

i.e.: inquiry in education

Volume 8 | Issue 2

Article 6

2016

Re-conceptualizing Research Misconceptions: Top Ten Myths Demystified

Faisal S. Al-Maamari Dr

Sultan Qaboos University, Oman, faisalf@squ.edu.om

Follow this and additional works at: <https://digitalcommons.nlu.edu/ie>

Recommended Citation

Al-Maamari, Faisal S. Dr. (2016). Re-conceptualizing Research Misconceptions: Top Ten Myths Demystified. *i.e.: inquiry in education: Vol. 8: Iss. 2, Article 6*.

Retrieved from: <https://digitalcommons.nlu.edu/ie/vol8/iss2/6>

Copyright © 2016 by the author(s)

i.e.: inquiry in education is published by the Center for Practitioner Research at the National College of Education, National-Louis University, Chicago, IL.

Reconceptualizing Research Misconceptions

Top 10 Myths Demystified

Faisal S. Al-Maamari

Sultan Qaboos University, Muscat, Oman

Introduction

This is not a field study as such. Rather, it is a systematic and critical synthesis of the author's reflections of and experiences in supporting novice researchers with their research projects in a public Middle Eastern university between January 2012 and August 2015. During this period, I chaired a research committee which aimed to support novice researchers with their research. The committee is based in the Language Center of Sultan Qaboos University, which aims to teach pre-sessional and in-sessional English language courses to matriculate university students, and consists of an international community of instructors coming from over 30 different countries. However, the researchers the committee in question supported could all be described as novice researchers. Those generally came from three constituencies: English language instructors working at the Language Center; undergraduate students, often school teachers, pursuing a master's degree in the field of English language teaching (ELT) based in local and international higher education institutions; and national graduate and postgraduate students enrolled in doctoral programs in ELT overseas.

Based on this experience with these novice researchers, it became evident, both in their proposals and through interaction with them, that several notable myths about research were held. This is not to deny the fact that there is ample good practice by novice researchers in the context and outside, as reported elsewhere (Al-Maamari, Al-Aamri, Al-Wahaibi, & Khammash, in press). A focus on such research myths is critical for several reasons. First, beginning researchers are novices to research, precisely because they are new to this realm of inquiry. Also, current scholarship supports the conclusion that teachers generally have neither formal grounding in research theory (Cochran-Smith, 2005) nor experience in research. These primarily serve in teaching assignments in contexts fraught with various kinds of difficulties for carrying out research. Finally, the literature on the education of research methods coalesces to a lack of understanding in this area. For example, in his synthesis of the literature on research methods education, Earley (2014) identifies five core difficulties facing students taking these courses: (a) their perceptions of the irrelevance of the courses to their studies/lives, (b) their nervousness about the course and its difficulty, (c) their lack of motivation to learn the material, (d) poor attitudes towards research, and (e) misconceptions about research (pp. 245-246). This paper addresses the latter characteristic, in relation to novice researchers as defined above.

The paper should be read in conjunction with a set considerations. First, the issues under discussion are important for novice researchers engaging *in* research and *with* research (Borg, 2010), in the sense that it is essential to those *doing* and *consuming* research. Second, although the collected data in the paper is derived from researchers whose research centered on ELT themes, the paper is relevant to novice researchers in general, as the broad principles underlying research inquiry are universal enough to apply equally well to all disciplines. Likewise, even though those myths may not be de facto for all novice researchers outside the region, they are still pertinent to teacher research engagement in the humanities and the social sciences. In short, important lessons may be extrapolated to outside the context and the field being described. Finally, it is not the intent of this paper to present research jargon or engage in philosophical debate; rather, the goal is to present a user-friendly, practical, and nonprescriptive guide of core issues pertaining to novice researchers, with the aim of demystifying held research myths. Neither is it my purpose to highlight problems in others' research, or to foreground a pessimistic perspective about some of their research practices. On the contrary, my intention is to offer some guidance for educators experienced in teaching but new to the realm of research, as well as some reminders for veteran researchers in their task of preparing the young scholars of the future (Capraro & Thompson, 2008).

There is a rising need to educate practicing teachers about issues of research in an attempt to close the widening divide between research and practice, and, therefore, between researchers and practitioners (Mehrani, 2014; Tavakoli, 2015).

The Study

Engagement in research may begin with an individual's interest in undertaking a research study to satisfy a personal, professional, and/or institutional purpose. At other times, a researcher is not driven by interest, but rather by course requirements (e.g., undergraduate- or graduate-level research requirements).

The purpose of this article is to showcase the 10 most popular misconceptions held by novice researchers. This is an important exercise for a number of reasons. First, these misconceptions are so scattered in the professional literature, that, "left to their own devices, research methods teachers must rely on a network of peers, scattered research literature, and much trial-and-error as they develop and improve upon [such] courses" (Earley, 2014, p.243). Also, according to Rosemary and Lucas (2006), the research literature does not adequately focus on the learning of research methods. Most importantly, there is a rising need to educate practicing teachers about issues of research in an attempt to close the widening divide between research and practice, and, therefore, between researchers and practitioners (Mehrani, 2014; Tavakoli, 2015).

The discovery of the top 10 misconceptions held by novice researchers came about as a result of my own work as chair of the research committee at the Language Center of Sultan Qaboos University in Oman from January 2012 to August 2015, and through conducting collaborative

research with instructors of English as a foreign language (EFL) in the same context, where I still work as a language lecturer. In my role as chair, I read numerous proposals and checked various research instruments and designs using a *community of practice* approach (Wenger, 1998), in terms of the engagement in the informal discussion of novice researchers' ideas and designs. Although a complete isolation of the influence of scholarly literature is neither possible nor desirable, in this study of the novice researcher misconceptions, I used a grounded theory approach (Strauss & Corbin, 1994) in the sense that I gathered insights into research from the field, from the bottom up, as it were. In this paper, I will relate the misconceptions to the extant literature so as to offer an informed analysis of their origins and meanings. Where appropriate, I made use of metaphors (Miles & Huberman, 1994) in order to simplify some of the abstract concepts discussed. Table 1 provides a list of the 10 most common misconceptions encountered, organized into four categories.

Table 1

Top 10 Misconceptions in Doing ELT Research

Category	Misconceptions
<i>Conceptual</i>	There is only one way to doing research. Research is a solitary activity completed by white-coated scientists in a laboratory. Reflective practice is synonymous to research.
<i>Methodological</i>	Is my sample large enough? Is my instrument long enough? The case of the instrument salad I have to use interviews!
<i>Ethical</i>	I have invited them and, therefore, they must abide.
<i>Practical</i>	Here are copies of my questionnaire. May I collect them back after 30 minutes? My research design looks great.

Conceptual myths relate to the concept of research, its meanings, and its definition; methodological myths relate to the design of the research in terms of methods; ethical myths to research relate to the values and morals of the researcher; and practical myths relate to pragmatic considerations around data collection. In the pages which follow, I will present each of these misconceptions within its broader category, discuss why each is a mistaken notion, and highlight a few strategies novice researchers could employ so as to engage in appropriate research. In the end, I offer a few concluding remarks for novice researchers.

Conceptual Misconceptions

Misconception 1: There Is Only One Way to Doing Research.

The word *research* in English is neither pluralized nor a single countable noun. Perhaps this is where the confusion stems. We can say “some research,” “a piece of research,” or “a research

study,” although more and more often the term “researches” is being used. Thus, the term itself may suggest that there is only one kind of research; however, research comes in different disguises and in different shapes and colors. A review focused on the historical development of research may shed more light on this matter. During the 18th and 19th centuries, there was one research paradigm that predominated and, thus, determined what acceptable research was. This school of thought, commonly referred to as *positivism*, was based on logical empiricism, quantification, and observation. This theory rested on the premise that if a researcher visually observed white swans multiple times, then it was readily acceptable to conclude that all swans were white. However, when an observer saw the first black swan, the earlier premise, and its whole school of thought, fell into question and, therefore, had to be revised (Feinstein & Thomas, 2002).

Positivism, or in its lighter form, quantification, is no longer the dominant or only paradigm, as there are now alternative paradigms of inquiry underpinned by postpositivism, constructivism, critical theory, and others. However, in some parts of the world where research activity is still a young activity, such as in the Gulf region, and particularly in Oman here, the effects of positivism on thinking and day-to-day practices still take hold and remain the power engine of many research ideas and proposals, and most importantly, the thinking of novice researchers. Since old habits die hard, this disposition toward only one type of (acceptable) research has two unwelcome consequences, namely, that consumers of research tend to consider positivist, quantitative studies as the only type of valid research, and students and other researchers have a desire/belief that they need to engage in such studies. This is because the way research is conceptualized influences the way it is conducted (Brown & Rodgers, 2002). Researchers affected by positivist conceptions of research would, for example, stare with skepticism at research which does not report any numerical data. Borg and Alshumaimeri (2012) in Saudi Arabia investigated ELT teachers’ perceptions of research, and found that the participants associated research with “‘scientific’ notions such as experiments, hypotheses, variables and statistics” (p. 350). For example, in most research designs that have been discussed with me, the quantitative questionnaire is *the* main, if not the only, instrument indicated in the various research proposals.

In basic terms, there seem to be two purposes for research, which include: (a) to measure a phenomenon (e.g., the effect of oral drills on students’ acquisition of acceptable pronunciation) or (b) to understand a phenomenon (e.g., investigate what ways students use out-of-class time to develop comprehensible pronunciation). Likewise, Riazi and Candlin (2014) describe two types of research studies in language teaching and learning, with the first being studies that seek understanding of the complexity of behavior and “cultural understanding,” and the second as research that seeks explanation, concerned with “accounting for variation and variability between language learners in the process of language learning” (p.137). The latter type of study tends to typically “draw on quantitative methodology and related methods, measuring defined variables in order to explain relationships and advance generalizable inferences” (p.137). As such, there are as many kinds of research as there are purposes behind carrying it out. In other words, the different theoretical perspectives the researcher takes to study a certain area under investigation produces a spectrum of ways for understanding or doing research. Therefore, if each purpose of the two described above lies at a polarized endpoint on a continuum of research types, it follows that at any single point there is a research orientation or purpose. For example, some research

aims to add to the human's knowledge base, others aim to address practical issues and offer solutions, and still some others aim to highlight social injustice and power relations, and so on.

As was previously discussed, if these two distinct types of research foci and methods are considered endpoints on a research continuum, other classifications of research fall in between. Other classifications of research (e.g., Tashakkori & Teddlie, 2002) are based on the nature of the data: quantitative, qualitative, and mixed methods. Quantitative research draws on positivist or postpositivist traditions and is interested in numbers; qualitative research has its roots in the constructivist tradition where words are the primary data; and a mixed-methods study is rooted in pragmatism, is principally guided by what works in relation to a set of research questions, and focuses on both quantitative and qualitative data. Christ (2009) discusses research as “exploratory, explanatory, confirmatory, action, transformative, and critically oriented mixed methods” (p. 293), while others classify research into four types: basic, applied, action, and evaluation (Patton, 2002). The overarching conclusion for novice researchers, then, is the cohabitation of multiple types of research from which to make a selection as befitting their identified research area.

Misconception 2: Research Is a Solitary Activity Completed by White-Coated Scientists in a Laboratory.

This misconception has three basic underlying assumptions. Assumption one is that research is thought to be a solitary activity. Assumption two says that research is the realm of the specialist and the expert. Assumption three situates research solely in the laboratory. Those three assumptions are extensions of the first misconception reviewed earlier, and are the octopus arms of the positivist doctrine.

For many young researchers, to do research means to sit at a desk and review stacks of journal articles and anthologies, to sift through all the literature, to write pages of notes, to consult hundreds, even thousands of databases and electronic resources—to live in the library. Some people often think of a researcher as that person who has locked themselves away to do nothing but research. The truth is quite contrary to such assumptions: Researchers, and social researchers in particular, are social beings who mix with people, who use social media websites to observe interactions, who take to the streets to poll people, or who roam corridors to chat. Increasingly, research is becoming a social activity. In other words, researchers are doing research with, about, and for people. If novice researchers assume a solitary presence, then they miss huge opportunities for the discussion of research ideas necessary for such concepts to mature. Interrogation of ideas is key to doing research, and often it is possible for researchers to not be able to see clearly due to their close proximity to the research and the long periods with which they are engaged in it. The interrogation and discussion of ideas with fellow researchers and/or practitioners (e.g., listening and sharing insights) at the workplace, in the classroom, or at conferences, has the benefit of providing clearer foci, tighter research designs, and more coherent discussions of findings.

Doing research also requires a set of skills and some expertise; however, a majority of these skills are amenable to learning and are easily accessible to the layman, because research knowledge typically follows common sense and natural intuition. Typical researchers are not marked by uniform, but by the systematicity upon which they approach phenomena. Showman,

Cat, Cook, Holloway and Wittman (2013) discuss five essential skills for undergraduate researchers. These are creativity (i.e., making original contributions to their own discipline), judgment (i.e., considering the pros and cons of choices), communication, organization, and persistence. Similarly, Toledo-Pereyra (2012) lists 10 qualities of a good researcher that include: interest, motivation, inquisitiveness, commitment, sacrifice, excelling, knowledge, recognition (i.e., sensitivity to the research process and how it evolves), scholarly approach, and integration (i.e., working with the previously mentioned qualities). It is clear from these two lists that nearly all those qualities, attributes, or traits are generic, and do not require special training, but a commitment with oneself and with one's principles. Perhaps "scholarly approach" is the only attribute that requires training and some level of expertise. Rosemary and Lucas (2006) found that students at the master's level emphasized critical reading and thinking, communication skills, quantitative research techniques, study skills, and the ability to decide how to choose which methods to use, all important qualities for researchers to possess.

Third, researchers are increasingly not defined by place, as in the image of scientists in white coats commonly conveyed by the media and reminiscent of the earliest forms of research. Here typical scientists are depicted in the treatment of their guinea pigs or rats in an experimental laboratory. Yet as more and more researchers focus on studies in the social sciences, their contexts range widely across social settings.

In sum, researchers do not solely sit at their desks reading literature or at their computers analyzing data. On the contrary, the research process is versatile and rich, and affords the novice researcher a wide range of experiences from which to gain deep learning. Thus, for example, master's and doctoral students learn to relate to scholarly literature and look critically at their work by attending college or departmental seminars. They also discuss their own work with practitioners or fellow researchers and present their ideas at conferences in paper or poster presentation formats to increase the strength of their studies. Researchers also debrief about their work with someone who has greater expertise in their area of research, and who may be familiar with their research site. This individual(s) can act as the "inquirer peer" and play the "devil's advocate" to enhance the viability of a study (Lincoln & Guba, 1985, pp. 308-309), even if this means asking painful questions.

Misconception 3: Reflective Practice Is Synonymous to Research.

This myth falls under the classification of conceptual misconceptions as it relates to how young researchers understand the concept and the meaning of research. Is research reflective practice? Or is it more than that? Reflective practice is closest to action research and teacher research (as opposed to basic or pure research, for example), and this is how this misconception is described here. Numerous proposals written by administrators, policy makers, or practitioners focus on improving instructional programs, developing institutional procedures such as student evaluation of teaching, introducing curricular and assessment systems, and evaluating existing professional development approaches. Such proposals are usually premised on one individual's perspective, and data, if any, is based on experience. The proposal writer does not seek to collect data through interviews, observations, document review, and so on, but relies primarily on anecdotal evidence. Thus, the perspectives presented in the proposal are usually closely aligned to those of the proposal writer, which is problematic.

There are critical differences between research and reflective practice. Reflective practice “can be a useful precursor to action research,” but “it is not identical to it” (McMahon, 1999, p. 163). Both reflective practice and action research converge around reflection on experience(s), but the similarities end there. McMahon notes that whilst “reflective practice can be used to identify problems, action research can seek to provide solutions” (p. 168). Therefore, any potential solutions suggested in the proposal topics discussed above will appear to simply be commonsense, “what works” solutions to the identified proposal problem. In action research, however, the solution emerges from a systematic and critical analysis of the data. Tripp (1990) adds that in reflective practice, the practitioner “is not using any recognizably scientific research strategies (such as observation schedules, interviews, or transcript analysis) to monitor and analyse [any] planned action” (p. 160). According to McMahon (1999), action research is associated with strategic action, which is “a deliberate and planned intent to solve a particular problem” (p. 167).

Cochran-Smith and Lytle (1999) define teacher research as “all forms of practitioner enquiry that involve systematic, intentional, and self-critical inquiry about one’s work” (p. 22). Research is identified in relation to: (a) the systematicity with which the problem of research is presented (i.e., by critically reviewing the available literature and closing the gap between the problem identified in the research site and the extant theory available in the area); (b) the systematicity with which data is collected (in terms of using the appropriate methods to address the set problems); (c) the systematicity with which data is analyzed (the employment of an appropriate range of methods to explore the data); (d) the systematicity with which the research is reported (i.e., researchers are critical of their own research in terms of its validity/reliability, the avoidance of bias, and so on); and (e) its utility to context, research theory, policy, and practice.

Methodological Misconceptions

Misconception 4: Is My Sample Large Enough?

I have yet to see a young researcher who maintains his or her sanity when wrestling with this question. Novice researchers are often frantic about the issue of sampling, and rightly so; however, the issue is that they seem to seek to find a quick fix to this question, waiting for a specific number. Novice researchers here face tension between the size of the sample and its connection with the quality of the research. I have often heard budding researchers say that “it’s not possible to design a research study with few participants,” or that “the quality of the study is going to suffer, since the sample is so small.” This is what I term the one-case fallacy, where novice researchers cannot comprehend the idea that a full research study can be based on one case (the case here being as delimited as a teacher/student/textbook, for example). They feel insulted or baffled if one tries to convince them that a whole PhD can be based on one teacher or one student or one textbook. Their preoccupation with quality blinds everything else. Young researchers may also possess a confused notion of what quality entails. The result of all of this confusion is the same: “numerous errors and questionable approaches to sample size and selection” (Bartlett, Kortlik, & Higgins, 2001, p. 44).

There are two issues with this fallacy; the first centers on the sample size, and the second on the relationship between sample size and quality. The sample size question is best discussed in reference to the typical types of research, namely, quantitative, qualitative, or the blend of the

two. Again, because of the rooted influence of positivist conceptions of research, novice researchers are always concerned with a specific sample number. However, even in the quantitative tradition, sample sizes are relative to the purpose of each study and, more importantly, to whether or not researchers' interests lie in generalizing their findings to a wider population from that which their samples are drawn.

To increase the external validity of quantitative research is to increase the sample size, and to increase the external validity of qualitative research (often referred to as transferability), such researchers are advised to report the findings in “a thicker and richer narrative of [participants’] experience and its meaning for them” (Hostetler, 2005, p. 17). To increase the external validity of mixed method research is to pay attention to how to integrate both. For example, Collins, Onwuegbuzie, and Jiao (2006) provide a rough estimate of sample size with moderate effect sizes with 0.80 statistical power at the 5% level of significance. From their synthesis of the literature pertaining to sample size, two points are clear. First, while quantitative research designs typically require a greater sample size for minimum efficacy, for certain qualitative research designs a sample size of three may be entirely acceptable. Second, it is clear that sample size varies from one research design to the next, and that different researchers stipulate different numbers.

Likewise, using Cochran’s (1977) formulas, Bartlett et al. (2001) offer a table with three alpha levels for determining sample size in survey research. The table is copied here for categorical and continuous data:

Table 2

Appropriate Minimum Sample Size Relative to Population Size for Continuous & Categorical Data

Population size	Sample size					
	Continuous data (margin of error = .03)			Categorical data (margin of error = .05)		
	alpha = .10 t = 1.65	alpha = .05 t = 1.96	alpha = .01 t = 2.58	p = .50 t = 1.65	p = .50 t = 1.96	p = .50 t = 2.58
100	46	55	68	74	80	87
200	59	75	102	116	132	154
300	65	85	123	143	169	207
400	69	92	137	162	196	250
500	72	96	147	176	218	286
600	73	100	155	187	235	316
700	75	102	161	196	249	341
800	76	104	166	203	260	363
900	76	105	170	209	270	382
1,000	77	106	173	213	278	399
1,500	79	110	183	230	306	461
2,000	83	112	189	239	323	499

4,000	83	119	198	254	351	570
6,000	83	119	209	259	362	598
8,000	83	119	209	262	367	613
10,000	83	119	209	264	370	623

Note. Permission obtained from publisher.

All considered, it is clear that as the target population increases, so does the necessary sample. As well, the sample size is directly proportional to the significance levels required to generalize findings, so that for continuous data, a significance level of 0.01 requires a larger sample than a significance level of 0.05. Finally, relative to the population, surveys or questionnaires comprised of categorical data require a bigger sample compared to surveys/questionnaires comprised of continuous data.

Given its emphasis on numerical data, research related to quantitative research designs has focused on the topic of sampling to the extent that it is a science in its own accord. In this tradition, a variety of sampling types exist (e.g., random, stratified, cluster). Thus, the novice researcher is preoccupied with the question of sample size given the abundant nature of such terminology, which again is based in positivist roots. In mixed-methods research literature, based on Onwuegbuzie & Leech (2004), Collins et al. (2006) provide 14 of the most common sampling schemes. Collins et al. (2006) further discuss when a particular sampling strategy is appropriate and how it can be useful for comparisons.

The issue of making connections between sample size and the quality of the research is not solely or even partly dependent on sample size. Rather, it is the result of the systematicity of the research and the interrelatedness of its components, such as the soundness of the research questions and the theory that guides it, the preciseness with which the instruments are designed, and the coherence of the research design—only one of which is sample size. In his book, *Qualitative Evaluation and Research Methods* (3rd ed.), Patton (2002) cites Abraham Lincoln, who addressed the issue of length of observation in the following pragmatic manner, which is a good rough rule of thumb for the determination of sample size: “Tell us, Mr. Lincoln, how long do you think a man’s legs ought to be?” a heckler asked. “Long enough to reach the ground,” replied Lincoln (p. 275).

Misconception 5: Is My Instrument Long Enough?

This misconception holds parallel commonality with sampling in that, for both, the core issue relates to size. Consider the case of a hypothetical student whose tutor asked her to design and carry out a research study for the 3-credit course in which she was enrolled. The student came armed with several 5-page, 45-statement questionnaires and asked if the research committee could help her administer them. At this point I will solely focus on the methodological issue with her case, although I will return to this example in the discussion of ethical misconceptions later in this paper. This particular student held the mistaken notion that the longer the research instrument, the more likely it will make/produce good research. This is not atypical of young researchers.

The example above suggests that the breadth/depth dimensions of an instrument are *not* a constant factor in research across different research projects/purposes. In other words, the

breadth or the depth of the instrument is relative to the proposed research. So, for example, a proposed research with a single instrument will require the researcher to expand on the main instrument (i.e., by adding further sections) as compared to another proposed research with multiple methods. Since the student's research formed a part of a single course in an undergraduate program, there was no need to design a lengthy questionnaire. My response to the student was: "Add another instrument to validate the findings, and this will be a sufficient research design not for a BA course, but for an entire PhD research dissertation!" This is not to undermine the work involved in completing a PhD, but to underscore the significance of considering the length/breadth of an instrument.

The practice of this student and/or her tutor is ill-advised on various fronts. First, she came to see the committee about administering her questionnaire three weeks before the end of the semester. Therefore, using simple mathematics, the 45 Likert scale statements will require huge amounts of time in data entry alone, not to mention the amount of time required to conduct meaningful statistical tests, interpret findings, relate them to the extant literature, and finally, produce a well-constructed research report in time for the due date. One also could imagine the trouble the student had to undergo to construct this questionnaire given the course load (i.e., comprised of four to five 3-hour credit courses). The length of the questionnaire may in the end serve the course's purposes, but it is unlikely that the student would be able to complete the report in time or learn anything meaningful about her research questions.

Let us consider a hypothetical research topic in regards to the perceptions of ELT tertiary instructors about the importance of reading research to their teaching practice. Suppose a researcher opted to use a questionnaire as the only instrument to gather data. The researcher could design the questionnaire to elicit qualitative data, quantitative data, or mixed data. Any of the aforementioned options would have a sizeable impact on the breadth/depth of the questionnaire. In the case the researcher went for the quantitative option, he/she would then need to consider whether the chosen research area would require the use of inferential statistical tests to gauge any significant differences between two groups or two qualities (e.g., experienced vs. inexperienced instructors) or to employ central tendency or dispersion measures to compute arithmetic means or standard deviations, and so on. If the former, the researcher would need to subsequently construct a questionnaire with a set of demographic variables and a set of continuous statements. Therefore, at every stage of this process, the researcher weighs the possibilities and evaluates their relevance to his or her proposed research topic in such a way that any taken decision is considered in relation to the aims of the research study and the research questions.

Misconception 6: The Case of the Instruments Salad

This myth stems from the fact that the novice researcher resorts to the employment of a hodgepodge of research methods, believing this will strengthen the research. As before, this misconception originates from the researcher's preoccupation with the quality of research and a confused sense of what this entails. It is premised on the notion that the quality of research data is dependent on, and judged by, the use of multiple instruments, with the belief that it is preferable to use as many methods within one study as possible. An illustration of this might be a doctoral student pursuing studies at an overseas university, who recently approached the Language Center Research Committee regarding his topic, the integration of technology in the

English language classroom. In basic terms, his research design involved an assortment of methods, including: (a) the administration of an online questionnaire to EFL instructors, (b) instructor reflective journals about their use of technology, (c) instructor interviews during the study, (d) observations of these instructors during classroom instruction, and (e) follow-up interviews after the classroom observations. His proposal did not indicate the theoretical underpinnings for these methods and their proposed sequence, nor why such a large data set was necessary.

Again, the selection of an instrument to collect data should be based on an informed decision of what kind of data each tool is able to yield. Instruments such as a sequence of random free trials (RFTs), pre- and posttests, interviews, questionnaires, diaries, and/or observation schemes/checklists should be implemented with extreme care, as each gathers data at a different level. For example, questionnaires and interviews are self-reporting instruments and are usually useful for gaining insight into participants' perceptions. On the other hand, observations allow the researcher to capture what happens, as opposed to what participants say happens, and so on. For each method, there are various approaches from which to select that can range on a continuum from highly structured to unstructured, and include structured interview/observation schedules, semistructured interviews/observations, and nonstructured interviews and observations. The sequence of data collection methods should be considered to maximize triangulation, which is one means to achieve convergence and corroboration amongst data. In the context of mixed-methods research literature, for instance, Greene, Caracelli, and Graham (1989) propose five purposes for the use of more than one method, which can be grouped in the acronym, *CITED*:

Table 3

CITED: An Acronym Outlining the Purposes Underlying Mixed-Methods Research Designs

Purpose	The use of different methods
<u>C</u> omplement	To address different research questions or different facets of a phenomenon
<u>I</u> nitiate	To carry out further data collection/analysis when data from two methods are contradictory
<u>T</u> riangulate	To corroborate data for a single research question or a single facet
<u>E</u> xpand	To use different methods for different research components so as to extend the breadth of the research
<u>D</u> evelop	To base the development of a subsequent method that builds on the data from a previous one

Likewise, the mix between quantitative and qualitative methods should be approached with care, as most scholarly articles in *The Journal of Mixed Methods Research* and the *International Journal of Multiple Research Approaches* would attest to. To give one simple example, Onwuegbuzie and Collins (2007) report four main designs based on time (i.e., concurrent or sequential) from which researchers may select for a mixed-methods research study. Many more research designs are possible in this approach.

Paul and Marfo (2001) write that increasing numbers of students currently pursuing doctoral degrees in education are “deciding on methodological preferences for their dissertation research long before they have posed their specific questions” (p. 538).

One primary step for the novice researcher in the initial design of a study that can inform the kind of data/instruments to be employed is to create a research design plan that includes the research questions in a grid format—together with the data collection instruments, potential participants, and/or sources of information. Such a visual grid helps the

researcher look across the different components of the research design to study their coherence in comparison to the research questions. In addition, this demonstrates, in a focused way, the number of instruments and their relation to the research questions, and allows for consideration of the sequence of the methods so as to ensure a more effective research design.

Misconception 7: I Have to Use Interviews in my Study!

This misconception clashes with one of the key tenets of research, the method-purpose fit or the fit-with-purpose. In idiomatic parlance, this misconception resembles the case of putting the cart before the horse in such a way that the cart is expected to do the job of pulling the horse, and not the other way around. If the horse is placed in the rear, the end result is that the cart will not move forward, but perhaps backward. Similarly, in research terms, the result of such an approach to research—trying to adjust the purpose based on the method—is usually catastrophic, with the outcome leading to a mismatch at the data level between the research questions and the data. Similarly, preoccupation of method at the expense of questions disrupts the whole point of conducting research that answers the quest for knowledge and advances society.

Paul and Marfo (2001) write that increasing numbers of students currently pursuing doctoral degrees in education are “deciding on methodological preferences for their dissertation research long before they have posed their specific questions—and often with little or no conceptual grounding in the core philosophical assumptions behind the chosen methodologies” (p. 538). Given that the research questions usually emerge from the survey of the literature or from the inquirer’s experience, the choice of which method(s) to use must be linked directly to the purpose of the inquiry or to the research questions. Patton (2002) listed six criteria upon which to select methods, and none of these consider methods to be a criterion. These include: (a) purpose of the inquiry, (b) the primary audience of the findings (i.e., whether it is for a doctoral committee, policy makers and administrators, or teachers), (c) the questions that direct the inquiry, (d) the data needed to answer the research questions, (e) the resources available to support the research (i.e., finances, time, access), and finally, (f) the criteria that will be used to judge the soundness of the research.

A researcher may select the method(s) before deciding on the purposes of the study due to his or her comfort with one specific method and the desire to avoid any other alternative methods, which can compromise their research. Alternatively, the researcher may have one limited conception of research, possibly that it involves the use of a questionnaire or an interview. As part of the research toolkit, the possibilities of which instrument(s) to use in a proposed area of

study are infinite; however, the single criterion that should guide this selection is the method's fit to the research questions.

After the researcher has settled on appropriate methods/instruments to achieve the set goals and answer the research questions (RQs), the second criterion is the sequence of these methods/instruments so that they achieve the best arrangement to address the research questions. For example, if one adopts a broad description of methods to mean approaches such as qualitative or quantitative, it follows that the arrangement of which one is main and which one is secondary is based on the nature of the research questions and the area being investigated. In cases where the topic under investigation lacks a solid literature base, a set of qualitative methods such as participant observation and qualitative interviewing is appropriate. If one adopts a slightly narrower perspective of methods, meaning observation, interviews, tests, and so on, then it follows that, for this same proposed research, intensive observations of the phenomenon under study are required before a researcher may proceed with interviewing participants. A third example is that if a researcher is an outsider to the setting or area under investigation, intensive periods of observation of the setting and the contexts will yield data that will guide the further stages of the inquiry. To sum up, the decision about the research method to select for the proposed inquiry in case of a single-method research study and/or the sequence of methods in regard to a multiple-methods study rest on their potential to address the research questions.

Ethical Misconceptions

Misconception 8: I Have Invited Them, and Therefore They Must Abide!

According to Wellington (2000), ethics permeate the whole research process. Unfortunately, in practice, ethics are often treated with injustice. The source of this misconception is the mistaken notion that ethics are extraneous or an afterthought to the research process. The metaphor related to this topic is that of a meal with an appetizer, main course, and dessert. Novice researchers may think of the methodology/theory as the second or main course, leaving ethics as last. Paul and Marfo (2001) write that "following the tradition of the natural sciences, graduate research courses in education tend to emphasize techniques of inquiry rather than the logic, values, and ethics underpinning inquiry" (p. 536). Wagner, Garner and Kawulich (2011) discuss seven main themes in the research methods literature that include teaching research ethics, and signals the centrality of ethics to the research process.

The assumption of the novice researcher that participation in a research study is a right rather than a favor is false. One source for this mistaken assumption is that a limited cultural notion may be taken as the basis for understanding research ethics. This is similar to a researcher who wanted to do research, and was advised to contact fellow instructors via email to help him mark writing scripts. He sent the first email, and then a second reminder. In one case, he did not receive a response from one of the potential participants, and so he assumed that this silence signified consent on the part of this invitee. However, when the individual did not return the scripts, the researcher became furious and wrote the individual an angry email. The situation escalated until the administration was forced to become involved so as to resolve the misunderstanding. Such misunderstandings happen for a multitude of reasons, in some cases due to cross-cultural misinterpretations. In this case, it is attributable to the researcher who was uninformed about standard research access issues, and cross-cultural misunderstandings.

Invitations alone are not enough to attain participants for a study, given the ever-increasing bombardment of requests made today for participation in questionnaires or surveys, interviews, and so on. Most potential participants may be willing to assist with such research; however, novice researchers should allow them plenty of time to become informed of the study, and what consent to participate entails.

Research is a complex, intensive activity for both researcher and participant. The benefits for the researcher are high, some of which include education and professional development; the acquisition of a degree or certificate; and the concomitant financial, promotional, and statutory rewards. However, any benefit that the participant may accrue is either nonexistent or not immediately apparent. Thus, participation in research is voluntary, and, in simple terms, participants are simply doing researchers a favor.

The issue of access to a certain research site, participant group, or academic program is an important one, and gaining access is also a lengthy process, more often considered to be a negotiation of access as opposed to simply gaining access. Additionally, the negotiation of access to participants is determined by the future participants of your research themselves, and those administrators and institutional decision makers often consider such issues with care, given they are responsible for the welfare of their institution. However, even though it is expected that administrators are sought as institutional gatekeepers, they are never in the position to grant absolute access to their employees. To give an example, years ago, at the time of data collection for my PhD research, and after I gained institutional clearance to begin field work, one participant in the research site said, “I can give you all materials you need for your study, and you can interview with me all you want, but I am not going to allow you in my class.”

Any research should be examined for ethicality, and reputed institutions worldwide have instituted what is called institutional review boards (IRBs), whose role it is to ensure that any research study does not harm the participating institution and the participants—students, teachers, and others. The Sultan Qaboos University Language Center Research Committee is a form of IRB and has often vetted applications in relationship to proposed data collection methods so as to put the welfare of the institution over and above any other consideration. For example, some proposed research interventions may reduce the amount of instructional time to which a group of students should be exposed, or may affect the curriculum coverage determined for their course. Wherever it was possible, alternative plans were considered so as to facilitate research and support researchers with their research projects. In sum, then, at the proposal design stage, novice researchers are required to consider not only the institutional requirements to gain access to a research site, but also the obstacles they may run into to secure the consent of the potential research participants.

Practical Misconceptions

Misconception 9: Here Are Copies of My Questionnaire. May I Collect Them Back After 30 Minutes?

The above misconception is a result of a limited conception as to what research is. The attitude on the part of the researcher violates the researcher attributes presented earlier, namely,

communication, organization, and persistence (Showman et al., 2013), as well as commitment and sacrifice (Toledo-Pereyra, 2012), as it relocates the work of the researcher unto the participants. To further explain, the previous example of the BA student who presented a 5-page questionnaire and hoped to have it completed in 30 minutes raises a question of a pragmatic nature. Who at the research site is especially free for the student to oblige and complete the questionnaire, let alone complete it in 30 minutes? The answer is very few. Therefore, it is of the essence that novice researchers think through the research sites they pick to implement their studies.

Novice researchers or their tutors may choose a destination to collect data for a number of reasons, some of which have to do with the proximity of the research site, the appropriateness of the target participants to the area investigated, and the ease with which they assume they can access the site given its large number of potential participants, the availability of contacts, the absence of institutional boards that vet research ethicality and methodology, or any combination thereof. Those are all valid reasons to select a research site; however, the assumption that participants are readily available to help with a study is false. In an academic setting, potential participants may either be busy teaching or doing research. For example, in the Language Center with a staggering number of 230 instructors who come from different ethnic backgrounds, access to participants may not be straightforward, as each participant is informed by their own cultural expectations. Therefore, cross-cultural misunderstandings, informed by different expectations and a relatively low research culture due to a heavy teaching load, may arise. Those misunderstandings were common before the research committee was established, as will be clarified next.

Prior to the establishment of the Language Center Research Committee in 2012 to facilitate requests for data collection, students simply left their questionnaires on instructors' desks, expecting that they would be completed by the instructor within a few hours/days (and in some cases, minutes). The end result was that most questionnaires were left incomplete or even discarded, replaced by feelings of animosity and discontent for both the researcher and the participant. In essence, the researcher's behavior did not promote a research culture; on the contrary, an adversarial backwash effect occurred for both the researcher and the participant. Additionally, these behaviors violate a very important research principle, which is participant consent, together with the principle that participation in research is a voluntary act.

From a pragmatic, logistical viewpoint then, a number of factors contribute to whether a potential participant will agree to complete a questionnaire, sit for an interview, or allow the researcher to attend their lesson. There are times when data collection is not possible, such as at the beginning of semester, during assessment time (either continuous or summative), when institutions have their own projects to supervise, times when a number of research projects are already underway, semesters with many breaks, overloaded instructors with no time for research, or sheer apathy to research, and so on. What I have often told novice researchers is that research is about making choices (Patton, 1990), and that any research act is successful so long as it is a compromise between what is desirable in terms of research area, research goals, and the theory on the one hand, and what is possible in terms of practicality on the other hand (e.g., who can help, how much they can help, how fast they can offer the help, and what skills the researcher has to negotiate this help). A juxtaposition between the real and the practical should be examined

early on, as the timing of this can determine whether or not the researcher will obtain access to conduct his or her study.

Understanding the site wherein one plans to collect data and negotiate access to participants, materials, and curricula is a lengthy process that plays a huge role in determining what and who can be a part of the research, as well as the conditions that will be required to modify the research plans. This naturally presupposes a study of the site and access issues well in advance, or at least in tandem with efforts to develop the research proposal.

Misconception 10: My Research Design Looks Great!

All designs, whether for research purposes or those in construction blueprints, initially look great on paper; however, in reality, all details may not turn out according to the plan. There are many ideas for research, but few of these may be viable. Research is a compromise between what is possible in terms of the theoretical concept and the actionable practice. Therefore, a researcher is successful inasmuch as his or her research design is feasible both theoretically and practically, with the latter meaning it can be executed in the real world. The following four scenarios depict researchers who have approached the Language Center for data collection over the past four years, together with an analysis of the shortcomings of their research designs vis-à-vis the context in which they wanted to collect data.

Scenario 1:

One instructor's PhD research design involved the collection of a range of observational, documentary, and interview data about the EAP program's assessment practices. The researcher planned to ask program administrators to write reflective journals about how they designed their assessments.

This scenario illustrates an overambitious design in the sense that the researcher wanted to ask the course leaders to keep journals on their assessment practices. Due to a lack of consultation with the practitioners in the field, the researcher faced difficulty and the instructors responded that they did not usually design special assessments each semester. Rather, they used former assessments, causing the researcher to abandon this component of his research design.

Scenario 2:

Two undergraduate students wanted to access the placement tests of other students currently enrolled at the university's Language Center because their professor had asked them to study the spelling mistakes frequently made by students entering university.

Here the students again did not consult with the practitioners in the field, and so their design was problematic on two fronts. First, there was no way that students could receive access to a formal, high-stakes test such as the placement test. Second, summative assessments are not marked with a view to providing feedback to completers. Therefore, the spelling errors the students were expected to study were not existent in the placement test data. In this case, the students were advised to pursue a different research topic, as an easier option was readily available in terms of asking an instructor to provide samples of students' in-class writing.

Scenario 3:

One PhD student wanted to collect data about the effect of using wikis on the writing of university students. He planned training sessions for the full-time instructors, and wanted to observe instructors when using a wikis program to manage writing in the classroom.

In this case, the researcher assumed that the use of wikis was readily incorporated in the context. He expected that the instructors would be available to attend training on wiki technology, and

These misconceptions are interrelated and interconnected, and it is well known that a mistaken notion of what research is at the conceptual plane has repercussions on the methodological, practical, and ethical planes as well.

that it would be easy for them to allow him in their classrooms. What this researcher was asking was, in fact, an added burden that went above and beyond the instructors' responsibilities. The researcher was asked to make changes to his initial research design by recruiting fewer participants than originally planned,

and recruiting specific individuals who would be willing and eager to undertake training in the area.

Scenario 4:

One MA student wanted to study the effect of translation activities on students' attention to and learning of grammatical structures. The researcher wished to have 20-25 students and asked to teach six lessons during a regular class time.

In this scenario, the MA student's research design did not take into account the uniqueness of the context in two ways. First, in order to allow the researcher to teach six hour-long lessons in this proposed context, the institution had to ensure that the individual was a qualified instructor so that the students would not receive substandard instruction. Second, the topic of the experiment (grammar) did not fall within the scope of the course content, and thus, such a study could not occur during the class as this would have affected both the coverage of required curricular material and students' performance. The MA student was advised to make a call for volunteer participants and offer the experiment as extra evening English instruction.

In all these situations, initial researcher consideration for the proposed setting for data collection would have allowed for an adjustment to each research design, resulting in a smoother process of attaining site and participant access, as well as collecting data.

Concluding Remarks

In summary, this paper presented 10 of the most common misconceptions of research held by novice researchers independently of one another; however this does not mean that they do not interact. On the contrary, these misconceptions are interrelated and interconnected, and it is well known that a mistaken notion of what research is at the conceptual plane has repercussions on the methodological, practical, and ethical planes as well. Although the focal core research areas reviewed in this paper are situated within the sole context of the Language Center at Sultan Qaboos University, the novice researchers were practicing teachers, and graduate and postgraduate students. Additionally, the insights presented may have applicability in other

contexts, especially those where research is still an embryonic and emerging activity, for young researchers taking their first steps towards the research craft, and for classroom practitioners who may not have a solid footing in research practice.

Throughout this manuscript I suggested ways that junior researchers can act on the misconceptions reviewed. The following list provides both a reiteration and suggestions related to these misconceptions in more detail:

1. Be open to different research traditions and the schools of thought bearing on them, such as ethnography, phenomenology, case study, critical inquiry, experiments, correlational studies, narrative inquiry, and so on. No one is an expert in all of those.
2. Decide on the purpose for undertaking a study early on. Ask related questions, such as: Am I trying to understand an issue, determine the relationship between variables, or identify any differences between two or more groups and their significance? Research purposes emerge from a survey of related scholarly literature and from immediate experience. Preparing a strong literature review is essential and will establish you for subsequent steps in completing your research project.
3. Determine the purpose of sampling, methods, and types. Consider if you are trying to generalize to the population, and if not, ensure your claims are warranted based on the intended sample size.
4. Consider the strength of different research approaches in relationship to your research questions—qualitative, quantitative, and mixed-methods. Consider which instruments will best address your research questions, and what your rationale is for using multiple instruments, and how you will best sequence them.
5. Delimit your research foci if necessary. Examine the breadth of your research topic so as to determine how broad/deep your instruments need to be. Determine if you will need to use multiple methods, and the appropriate compromise between breadth and depth of topic, and therefore, of instruments.
6. Consider ethics at the outset of a research study, deciding: (a) how you plan to access the site and recruit participants; (b) how your study findings will benefit or possibly harm certain individuals, programs, or schools; and (c) how you plan to protect participants' identities and reduce any possible risks.
7. In cases where the research site is not familiar, avoid assumptions of immediate permission to enter, but rather, plan to accommodate time for this process prior to the data collection stage. Familiarize yourself with the school/center's requirements for conducting research on its premises. Some schools have IRBs to vet the ethicality of the proposed research. Allow plenty of time for this to happen as well.
8. At every possible opportunity, discuss your research plan with fellow colleagues who have done similar program-level research; share your ideas with practitioners in the field; and talk with professionals during conferences, symposia, and seminars.

In conclusion, over the past few years since its inception, the Language Center Research Committee has played a significant intermediary role between novice researchers seeking to research in the field of English language teaching and the Center, bearing in mind the welfare of both parties and helping to promote a healthy and conducive environment for research to occur. Thus, the last piece of advice offered here to such academic institutions is to create and nurture

such an IRB, and for researchers to consider such professional bodies as being established to aid, rather than hinder them.

Faisal Al-Maamari is an assistant lecturer at the Language Center of Sultan Qaboos University in Oman. He received a BA in TEFL from Sultan Qaboos University in 1999, an MA in English Language Teaching from the University of Warwick in 2001, and a PhD at the University of Bristol in 2011. His main research interests include teacher cognition and teacher education, programme quality, and research methods.

References

- Al-Maamari, F., Al-Aamri, K., Al-Wahaibi, M., & Khammash, S. (in press). Promoting EFL teacher research engagement through a research support programme. *RELC Journal*.
- Bartlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43-50.
- Baumgartner, T. A., Strong, C. H., & Hensley, L. D. (2002). *Conducting and reading research in health and human performance* (3rd ed.). New York, NY: McGraw-Hill.
- Bernard, H. R. (1995). *Research methods in anthropology: Qualitative and quantitative approaches*. Walnut Creek, CA: AltaMira.
- Borg, S. (2010). Language teacher research engagement. *Language Teaching*, 43, 391-429.
- Borg, S., & Alshumaimeri, Y. (2012). University teacher educators' research engagement: Perspectives from Saudi Arabia. *Teaching and Teacher Education*, 28(3), 347-356.
- Brown, J. D., & Rodgers, T. S. (2002). *Doing second language research: An introduction to the theory and practice of second language research for graduate/master's students in TESOL and applied linguistics, and others*. Oxford, England: Oxford University Press.
- Capraro, R. M., & Thompson, B. (2008). The educational researcher defined: What will future researchers be trained to do? *The Journal of Educational Research*, 101(4), 247-253.
- Christ, T. W. (2009). Designing, teaching, and evaluating two complementary mixed methods research courses. *Journal of Mixed Methods Research*, 3(4), 292-325.
- Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York, NY: John Wiley & Sons.
- Cochran-Smith, M., & Lytle, S. (1999). Relationships of knowledge and practice: Teacher learning in community. *Review of Research in Education*, 24, 249-305.

- Cochran-Smith, M. (2005). Teacher educators as researchers: Multiple perspectives. *Teaching & Teacher Educator, 21*, 219-225.
- Collins, K. M. T., Onwuegbuzie, A. J., & Jiao, Q. G. (2006). Prevalence of mixed-methods sampling designs in social science research and beyond. *Evaluation and research in education, 19*(2), 83-101.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education.
- Deem, R., & Lucas, L. (2006). Learning about research: Exploring the learning and teaching/research relationship amongst educational practitioners studying in higher education. *Teaching in Higher Education, 11*(1), 1-18.
- Earley, M. A. (2014). A synthesis of the literature on research methods education. *Teaching in Higher Education, 19*(3), 242-253.
- Feinstein, C. H., & Thomas, M. (2002). *Making history count: A primer in quantitative methods for historians*. New York, NY: Cambridge University Press.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-74.
- Hostetler, K. (2005). What is “good” education research? *Educational Researcher, 34*(6), 16-21. Retrieved from <http://digitalcommons.unl.edu/teachlearnfacpub/131/>
- Krueger, R. A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). Thousand Oaks, CA: Sage.
- Johnson, R. B., & Christensen, L. B. (2004). *Educational research: Quantitative, qualitative, and mixed approaches*. Boston, MA: Allyn and Bacon.
- Langford, B. E., Schoenfeld, G., & Izzo, G. (2002). Nominal grouping sessions vs. focus groups. *Qualitative Market Research, 5*, 5870.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Thousand Oaks, CA: Sage.
- McMahon, T. (1999). Is reflective practice synonymous with action research? *Educational Action Research, 7*(1), 163-169.
- Mehrani, M. B. (2014). Bridging the gap between research and practice: Voice of mediators. *Journal of Pan-Pacific Association of Applied Linguistics, 182*, 21-38.

- Miles, M., & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.
- Morgan, D. L. (1997). *Focus groups as qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.
- Morse, J. M. (1994). Designing funded qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 220-235). Thousand Oaks, CA: Sage.
- Onwuegbuzie, A. J., & Leech, N. L. (2004). Enhancing the interpretation of “significant” findings: The role of mixed-methods research. *The Qualitative Report*, 9(4), 770-792. Retrieved from <http://www.nova.edu/ssss/QR/QR9-4/onwuegbuzie.pdf>
- Onwuegbuzie, A. J., Jiao, Q. G., & Bostick, S. L. (2004). *Library anxiety: Theory, research, and applications*. Lanham, MD: Scarecrow Press.
- Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 281-316.
- Patton, M. (1990). *Qualitative evaluation and research methods*. Thousand Oaks, CA: Sage.
- Patton, M. (2002). *Qualitative evaluation and research methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Paul, J. L., & Marfo, K. (2001). Preparation of educational researchers in philosophical foundations of inquiry. *Review of Educational Research*, 71(4), 525-547.
- Riazi, A. M., & Candlin, C. N. (2014). Mixed-methods research in language teaching and learning: Opportunities, issues and challenges. *Language Teaching*, 47(2), 135-173.
- Rosemary, D., & Lucas, L. (2006). Learning about research: Exploring the learning and teaching/research relationship amongst educational practitioners studying in higher education. *Teaching in Higher Education*, 11(1), 1-18.
- Showman, A., Cat, L. A., Cook, J., Holloway, N., & Wittman, T. (2013). Five essential skills for every undergraduate researcher. *CUR Quarterly*, 33(3), 16-20.
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In N. Denzin & Y. Lincoln (Eds.), *The handbook of qualitative research* (pp. 273-285). Thousand Oaks, CA: Sage.
- Tashakkori, A., & Teddlie, C. (Eds.). (2002). *Handbook of mixed methods social and behavioral research*. Thousand Oaks, CA: Sage.
- Tavakoli, P. (2015). Connecting research and practice in TESOL: A community of practice perspective. *RELC Journal*, 46(1), 37-52.

Toledo-Pereyra, L. H. (2012). Ten qualities of a good researcher. *Journal of Investigative Surgery*, 25, 201-202.

Tripp, D. H. (1990). Socially critical action research. *Theory Into Practice*, 29, 158-166.

Wagner, C., Garner, M., & Kawulich, B. (2011). The state of the art of teaching research methods in the social sciences: Towards a pedagogical culture. *Studies in Higher Education*, 36(1), 75-88.

Wellington, J. (2000). *Educational research: Contemporary issues and practical issues*. London, England: Continuum.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge, England: Cambridge University Press.