

Quantitative, qualitative, or pragmatic: “Research potentials” for TEFL practitioners

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Abstract

The distinction often made between ‘hard’ and ‘soft’ sciences (Becher, 1989) is respectively associated with natural sciences and humanities. The terms are telling in that ‘soft’ often brings to mind a degree of detachment from real, objective, and worthwhile research, while ‘hard’ is often associated with reliable research. In hard sciences, quantitative methods are often used to ensure objectivity, while qualitative methods are often associated with ‘soft’ disciplines. Within the Iranian context, such connotations of the terms ‘soft’ and ‘hard’ have led to the rise of the status of quantitative methods at the expense of qualitative ones. This is particularly noticeable amongst TEFL practitioners in Iran, where some gatekeepers totally disapprove of qualitative research. Such beliefs are situated in epistemological underpinnings of our discipline which is historically rooted in positivism. It is interesting to note that TEFL can be situated amongst the social sciences/humanities fields, and it seems that such fields should not necessarily follow in the footsteps of natural sciences and should instead have their own specific methodologies (Griffiths, 1998). In this paper, which can best be categorized as a call for Iranian TEFL practitioners to put research objectives before research methodological techniques, I will attempt to briefly explain the epistemological underpinnings of these two paradigms, and I will argue that we should rethink this methodological distinction and take a more pragmatic stance with regard to our research problems. I will also refer to three research

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studies as examples of purely quantitative, purely qualitative, and pragmatic with respect to research techniques.

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1. Introduction

Applied linguistics research in Iran seems to be mostly associated with the use of quantitative techniques. Graduate students are often advised and directed to use *t-test*, *ANOVA*, and *correlational* techniques in experimental or quasi-experimental designs. If not always, most often any reference to qualitative procedures is frowned at by gate-keepers, i.e. dissertation supervisors and examiners. This seems to have led to recurrent replication of the same topics within and across English Language departments. One only needs to count the number of theses written on the relation of *field dependency/independency* and various language skills, or the effect of various psychological traits on reading comprehension. For example, I randomly selected 45 MA TEFL dissertations at the University of Tehran, and I found 15 dissertations on the effect of various psychological traits on English reading comprehension.

In my own personal communication with some TEFL graduate students, they often refer to pressure from their supervisors on the use of statistical procedures in their MA theses. I do not intend to rule out the important role quantitative techniques have in applied linguistics inquiry, but it seems that applied linguistics in Iran is so intertwined with quantitative methodologies that they have become the legitimate gauge to estimate the value of any applied linguistics research. I would, however, argue that neither quantitative nor qualitative techniques should be taken as criteria to judge research in applied linguistics. These should only be regarded as instruments at our disposal to look into problems in our fields. In other words, it is the problems that should dictate the sort of techniques to be used, not the other way round. The current situation in our field sometimes suggests that the situation is reverse, in that graduate students seem not to focus on solving applied

linguistics problems, but, though to some extent cynical, to show up their skill in working with numbers and statistical procedures.

I argue that we can emancipate ourselves and our graduate students from this obvious sluggishness in research in our local context once we deconstruct the very practice of research and knowledge construction from an epistemological point of view. In this article, I will first refer to epistemology as the underlying cornerstone of any research activity, and will attempt to explain how it affects research practices. I will then refer to three research articles as examples of purely quantitative, purely qualitative, and pragmatic with respect to research techniques. I will then argue for a redefinition of the role of research methodology in applied linguistics research in Iran.

2. Epistemology and Methodology

The relation of epistemology and methodology is often forgotten in applied linguistics research in our country. One glance at books often taught in graduate courses in Iran (e.g., Seliger & Shohamy, 1989; Hatch & Farhady, 1982) reveals no reference to underlying epistemological orientations in knowledge production. The application of quantitative techniques is often taken for granted without linking it up with research objectives and epistemological orientations. In this section, I will first define epistemology. Then using Street's (1999) diagram, I will try to link up epistemology and methodology in applied linguistics.

Schweizer (1998) defines epistemology as a "subdiscipline of philosophy concerned with the nature and validation of knowledge" (p. 39). Griffiths (1998) moves a step deeper and adds other concepts such as power to the realm of epistemology:

Epistemology...is the theory of knowledge, and research is, at least partly, about getting knowledge. Epistemology encompasses a set of questions and issues about knowledge: what it is, how we get it, how we recognize it, how it relates to truth, how it is entangled with power. (p. 35)

In applied linguistics and language teaching, for instance, one area of interest would be language acquisition and problems associated with it.

Any research in this area should start with ontological questions such as “what is language acquisition” and epistemological questions like “how can we know if a learner has acquired a language?”

We can think of two prominent epistemological positions: positivism and interpretivism. Each of these positions has different versions, though I am not going to explicate these and will suffice to point out the mainstream versions. According to Schweizer (1998), the term positivism was coined by Auguste Comte in the nineteenth century, and it was a reaction against the power of the church in that historical period. The church was using metaphysical arguments to exercise and maintain its power, and the positivistic movement was founded to undermine metaphysical underpinnings of this power. This clash between the church and scientists like Comte was in fact a struggle between two different paradigms on how knowledge is produced. On the one hand, the church believed that knowledge is delivered to man through the Holy Scripture and its interpretations by theologians, and on the other hand followers of the positivistic movement believed in knowledge production through observation. One cornerstone of the positivistic movement was its objective to know the reality ‘out there’, apart from the subjectivities of the observers. This was why they shunned anything subjective and adhered to only objective descriptions of the world around them.

Natural sciences soon followed the guidelines set forth by the positivistic movement and began to study natural phenomena objectively. The tools to this end were soon developed. Interpretation and understanding based on subjective judgements were soon replaced by objective descriptions of natural phenomena using detailed measurements and statistical procedures for working with numbers. This was even reflected in the way the results of such research were made public in writing. Passive voice was, and still is, used to prioritise objectively measured actions over subjectivities of the researchers.

The success of positivistic tradition in natural sciences motivated researchers in the social sciences/humanities to follow in the footsteps of the natural sciences. The success of positivism in the social science/humanities, however, has been a contested issue. Wiliam (1999), for instance expresses doubt regarding the success of the application of positivism in education:

For most of this century, the predominant way of finding out and understanding in education has been based on a way of researching that has attempted to emulate the successes of the physical sciences. The success of the physical sciences stem largely from the fact that the meanings of the results of experimental data are likely to be agreed across a wide range of contexts, and by a large proportion of the research community. In the writing up of such research, it is assumed that the text produced will have the same meaning to the vast majority of readers, and will apply across a wide range of contexts. These 'objective methods' are much more difficult to apply in social science research, and, even where the methods have been possible to apply, their success has been extremely limited. (p. 2)

In line with the argument expressed above, Griffiths (1998) mentions three reasons for the inadequacy of natural science techniques in educational research: *agency*, *power*, and *ethics*. He argues that human beings, unlike chemical and inanimate objects, are capable of thinking and are not simply passive participants in research projects; i.e., they have *agency*. Secondly, *power* in any human interaction, one being research interactions, is not equally distributed, and this will have serious consequences for any research on/with human beings. Researchers, because of their social status, often have more power than research participants and this affects research outcomes. And finally, when dealing with human subjects, there are ethical issues which should be dealt with.

The use of positivistic tradition in applied linguistics can be categorised into two main eras. During the first era, probably the late 1980s and into the middle of the 1990s, statistical techniques were mostly in the form of experimental and quasi-experimental studies. There has been a shift, however, in the application of such techniques in recent years, where such techniques have been mostly used in corpus linguistics and vocabulary studies (Bygate, 2004). It would be interesting to note that:

This has the potential of enabling the application of quantitative techniques to quite sensitive linguistics patterning, suggesting a

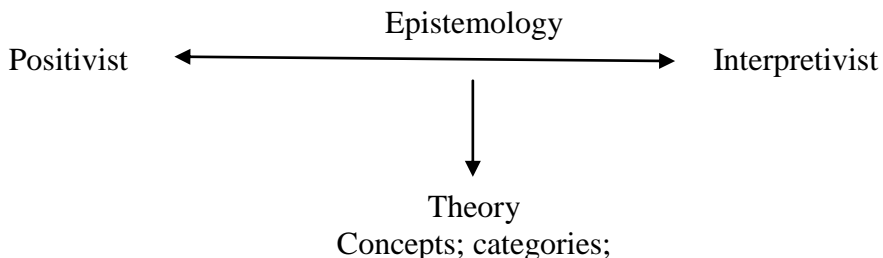
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possible quantitative pathway towards qualitative phenomena.
(Bygate, 2004, p. 10)

In contrast with positivistic underlying assumptions of the existence of realities outside the mind of researchers, some strands in the *interpretivist* tradition reject the existence of *a* reality and believe in *multiple* realities. They argue that the work of researchers in the natural sciences is one of *description*, whereas that of researchers in the human sciences is one of *understanding* (Schwandt, 2000, p. 191). According to this epistemological position, reality is not ‘out there’ waiting to be discovered, but is actually constructed as a result of the interaction between the researcher and the data. Such a perspective is in sharp contrast with claims of objectivity which are of such paramount importance in positivism. Based on interpretivism, understanding and knowledge are historical and therefore influenced by our subjectivity. Interpretivists believe, since nothing is objective, any claim to objectivity should be rejected.

In sum, the positivistic epistemology believes in the discovery of the unknown by objective means, the most obvious realisation of which is quantification and measurement. In contrast, the interpretivistic epistemology believes in multiple realities, and to know such realities, it resorts to the understanding of human actions and behaviour. This understanding is best achieved through working with qualitative data consisting of words and descriptions of phenomena.

The important issue which I would like to turn to now is the link between epistemology, methodology, and research techniques. In so doing, I will reproduce Street’s (1999) diagram below:



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Quantitative techniques are often associated with positivism while qualitative techniques are often linked with interpretivism. This, however, is not a clear cut distinction. For instance, the early anthropologists were mostly positivists who were trying to grasp an emic representation of the *others* through qualitative techniques. Yet another example is the *grounded theory* tradition of Glaser and Strauss (1967) which believes that concepts and variables are grounded in the qualitative data and emerge almost automatically. In fact, grounded theory uses qualitative data but takes a positivistic stance with respect to knowledge production.

The sorts of techniques used in qualitative and quantitative research are also different. In qualitative research, researchers use observation, interview, and document analysis (Wolcott, 1994), while quantitative researchers employ statistical measurements, experiments, and questionnaires. As a result, what counts as data is also different. In qualitative research, data consists of field notes, transcripts of interviews, and documents, while in quantitative research data is usually a set of numbers, measurements and tables.

After this brief introduction to the relation of epistemology, methodology and research techniques, in the next section of the paper I will argue that we should set research objectives rather than research methodologies as our point of departure. I will develop this issue further by referring to three research studies in which quantitative, qualitative, and both quantitative and qualitative techniques have been employed.

3. Qualitative, Quantitative, or Pragmatic?

In the previous sections of the paper I outlined the epistemological underpinnings of qualitative and quantitative techniques. In the present section, I will refer to three research studies in applied linguistics in the chronological order in which they were published. The first is a purely quantitative study, the second a purely qualitative study and the third is what I refer to as a pragmatic study.

The first paper is purely quantitative and is entitled *Content and Formal Schemata in ESL Reading* by Carrell (1987) published in *TESOL Quarterly*. This study was carried out to determine the

relative weighting of content and formal schemata in reading comprehension. Two groups of high intermediate EFL students from different cultural backgrounds, Muslim and Catholic, were given reading texts with varying content and formal schemata. The texts were about 'Ali Afani' and 'St. Catherine', which were assumed to contain content familiar to Muslim and Catholic participants respectively. The rhetorical organization of the texts was altered for both texts to produce two further texts with unfamiliar rhetorical structures. Both groups, Muslims and Catholics, read and answered questions on both texts, but in each group, half of the subjects read the text with familiar rhetorical organization and the other half read the version with an altered rhetorical organization. The results of reading comprehension questions were put to different statistical analyses, showing that content schemata was more important than formal schemata in the overall comprehension of the culturally loaded reading passages in the study. As suggested above, this was a purely quantitative study. It seems that the researcher could have triangulated her findings by conducting some interviews with the participants to explore how they approached and understood the four different texts.

The second paper, in contrast with the first, is purely qualitative. It is entitled *Assessing Language Needs within an Institutional Context: An Ethnographic Approach* by Holliday (1995) published in *English for Specific Purposes*. In this study, Holliday was called in to an oil company in the Middle East to assess the English language needs of the national staff in that company. Adopting an ethnographic approach, he decided to go amongst various participants of the company to see the issues from their perspectives. The data he collected consisted of interviews and textual examination of writing samples done by the national staff. The results were a set of themes including: the role of English in the workplace, the inefficiency created as a result of lack of proficiency in English, and dangerous situations the national staff would face because of their inability to follow oral instructions in emergency situations. Holliday wrote that his aim in writing the paper was not to report on the language needs of staff in an oil company, "but to illustrate what sort of factors had to be considered, and how these

factors had to be approached” (p. 125). The main objective of the study was to show the role of ethnography in conducting needs analysis. This purely qualitative study could have been improved if a questionnaire was developed based on the qualitative themes and distributed amongst the oil company staff under study. This quantitative stage could have supplemented the study.

The third paper I would like to refer to is by Hyland (2001) entitled *Humble Servants of the Discipline? Self-Mention in Research Articles*, published in *English for Specific Purposes*. It employed a combination of both quantitative and qualitative techniques. The quantitative portion of the study consisted of a corpus analysis of 240 research articles in various disciplines to find expressions of self-mention in these texts. This is in line with application of quantitative techniques to study qualitative phenomena (Bygate, 2004) referred to earlier. The qualitative section of the study consisted of a number of interviews with members of disciplinary discourse communities under study to probe into their understandings and assumptions of their writing practices. Through the simultaneous use of both quantitative and qualitative techniques, Hyland (2001) was able to present a coherent and successful argument on the authorial presence in academic writing of members of different discourse communities. This is what I would refer to as taking a pragmatic stance with regard to doing research.

This sketchy analysis of these three research articles was only intended to show the pragmatic stance our discipline is taking at the moment. We can clearly see in Hyland’s article the complimentary use of quantitative and qualitative research with reference to the pragmatic value these traditions have in solving research problems.

4. Conclusion

In this brief overview of the role that qualitative research might play in research in TEFL, I presented the epistemological underpinnings of quantitative and qualitative methodologies. I argued that one obstacle to the advancement and application of qualitative techniques among TEFL practitioners in our country is the historical prevalence of positivism in this tradition. This biased negative view towards

qualitative research has undoubtedly deprived Iranian researchers and graduate students of one of the most fruitful and productive traditions in research. My main argument throughout this paper has been to change a shift in our point of departure for judging acceptable research proposals and articles. Rather than judging the quality of a piece of research only on the basis of the presence of quantitative techniques, we should take a more pragmatic stance and see if the research objectives have been rightly addressed through the application of right techniques. In other words, we should abandon the question: “Are there numbers and quantitative techniques in this paper?” with this one: “Have the techniques, whether qualitative or quantitative, used in this research study been able to help achieve the research objectives? This shift in our assumptions on qualities of good research will undoubtedly ease the burden felt by some practitioners who see the advantage to employ both quantitative and qualitative techniques. And last but not least, researchers should think of themselves as *detectives*. Both qualitative and quantitative techniques should be thought of as ‘research potentials’ at the disposal of the *detective researcher* to solve the *mysteries* in our field. Taking this perspective will lead to a more pragmatic stance with regard to research.

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