

The Mixed Methods Design in User-Centred Lexicography

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Abstract: Along with the shifting in the teaching and learning processes from teacher-centred to student-centred in 1980s (Rogers 1983), learner's lexicography has also shifted from lexicographer-centred or dictionary-centred to user-centred or learner-centred. The task of lexicographers is not to find the right users for the dictionaries, but to find the right dictionaries for the target users. To fulfil this task, a profound understanding of the real needs of the target users is a must in lexicography research.

This paper discusses the application of the mixed methods design (Creswell and Plano Clark 2007) in augmenting user-centred lexicography research. The design starts from the qualitative method, as the basis of the research, and concludes with the quantitative method to affirm the results. There are three data collection techniques discussed along with the mixed methods design: (1) the focus group approach which originated in the work of the Bureau of Applied Social research at Columbia University in the 1940s, (2) the Delphi method which was developed at the Rand Corporation in the 1950s, and (3) the modern theory of lexicographic functions which has been developed at the Centre for Lexicography, University of Aarhus, since the early 1990s.

Keywords: Bilingual Dictionary, Delphi Method, Experimental Research, Exploratory Design, Focus Group Approach, Lexicographic Functions, Mixed Methods Design, Text Reception, User Needs.

1. Introduction

The last decades have seen the shifting of focus in pedagogy. Teaching and learning processes have shifted from teacher-centred to student-centred since 1980s (Rogers 1983). Lexicography, including learner's dictionaries, has also shifted from lexicographer-centred or dictionary-centred to user-centred or learner-centred. The first task of lexicographers is no longer to create the dictionaries and then to find the right users for the dictionaries. Instead, the very first task of lexicographers is to conduct research on the needs of the dictionary users in order to create the right dictionaries for the target users.

There are several methods which can be used to capture the real needs of the users. Tarp (2008: 69) mentions two methods to identify specific user needs: an inductive method and a deductive method. The first may consist of a user survey in which the potential user is observed in an extra-lexicographic situation in order to identify relevant problems from which a general conclusion can be drawn. The second

method is based on the communication models, which Tarp discusses thoroughly in his 2008 book, and on a series of categories derived from linguistics and communication studies and adapted to suit a lexicographic purpose.

Case (2007: 191-233) mentions fifteen types of methods which have been used in studies of information needs, uses, seeking, and sense-making. However, he also states that the methods identified are not an exhaustive list of all possible methodologies. He did argue, however, that one particular approach is very common, i.e. survey, which has been the dominant means of investigation in this area as it has been in most of the human sciences.

In this paper, I integrate the discussion of the data collection methods with the research method designs in order to obtain a more thorough picture of the work to be done in lexicography research which focuses on user needs. Most researchers, including those in lexicography, have one of the research designs, either qualitative or quantitative, they feel more comfortable using and which often becomes their favourite or only approach to research. In this paper, however, I propose to combine the qualitative and quantitative designs into one, a relatively new approach which is usually called the mixed methods design.

Creswell and Plano Clark (2007: 59) classify the mixed methods design into four major types, i.e. the Triangulation Design, the Embedded Design, the Explanatory Design, and the Exploratory Design. The first three methods either start with or place much emphasis on the quantitative design. Only the fourth one focuses more on the qualitative as the starting point or the emphasis. Greene et al. (1989: 267) refers the exploratory design as development design in which one method (qualitative) is implemented first, and the results are used to inform the analysis of the second method (quantitative). Creswell and Plano Clark (2007: 75) state further that an exploration is commonly needed for three main reasons: Measures or instruments are not available, the variables are unknown, or there is no guiding framework or theory. This design is suitable for lexicography research because the researcher needs to explore and create new concepts or hypotheses for a better and a more innovative dictionary. This initial phase, which is a qualitative design, can then be followed up with a quantitative design to affirm the hypotheses. The further discussion on these two phases is given in the following sections.

2. Qualitative Design as the Basis

Qualitative research properly seeks answers to questions by examining various social settings and the individuals who inhabit these settings (Berg 2004: 7). To achieve this goal, a wide range of data collection techniques can be used. In this paper, there are three data collection techniques discussed: (1) the focus group approach, (2) the Delphi method, and (3) the modern theory of lexicographic functions. These three techniques have not been widely used in lexicography research, although they are actually beneficial in augmenting the research. The following is the explanation and the rationalization for using these techniques in lexicography research, especially for the research focusing on capturing the real needs of the users.

2.1 The Focus Group Approach

The focus group approach originated from the work of the Bureau of Applied Social research at Columbia University in the 1940s. Fundamentally, the focus group approach is a way of listening to people and learning from them (Morgan 1998: 9). In lexicography, it is also necessary to set a particular situation and a set of instructions before conducting the discussion. Simply listening to what the people or users say will not be adequate and may lead the researcher to note down only the superficial needs. The situation of the focus group should provide the stimulus for collective members to articulate or perform those needs which are normally unarticulated or not said in a simple interview.

Before having the discussion with the participants of the focus group, there are at least three things which have to be carried out: selecting the participants, preparing the passages to be read by the participants, and setting up the venue.

There is no consensus in the literature as to the number of participants to be selected in a focus group. Merton (1987) had twelve people in his focus group. Schmidt and Hollensen (2006: 66) argue that the optimal size is six to ten people. It actually does not matter how many people there are in the focus group; the main point is that the participants selected must represent the characteristics of the typical users of the dictionary. Therefore, the profile of the dictionary users must be drawn up carefully so that the participants selected really represent the target users of the dictionary.

After the participants are selected and confirmed, the researcher needs to prepare the passage to be given to the participants. The passage prepared must be specific to the needs of the users and the topic must be of interest to the users. For example, in research for a dictionary aiming at students of business, the topic of the passage chosen should also be related to business. More specifically, if the LSP dictionary aims at freshman students, the passage can be taken from a standard proficiency test like BULATS (Business Language Testing Service) as the topic of the passages is related to business but does not require any previous business experience. On the other hand, if the LSP dictionary aims at sophomore or junior students, it would be better to take an extract from an article published in business journals, such as Harvard Business Review, Business Ethics Quarterly, and Journal of International Business Studies.

Finally, the venue must be prepared in such a way that the process can be recorded properly. Besides the furniture, reading passages, and dictionaries, some video cameras must also be set so that the whole process can be recorded. These video cameras are important to enable the researcher to know when and how the respondents use the dictionaries when they read the passages. Each camera should be placed on the right position so that it can capture the images of both the passage and the dictionary of each respondent. The respondents should be instructed to point at the words along the lines while reading the passage to see where they stop and open the dictionaries. In addition, the respondents are also asked to highlight the words or phrases that they do not understand.

Soon after the participants have read the passage within the allocated time, it is time to conduct the focus group discussion. The video recordings are used in interviewing the respondents. In this case, the researcher plays back a particular event in the video (the situation when the respondent opens the dictionary) and asks the respondent about the problem he encountered and whether or not he could find the solution from the dictionary. One of the techniques which the researcher can use in conducting successful focus group interviews is the chain reaction technique, i.e. the moderator builds a cumulative effect by encouraging each member of a focus group to comment on an idea suggested by someone else in the group, by adding to or expanding on it (Schmidt and Hollensen 2006: 69-70). Of course, the researcher, who becomes the moderator, must have excellent observation, interpersonal and communication skills. If

the researcher is in doubt of his moderating skills, it will be a good idea to have an assistant moderator to help him during the process.

2.2 The Delphi Method

Woudenberg (1991: 132) states that the name ‘Delphi’ was intentionally coined in 1950 by Kaplan, an associate professor of philosophy at the UCLA working for the RAND corporation in a research effort directed at improving the use of expert predictions in policy making. Kaplan had the notion that experts could be solicited for their opinions or expectations about the likelihood of events or scenarios. The essential points of the Delphi Method, according to Cuhls (2004: 96) are as follows:

- Delphi is an expert survey in two or more ‘rounds’.
- Starting from the second round, a feedback is given (about the results of previous rounds).
- The same experts assess the same matters once more – influenced by the opinions of the other experts.

Since the nature of the panel which must comprise a group of experts, this method seems a bit difficult to be applied in lexicography research. A PhD student or a researcher may use the Delphi Method if his or her institution has very good networking with other institutions in the field. At the University of Aarhus, Denmark, this method can be applied as the Centre for Lexicography often invites experts from other institutes and has established a good network with experts in this field.

As an example, consider my PhD project, i.e. An English Text Reception Dictionary for Students of Economics in Indonesia. There are five steps that I have to take if I want to use the Delphi method: (1) select the experts, (2) obtain their opinions, (3) summarize their opinions, (4) ask for their feedback on the summarized opinions, and (5) make the final summary of their final opinions.

Considering the topic of my research project, I should select experts in bilingual lexicography, LSP Lexicography, Business English, Cultural Aspects of Lexicography, Dictionaries for Reading Comprehension, and Corpus Processing. It is possible to establish this panel as at the University of Aarhus, there are Henning Bergenholtz, who is a professor in bilingual lexicography; and Sandro Nielsen, who is an expert in LSP dictionaries. In addition, there are some professors who have been invited to this Centre

and conform to the other qualifications; for instance, Pedro A. Fuertes-Olivera (a professor of Business English for ESL speakers), Rufus Gouws (who has made good contributions on the importance of cultural aspects in dictionaries), and Yukio Tono (an expert in dictionaries for reading comprehension). Furthermore, as a part of my PhD program, I shall spend some time at the University of Birmingham, where I can find an expert in corpus processing.

After selecting the experts, I have to contact each of them to explain the concept of the Delphi method and the background of my study. To obtain their opinions, I may create a set of structured questionnaires or open-end questions to be asked to the experts. It is also necessary to inform them that their opinions will only be shown to other experts anonymously and in a summarized form. In making the summary, the researcher should not only list the expert opinions, but also relate the similar ones and give some comments or critics, if necessary. Next, the summarized opinions are sent back to each expert to ask for their feedback. In this phase, each expert will be able to see the summary of the opinions of the others, but anonymously. Each expert may revise his opinions or give feedback on the summarized opinions. Finally, the opinions are summarized again based on their final feedback and comments.

2.3 The Modern Theory of Lexicographic Functions

According to Gouws (2007: 66), one of the important more recent contributions in the field of theoretical lexicography is the emphasis on lexicographic functions. This modern theory of lexicographic functions has been well ingrained at the Centre for Lexicography of Aarhus School of Business since the early 1990s, cf. Tarp (1992, 2002, 2008), Bergenholtz and Tarp (1995, 2002, 2003); Nielsen (1994) and Bergenholtz and Nielsen (2006).

As the title suggests, the first thing to do in the research based on the modern theory of lexicographic functions is to determine the function of the dictionary. Next, there are four steps which can be taken:

1. Drawing up the profile of the target users
2. Determining the user needs
3. Selecting the lexicographic data
4. Preparing the access routes

Lexicographers need to draw up a profile of the intended user group to relate the dictionary's functions to their needs and competences (Nielsen and Mourier 2007: 123). There are several methods which can be used to draw up the profile of the target users. Atkins and Varantola (1998: 25) draw up dictionary user profiles using eleven variables which they call definite facts. For LSP dictionaries, Bergenholtz and Nielsen (2006: 285-286) note eight characteristics that must be taken into account in order to draw up a profile of a specific user group. For LGP, Tarp (2008: 138) lists twelve criteria or variables which must all be included to identify the precise characteristics of a dictionary user. Nevertheless, it is important to remember that the profile of users is different from one dictionary type to another. Therefore, the researcher should not simply take the criteria determined by other experts. Instead, the researcher should try to determine the variables which are applicable and related to the function(s) of the dictionary in question.

After the profile has been drawn up, the needs of these particular users should be determined. Again, the function must be related to the user needs. Tarp (2008: 150) mentions the following items for function-related learner needs for text reception in a foreign language:

- Meaning of lemmata
- Idioms
- Meaning of idioms
- Proverbs
- Meaning of proverbs
- Pragmatic and cultural restrictions
- Irregular inflection forms as lemmata

Considering the differences from one user profile to another, the general points mentioned above should also be adapted or modified in order to conform to the particular user profile.

The third step, the selection of lexicographic data for the dictionary, also depends on the dictionary function and user needs. In order to have a specific function, a dictionary must contain the exact types of data – neither more nor less – that a potential user needs to extract the information required to cover his needs (Tarp 2008: 84). In this case, it is important to select the lexicographic data meticulously. The wealth of data

alone simply swamps us with a dazzling array of facts with no systematic way of evaluating them (Atkins 2008: 271).

Finally, the access route to the data must be prepared well, so that the users can access the information they need promptly. The lexicographic structure must be planned in fastidious detail to facilitate the access, as the more information that is accessible, the more it is likely to be used. Tarp (1999: 133) defines a lexicographic structure as a set of relations existing at the level of lexicographic description between two or more dictionary elements in terms of their form and/or content and/or mutual position in the two-dimensional space of the dictionary.

3. Quantitative Design as the Affirmation

After the qualitative design has been completed, the researcher may use the quantitative design to affirm the qualitative findings. This can be achieved by using experimental research. Tono (2001: 70) mentions that the essential feature of experimental research is that investigators deliberately control and manipulate the conditions which determine the events in which they are interested. In this case, the researcher sets the conditions in which one group are equipped with the newly proposed dictionaries while the other group use the existing dictionaries, to determine which dictionaries are more effective in satisfying the needs of the users.

The test used for the assessment must be chosen carefully. Atkins and Varantola (1998) in their EURALEX/AILA Research Project uses L2 reading comprehension tasks, in which the subjects were requested to read a short passage (about 180 words) and to answer five multiple-choice questions. For a researcher working on an LSP dictionary, the topic of the passage must be related to the LSP itself. Again, a standard proficiency test like BULATS (Business Language Testing Service) can be used for research on business dictionaries. To obtain more reliable results, however, the numbers of passages and questions should not only be one and five, respectively. In addition, it is also better to provide a variety of question types. The use of only multiple choice questions may lead the respondents to simply guess the answers. Therefore, the scores may not show the actual comprehension level of the participants on the passage. To address this concern, the researcher may provide essay questions or short answer questions.

After preparing the tests, the researcher divides the participants into two or more groups based on the different dictionaries to be used. The division of the participants depends on whether the researcher uses a true-experiment or a quasi-experiment. In the true-experiment, the researcher assigns the participants randomly. In the quasi-experiment, on the other hand, the participants are not assigned randomly. Since it is not always possible to randomize the participants, quasi-experiments are necessary in the arsenal of science (Shadish 2001: 12655).

Basically, by using the quasi-experimental design, the participants (the students) are assessed on the dependent variable (the reading comprehension) twice, once as a pre-test and once as a post-test. During the pre-test, all participants are asked to answer the questions without using any dictionaries. Then, in the post test, the first group, called the experimental group, are equipped with the newly proposed dictionaries. On the other hand, the second group, called the controlled group, are equipped with the existing dictionaries. The scores between the first group and the second group are then compared using a statistical test, i.e. t-test, to measure whether or not the scores obtained by the first group are significantly different from those obtained by the second group. If the t-test shows that the scores obtained by the experimental group are significantly higher than those obtained by the controlled group, the researcher has succeeded in creating a better dictionary. However, if it is not, the researcher should make some revisions on the newly proposed dictionary. In an extreme case, the researcher will have to repeat the qualitative design again.

4. Conclusion

There has been more and more research on lexicography which has moved towards user-centred perspectives. This trend may lead researchers to find and use new ways in doing research. The old schools that only focus on a single research method, either qualitative or quantitative, may not be adequate anymore. The use of only interviews or questionnaires with some respondents may also be insufficient. Consequently, a new research design, such as the mixed methods design, may be used to address this concern. One of the mixed methods designs which can be used in lexicography research is the two-phase Exploratory design which starts from exploration and creation of new

concepts and hypotheses (qualitative), and concludes with a quantitative design to affirm the findings. During the initial phase, the focus group approach, the Delphi method, and the modern theory of lexicographic functions can be used to grasp the real needs of the target users. Then, in the final phase, the experimental research can be applied to affirm the hypotheses.

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