as guidelines for the researcher in the course of the interview. Different types of questions can be employed (as described earlier in the comments on questionnaires and types and ways of constructing questions).

c. *The closing*, which serves the function of terminating the interview, summarizing it, and which is also extremely important in allowing the interviewer to express their appreciation of the effort taken by the interviewee (Stewart and Cash 2003).
One important aspect of conducting interviews to be mentioned here is the method of recording data collected, as it is different from questionnaire administration. It can take several forms: note-taking, tape-recording or video-filming. Each of these techniques has merits. However they equally well have drawbacks which need to be considered when assessing the individual situation of each interview. The choice of method will depend on the topic focus and degree of depth of data necessary, the characteristics of the parties involved in the interview and also on the availability of the well-functioning equipment.

As with the case of questionnaires, each interview should be piloted with a selected sample, similar in character to the target subject group. The purposes of piloting (pre-testing) are:
(a) to observe if the questions to be asked are understood well,
(b) to determine if there is a need to expand on certain questions,
(c) to observe the reactions of the respondents,
(d) to see if the instructions given are clear,
(e) to decide on the easiness of analysis of the data collected (Stewart and Cash 2003).

The final post-interview stage requires establishing an appropriate coding system and a form for presenting data (possibly both in a narrative and in a tabulated form) from the interview before the final analysis is performed. In the words of Stewart and Cash (2003: 160), it is advisable to:

— Be selective. Ask “What findings are likely to be most useful?” and “What will I do with this information once I get it?”. If you have no idea, do not ask for it.
— Capitalize on the potential data. Subject data to comparative breakdowns to discover differences between the subgroups.
— What is an important piece of information hidden within raw data and simple tabulations?
— Look for what is missing. What you do not find may be as important as or more important than what you do find. What information did you not obtain? What information is very different from what you predicted?

The ways of analysis will be determined by the topic and the type of data. Interview data allow us to conduct both qualitative and quantitative analysis, as is the case with questionnaire data discussed earlier.
8. An overview of sample studies

Let us exemplify the process of questionnaire and interview construction with selected sample studies. They are particularly relevant to this chapter because they are concerned with questionnaire development and validation.

Study 1

The primary aim of this study, described by Spada et al. (2009), was to present the process of constructing and validating a questionnaire for use in the FL/L2 research. The research focus was on the second language learners’ preferences for either isolated (provided separately from the communicative activity) or integrated (provided during an ongoing communicative activity when the primary attention is on the meaning) form-focused instruction (FFI).

The development of the questionnaire commenced with creating an item bank, originally containing 44 items, which were grouped according to the isolated and integrated dichotomy and according to whether they regarded effectiveness, preferences or beliefs. The questionnaire items were subject to expert judgements by twelve MA and PhD students for the content validity. Their task was to categorize the items as either isolated or integrated. They were also given the ‘unsure’ option. The percentage agreement among the expert judges regarding the categorization of the items was calculated and only those items which were agreed upon by 70% or more were taken into account. As a result some of the items were re-worded and, taking into consideration the time required for the questionnaire completion, the item pool was reduced from 44 to 20 items. Table 1 illustrates the evolution of the item wording and the items are presented in Appendix 1.

The proper sample consisted of 314 ESL students from two communicatively oriented programs. They represented various levels of English skills with the majority being at the intermediate level of proficiency. The subjects were allowed the maximum of 20 minutes for the questionnaire completion during their lesson time. The results were entered into the database. In order to conduct the reliable analyses of the results, the questionnaires with missing data on any one out of the 20 items, were rejected. In consequence, the sample size was reduced to the number of 294 subjects.

The statistical procedures were applied to measure the validity of the questionnaire items. Cronbach Alpha index was used to evaluate the reliability of the integrated and isolated subscales. Three items which failed to meet the criteria (no. 5, 11, 13) were not taken into account when calculating the results of the questionnaire. In a similar vein, in
order to assess construct validity of the remaining seventeen items that demonstrated the acceptable levels of reliability, a principal components analysis (PCA), which is a statistical technique used to determine if groups of items match to form a construct or component, was carried out. As a result, the subsequent three items (no. 2, 4, 15) were not included in the statistical analysis. In this study the results showed that the participants had positive opinions about both integrated and isolated FFI. The final outcome of the research was a fourteen-item questionnaire indicated by the study to be a valid and reliable instrument measuring learners’ preferences for FFI, ready to use in other contexts for research and pedagogical purposes.

**Study 2**

In the study on language dominance and language preferences for emotional speech, Dewaele (2004) directs his research efforts at the self-perceived speech behaviour of multilinguals. In order to collect the self-reported data from as large sample as possible, a web questionnaire was used. The questionnaire was designed to provide two types of information: quantitative and qualitative. The former type of data were obtained from the Likert-scale type questions, and the latter — from the open items. The objective of the questionnaire study was to investigate which of the four language skills (i.e. reading, comprehending, speaking, writing) are affected by the dominant language and how the self-perceived L1 attrition influences emotional speech.

The sample consisted of 1039 polyglot respondents of different nationalities and different mother tongues. The respondents spoke a total of 75 different languages and the majority of them were well educated. The questionnaire elicited background information about the subjects’ age, sex, education and occupation, ethnic group, spoken languages, their order of acquisition and level of proficiency as well as their frequency of use and typical interlocutors. The closed-ended questionnaire items measured attitudes to different languages and self-perceived language behaviour. They were formulated according to the following patterns:

*On the scale from 1 (least proficient) to 5 (fully fluent) how do you rate yourself in speaking, understanding, reading, writing?*

*Here are some subjective statements about the languages you know. Please mark to what extent they correspond to your own perceptions (Dewaele 2004: 89).*

The open-ended items referred to the emotional load attached to certain expressions (like *I love you*), behaviour (such as expression of
emotions in letters and to different interlocutors) and non-emotional speech, such as:

*If you are angry, what language do you typically use to express your anger?*

The Cronbach Alpha coefficient was employed to measure the internal consistency of the multi-item scales. Inter- and intra-group differences were also calculated statistically. The results showed that language dominance had a major influence on the various language skills. Figure 1 illustrates the L1 self-rated proficiency scores. Those respondents who felt dominant in other language (Lx) rather than their mother tongue reported the significantly lower levels of proficiency skills than respondents dominant in L1 or L1 + Lx. The results also show that the Lx dominance has a major influence on the L1 writing skills, followed by reading, speaking and finally understanding. As far as the expression of feelings is concerned, the L1 dominant speakers used their L1 significantly more than the two remaining groups. The study also indicated that language dominance affects the choice of language for inner speech and mental calculation. An interesting outcome of the study is that the attrited L1 seems to retain the emotional connotations associated with the swear words and perception of colourfulness, richness or poetic character of the L1. A possible explanation may be that the neural connections established in childhood are linked to the systems for emotional arousal. The study demonstrates that the collection of data from a large group of informants can provide novel information on the self-perceived L1 proficiency (Dewaele 2004).
9. Discussion and tasks

Summing up, a questionnaire and an interview are instruments to collect information about things or people as they are. That means that the researcher is interested in eliciting data on the state of things without manipulating the research environment as is in the case of experimental research methods. Since it is often impossible to administer a questionnaire (or an interview) to the entire population, the researcher has to resort to sampling (Nunan 1992: 141). It is vital that the researcher determines the data analysis procedures before the questionnaire (interview) administration. One of the biggest mistakes is to collect the data which are too difficult to analyse. Both a questionnaire and an interview need to be pre-tested before they are applied. Finally, the gathered results are subject to interpretation and analysis, which can be done with the aid of statistics packages. For further discussion, please consider the following questions and tasks:

Q. 1. What are the advantages and disadvantages of using questionnaires as a research instrument?

Q. 2. What are the merits and drawbacks of using interviews as a tool of data collection?

Q. 3. Compare usefulness of questionnaires and interviews in classroom-based research.

Q. 4. What is Cronbach Alpha coefficient?

Task 1. Are the following random questionnaire items appropriate? Explain.
1. Does your family speak English as a foreign language? □ Yes □ No □ Unsure
2. Do you work? If yes, what is your monthly income?
3. Do you teach pronunciation because you consider it to be essential for communicative goals? □ Yes □ No □ Unsure
   Comment .........................................................................................................
4. Is your perception of native English speakers positive or negative? □ Yes □ No □ Unsure
   Comment ........................................................................................................

Task 2. The questionnaire in Appendix 1 was used in the Study 1 described in Section 6 of this chapter. Would you include any changes in its design?
If yes, what would you change and why? Could you adapt it for your own research?

**Task 3.** You were asked by your school authorities to design an interview on the students’ motivation to learn foreign languages. Create an item pool.

**Task 4.** Identify one content area of the questionnaire in Section 6 and design three to four items measuring it.

**Additional reading**

Gillham B., 2008: *Developing a Questionnaire*. London: Continuum. The book addresses the questions of how to use questionnaires in relation to other forms of research, how to analyse data and how to present results.


Peterson R.A., 2000: *Constructing Effective Questionnaires*. California: Sage Publications, Inc. The author of this publication attaches the primary significance to testing and evaluating questionnaire items to identify whether and why they work. It is intended for researchers who commission, conduct, and evaluate research based on questionnaire surveys.


Stewart C. and Cash W., 2003: *Interviewing. Principles and Practices*. Boston: McGraw-Hill. The authors offer the most comprehensive overview of interviewing as a data collection tool, which is supplemented with a selection of sample interviews. The book will also be of value as a rich source of practical activities in constructing interviews. It also offers information on internet links devoted to this research instrument.

**References**


Appendix 1

Student Preferences for Grammar Instruction

Please answer the following questions about your beliefs and preferences for learning grammar. This will help us better understand how students prefer to be taught grammar. This is not a test, so there are no 'right' or 'wrong' answers. All responses will be kept confidential.

Thank you very much for your help! ☺

Section 1: Personal information

First name: ___________________________ Family name: ___________________________

Teacher’s name: ___________________________ Level: ___________________________

Age: □ 18 – 25, □ 26 – 35, □ 36 – 50, □ 50 +  Sex: M / F

Country of origin: ___________________________

Home language(s): ___________________________

Section 2: Preference and beliefs about grammar instruction

The following are a number of statements about preferences for learning grammar. Please indicate your opinion by circling a number between 1 and 5.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I like to know exactly which grammar point I am studying.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>I believe my grammar will improve quickly if I communicate using English.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>I find it easier to learn grammar when the instructor teaches it by itself.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>I like the teacher to correct my mistakes as soon as I make them.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>I prefer lessons that focus on communication and teach grammar only when necessary.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>I like learning grammar by seeing the explanation, and doing practice exercises.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>I like learning grammar by using language.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

1 Isolated Items: 1, 3, 6, 9, 10, 11, 13, 15, 17, 20. Integrated Items: 2, 4, 5, 7, 8, 12, 14, 16, 18, 19
<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>I can learn grammar during reading or speaking activities.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>I like lessons that focus only on teaching grammar.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Doing grammar exercises is the best way to learn to use English more accurately.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>I find it hard to learn grammar through reading or listening activities.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>I prefer to learn grammar as I work on different skills and activities.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>I like learning grammar by itself.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>I find it helpful when the instructor teaches grammar while we read a text.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>I like the teacher to correct my mistakes after an activity is completed.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>I can learn grammar while reading or listening to a passage.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>I believe my English will improve quickly if I study and practice grammar.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>I like learning grammar during speaking, writing, listening or reading activities.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>Doing communicative activities is the best way to learn to use English more accurately.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>I find it helpful to learn a grammar point before I read it in a text.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Do you have any comments about your beliefs and preferences for learning grammar?

..........................................................................................................................................
..........................................................................................................................................
..........................................................................................................................................

Source: Spada et al. (2009).
Anna D. Biedrzyńska

Kwestionariusz i wywiad jako narzędzia badawcze nauczyciela

Streszczenie


Anna D. Biedrzyńska

Ein Fragebogen und ein Interview als Forschungsinstrumente des Lehrers

Zusammenfassung