



Content Analysis of the Method Section of Research Articles Published in the ‘Journal of Teaching Persian to Speakers of Other Languages’

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Extended Abstract:

In today’s world, publishing research articles (RAs) in English is essential for postgraduate students and university professors in almost all majors (Tikhonova, 2020). However, conducting quality research and publishing RAs in high-ranking and prestigious journals seems to be a very challenging task for most of postgraduate students and novice researchers. As a result, and they cannot graduate even several years after they have written up their theses and dissertations. Thus, novice researchers are under pressure to improve their composition skills through increasing their knowledge of the rhetorical structure, organizational patterns, and needed elements of an RA for their field of study in order to increase their chances of acceptance and publication (Hyland, 2004).

Statement of the problem: Although novice researchers need to increase their knowledge of different sections of an RA, having sufficient information about the method section of RAs is of utmost importance (Kellet, 2004). Method section is the general plan of the research, forms the main section in RAs (Kellet, 2004; Lim, 2006) because it gives the readers sufficient information on the actions taken for performing the research (Musa, Khamis, & Zanariah, 2015), provides the readers with information regarding the validity of the data collection instruments, and is one of the sections to which most reviewers pay a great deal of attention (Kellet, 2004; Lim, 2006). Nonetheless, despite the importance of the method section in writing and evaluation processes of RAs, previous literature examining the methods section of RAs is so little that no universal model has been put forward for its move structure (Behnam & Zamanian, 2013; Kanoksilapatham, 2005; Lim, 2006; Peacock, 2011). While there are several studies conducted on the method section of the RAs in linguistics and applied linguistics since 2000, most of them have investigated the method section from angles different from this research. They have either

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addressed textual organization and linguistic features (Morales, 2016), rhetorical structure (Fazilatfar & Naseri, 2014; Soodmand Afshar & Ranjbar, 2017; Zhang & Wannaruk, 2016), grammatical complexity and clause types (Seifoori & Fattahi, 2014), RAs in several fields (Peacock, 2011), or genre analysis (Farnia & Baratizade, 2020). There exist far fewer studies which are similar to this study in their aims and procedures (Khany & Tazik, 2017; Lazaraton, 2000; Sahragard & Meihami, 2016; Tazik, Khany, Aliakbari, 2020; Yağız, Aydın, & Akdemir, 2016), among which only Sahragard and Meihami (2016) studied the RAs in the *Journal of Teaching Persian to Speakers of Other Languages* (TPSOL), which is the focus of the present study.

Aims and data collection process: In order to fill this gap in literature, this study investigates the method section of all the 141 RAs published between 2012 and 2020 in the Journal of TPSOL. To be more exact, it is a detailed content analysis of the research approaches and designs, data collection tools and data sources, number of participants, statistical tests and software used in data analysis, and the main missing elements or problems of the method section of the mentioned RAs. In order to reach these aims, all the published articles between 2012 and 2020 were downloaded. In order to speed up the data collection process, four PhD students (paid research assistants) helped the researcher in the data collection process. They downloaded all the 141 RAs and coded them as 1 to 141. However, the numbering was not done according to the order they were published so that readers cannot guess the codes and find the articles. Then, the researcher read the title, abstract, and method sections of these articles in order to find the needed information for answering the research questions. Since the researcher could not find the needed information in these sections in some cases, he had to read the whole article carefully, looking for the needed information sometimes in the results and conclusion sections.

Data analysis: In order to analyse the data, as mentioned above, the researcher read the articles two times and highlighted the information in the PDF files, leaving comments in sticky notes. Later, the researcher recorded the information for all the research question in a table. In fact, the researcher did not follow any specified and preplanned framework for the content analysis of the data and recorded exactly what was mentioned in the articles, even if they were wrongly mentioned. The researcher followed inductive content analysis to depict a comprehensive and exact picture of the method sections.

Results and conclusion: Analyzing the data revealed that almost 57% of the papers followed quantitative approach, followed by mixed-methods approach (31%). Descriptive, comparative, and correlational studies were the most widely used research designs, while case study was employed the least. Researchers gathered the needed data mainly through questionnaires, achievement tests, pre-test and post-tests, and documents such as textbooks and transcriptions. The number of participants in these studies varied according to the research designs

and purposes, with some few studies gathering data from sample sizes smaller than the standard size. The data of these 141 RAs were analyzed through descriptive statistics, content analysis, and t-test. It was also revealed that data analysis section, participants, and instruments were the most problematic sub-sections in the method section. Not specifying the validity and reliability of the data collection instruments, gathering data from low number of participants, not specifying the criteria for scoring or analysis of the data, presenting insufficient data about the raters and inter-rater reliability, and offering no details about the treatment were the most serious problems with the method sections of these RAs. The study ends with several practical suggestions for future researchers, present reviewers, and editors of the journal.

Keywords: Method Section, Teaching Persian, Research Articles, Content Analysis

1. Introduction

In today's world, publishing research articles (RAs) in English is crucial for postgraduate students and university professors in almost all fields (Haven, Bouter, Smulders, & Tjldink, 2019; Maniati, Jalilifar, & Hayati, 2015; Raitskaya & Tikhonova, 2020), and many scholars consider RAs as one of the most efficient channels to communicate up to date information among researchers and scholars worldwide (Khamkhien, 2015). Conducting quality research and publishing RAs in high-ranking and prestigious journals has recently become a necessity and a concern for most students before graduation (Paltridge, 2017; Raitskaya & Tikhonova, 2020) and university professors for job promotion, staying in their jobs, and getting higher salaries (Haven, Bouter, Smulders, & Tjldink, 2019; Maniati, Jalilifar, & Hayati, 2015); however, it seems to be a daunting and challenging task for many postgraduate students and novice researchers, and they cannot graduate even years after they have written all their theses and dissertations.

One of the most serious problems in publishing research findings is that some students lack the essential composition skills for efficiently presenting their research findings (Ganji & Derakhshan, 2020) and, as a result, they cannot express themselves in accordance to the textual conventions and standard criteria of their field and meet the expectations of the academic community they belong to (Flowerdew, 1999; Wood, 2001; Zhang & Wannaruk, 2016). Consequently, these teachers and students are under tremendous pressure to share their findings in the form of published RAs (Fanelli, 2010; Grimes, Bauch, & Ioannidis, 2018).

The first solution to this complicated problem and an effective way to reduce this pressure and tension for researchers is to sufficiently be informed of the expectations of the reviewers and editors of the journals who make the last decisions regarding the publication of a manuscript (Ganji & Derakhshan, 2020). On the one hand, since journals and editors fail to train the reviewers in reviewing the manuscripts fairly and objectively, the review results are not always objective and fair (Paltridge, 2017). On the other hand, journals, editors, and reviewers do not publicly announce their criteria, if any, for reviewing the manuscripts and do not provide a checklist containing the required elements of a quality paper (Falkenberg & Soranno, 2018; Hames, 2007). To top it all, there exists no evaluative criteria or rating scale in many of the fields to be used by novice researchers as a yardstick for self-evaluation of their manuscripts before being sent to journals (Mårtensson, Fors, Wallin, Zander, & Nilsson, 2016).

Having been disappointed with the first solution, novice researchers might need to improve their composition skills through becoming cognizant of the rhetorical structure, organizational patterns, and needed elements of an RA for their field of study in order to increase their chances of acceptance and publication. In other words, they have to increase their macro- and micro-level

knowledge of the genre and linguistic features such as lexico-grammatical features, rhetorical organization, communicative functions, and content (Hyland, 2004). To fulfill these needs, there have been many studies conducted on the RAs published in many fields including applied linguistics, linguistics, and English Language Teaching journals. They have worked on textual organization and linguistics features (Khamkhien, 2015; Nizigama, & Mahdavidad, 2021; Zare & Naseri, 2020), discourse features of high-impact versus non-high-impact journals (Morales, 2016), textual metadiscourse (Jalilifar & Kabezadeh, 2012), rhetorical structure (Zhang & Wannaruk, 2016), genre analysis of native versus non-native writers (Behnam & Zamanian, 2013; Farnia & Baratizade, 2020), communicative move structure of eight disciplines (Peacock, 2011), current trends (Lazaraton, 2000), and rhetorical moves (Fazilatfar & Naseri, 2014; Soodmand Afshar & Ranjbar, 2017).

Although novice researchers need to increase their knowledge of different sections of an RA, having sufficient information about the method section of RAs and employing rhetorical persuasion to convince their audience are of utmost importance (Kellet, 2004). Method section is the overall plan of the research which guides the researchers in conducting the experiment and writing the rest of paper. It constitutes the key section in RAs (Kellet, 2004; Lim, 2006) because it gives the readers detailed information on the steps taken for conducting the research (Musa, Khamis, & Zanariah, 2015), provides information on the validity of the instruments of data collection, and is one of the sections to which most reviewers pay a great deal of attention (Kellet, 2004; Lim, 2006). Furthermore, it is the easiest section to write (Swales & Feak, 1994) because of its straightforward nature (Holmes, 1997), and most writers write this section first. Thus, journal editors and reviewers expect researchers to write this section in a flawless and organized manner.

Despite the importance of the method section in writing and evaluation processes of RAs, previous research examining the methods section of RAs is so little that no universal model has been proposed for its move structure (Behnam & Zamanian, 2013; Kanoksilapatham, 2005; Lim, 2006; Peacock, 2011). While there are several studies conducted on the method section of the RAs in linguistics and applied linguistics since 2000, most of them have investigated the method section from angles different from this research. They have either addressed textual organization and linguistic features (Khamkhien, 2015; Morales, 2016), rhetorical structure (Fazilatfar & Naseri, 2014; Soodmand Afshar & Ranjbar, 2017; Zhang & Wannaruk, 2016), grammatical complexity and clause types (Seifoori & Fattahi, 2014), RAs in several fields (Peacock, 2011), or genre analysis (Farnia & Baratizade, 2020). There exist far fewer studies which are similar to this study in their aims and procedures (Khany & Tazik, 2017; Lazaraton, 2000; Sahragard & Meihami, 2016; Tazik, Khany, Aliakbari, 2020; Yağız, Aydın, & Akdemir, 2016), among which only Sahragard

and Meihami (2016) studied the RAs in the journal of Teaching Persian to Speakers of Other Languages (TPSOL), which is the focus of the present study.

This study is different from the research conducted by Sahragard and Meihami in 2016 in several ways. They analyzed all the 58 RAs which were published up to the time of conducting the research, while this study investigated all the RAs published up to 2021, which is 141 RAs. They used MAXQDA 10 software for the content analysis of the RAs, but this study relied on the meticulous manual analysis of the RAs in order to make better decisions and leave no room for error. Unlike their focus on the relationship between the research orientation and research methodology of the RAs based on two frameworks, this study meticulously analyzed all the subsections of the method section as well as the abstract, title, and results sections to make sure the responses provided were accurate. Finally, this study looked at sample size, data collection instruments, and weaknesses of the method section which were neglected by Sahragard and Meihami in (2016). Therefore, this study aimed to answer the following research questions:

1. What are the research approaches and designs used in the RAs published between 2012 and 2020 in the “*Journal of Teaching Persian to Speakers of Other Languages*”?
2. What are the data collection tools and data sources used in the RAs published between 2012 and 2020 in the “*Journal of Teaching Persian to Speakers of Other Languages*”?
3. What are the number of participants in the RAs published between 2012 and 2020 in the “*Journal of Teaching Persian to Speakers of Other Languages*”?
4. What are the statistical tests and software used in the data analysis of the RAs published between 2012 and 2020 in the “*Journal of Teaching Persian to Speakers of Other Languages*”?
5. What are the missing elements and weaknesses of the method section of the RAs published between 2012 and 2020 in the “*Journal of Teaching Persian to Speakers of Other Languages*”?

2. Review of Literature

The complexities of writing and publishing RAs and the role they play in exchanging knowledge among members of the academic community (Flowerdew, 1999) have persuaded a large number of researchers and genre analysts to study their language, content, and functions. Since Swales initiated the discussion on communicative moves of introductions in RAs in 1981, there has been an increasing interest among researchers in different fields to study the move structure of different parts of RAs. After Swales’ seminal paper in 1981, several studies have investigated different sections of RAs. For example,

Abstract section is studied by (Behnam & Zamanian, 2013; Lorés, 2004; Pho, 2008; Samraj, 2005); Introduction section is investigated by (Gledhill, 2000; Khamkhien, 2015; Swales, 1981); Results section is researched by (Mozaheb, 2015; Mozaheb, Saeidi, & Ahangari, 2015); Discussion section is examined by (Dobakhti & Zohrabi, 2018; Liu & Buckingham, 2018); and finally Conclusion section is explored by (Jahangard, Rajabi-Kondlaji, & Khalaji, 2014; Ruiying & Allison, 2003).

As one of the pioneers, Lazaraton (2000) analyzed the method section of 332 RAs published in four journals of applied linguistics between 1991 and 1997. The results showed that 88% of the RAs were quantitative, 10% were qualitative, and only 2% were partially qualitative. More specifically, more than 90% of the RAs were quantitative if the papers in TESOL Quarterly were excluded since this journal included a wider variety of designs in its papers. In this journal, only 62% of the RAs were quantitative, and qualitative designs accounted for 38% of the RAs. The most commonly used statistical test used in data analysis was descriptive statistics, including frequency, mean, and standard deviations. ANOVA was used in 40%, Pearson correlation in 26%, t-test in 23%, regression analysis in 13%, and chi-square in 12% of the examined RAs.

Lim (2006) and Peacock (2011) argue that the method section of RAs which is a key section in RAs and most native and non-native speakers have problem with its writing and structure has not received sufficient attention it deserves from researchers. In order to fill this gap, several researchers have conducted studies on the method section of RAs, which will be presented in the order of relevance to the aims of this study. Having collected and analyzed a corpus of 288 RAs from eight different disciplines, Peacock (2011) conducted a large-scale study and came up with a general plan of the method section of RAs. His analysis of the data revealed that the method section of these RAs followed 7 moves as follows: overview, location, research aims/questions/hypotheses, subjects/materials, procedure, limitations, and data analysis. It was also revealed that these moves and steps were not necessarily the same in all fields, and there existed slight interdisciplinary differences.

Focusing on the content of RAs published by Turkish scholars, Yağız, Aydın, and Akdemir (2016) conducted a content analysis study of 274 RAs published in 15 Turkish and international journals between 2005 and 2015. To be more exact, they analyzed the RAs in terms of subjects, research design, data collection tools, samples, and data analysis tests. It was revealed that the number of RAs published by Turkish researchers in these journals increased toward the last years of the decade. Regarding the content of the RAs, language learning, language teaching, and teacher education were the most frequently researched topics. Out of 322 RAs, 218 RAs were quantitative (195 non-experimental and 23 experimental), whereas 41 RAs followed qualitative design, and mixed-methods design was applied in 37 RAs. Questionnaires, achievement tests, and interviews were the most common data collection tools, and the participants

were mostly undergraduate students. The sample size consisted of 31-100 participants in 38% and 101-300 in 22.2% of the RAs. Descriptive statistics were the most widely used statistical test, followed by inferential techniques of t-test, correlation, ANOVA, and ANCOVA.

In order to analyze the rhetorical structure of the method section of RAs in education, Zhang and Wannaruk (2016) analyzed 120 RAs based on Swales' move analysis framework. In contrast to Peacock (2011), they found that RAs in education typically follow three moves in order to show their communicative purpose, that is design, data collection, and data analysis. While describing research design and data analysis were optional and conventional respectively, describing data collection procedures was obligatory and included six steps.

Sahragard and Meihami (2016) conducted one of the most pertinent studies in this regard. As mentioned above, they investigated the relationship between research methodology and research orientation of the RAs published in the journal of TPSOL between 2012 and 2015. Using MAXQDA 10 to do the content analysis, they analyzed the method section of 58 RAs based on two frameworks used in previous studies. They found that Iranian researchers payed equal attention to qualitative and quantitative research, but they found no RA which followed real mixed-methods design. They further found that the researchers did not conduct studies based on phenomenological, case study, and grounded theory design but relied on content analysis (39%) and ex-post facto design (35.5%) to a great extent. Regarding the content of the RAs, they concluded that most of the researchers worked on the learner and learning aspect, but teaching, teacher education, and assessment aspects slipped into oblivion.

Working on the content areas, research methods, and statistical techniques of the RAs in applied linguistics, Tazik and Khany (2017) analyzed 1366 RAs published between 1976 and 2015 in 10 high-ranking journals. It was revealed that the number of RAs increased from 229 in 1976-1985 decade to 493 in 2006-2015, and the average length of RAs increased from 8.09 pages to 14.38 pages. Results of data analysis indicated that researchers investigated 34 content areas in these 40 years of publication; second language acquisition (15.52%), technology and language learning (14.57%), language teaching methodology (14.42%), language testing (10.10%), and psycholinguistics (8.05%) were the most researched content areas. Furthermore, it was found that non-empirical, quantitative, and qualitative methods of research had an equal share in the number of published RAs, each one around 33%. However, non-empirical research was the most frequent type of research in the first two decades, with 63% and 55% respectively. Finally, both qualitative and quantitative research constituted an equal share of the RAs in the third and fourth decades. Each one constituted 35% and 45% of the RAs in the third and fourth decades respectively, thus leaving no space for non-empirical researchers. As regards the

statistical tests used in data analysis, researchers made use of 41 statistical techniques, among which descriptive statistics (41%), ANOVA-related techniques (31%), correlation-based (21%), non-parametric tests (6.22%) were the most frequently used techniques.

Conducting a comprehensive study based on 7525 RAs published in ten prestigious journals in applied linguistics between 1986 and 2015, Tazik, Khany, and Aliakbari (2020) analyzed the method section of the said RAs in order to reveal the most frequent research designs employed in the last three decades. Content analysis of the data indicated that experimental studies accounted for 83% of the studies, while only 17% of the researchers employed non-experimental designs. Non-experimental studies used to be the most popular design in the first decade (1986-1995), but the number of these studies declined as the time went on. Another interesting finding was that quantitative studies constituted 64% of the studies between 1996 and 2005. However, qualitative studies seemed to have gained more attention from the researchers between 2006 and 2015, accounting for 42% of the designs.

3. Research Methodology

3. 1. Design

This is a descriptive study, investigating the method section of the RAs published in the *Journal of Teaching Persian to Speakers of Other Languages*. The study aimed to describe in detail all the subsections related to the methodology of the RAs published in the said journal including the research approach and design, participants and data sources, data collection tools, data analysis tests and software, and the main weakness of the RAs. Furthermore, since the collected data in this study were in the form of written records, in this case RAs, they were analyzed through content analysis. This study employed a descriptive content analysis in order to describe and quantify the details of the method section in these RAs.

3. 2. Data Collection and Analysis Procedure

The data of the study included all the RAs published between 2012 and 2020 in the “*Journal of Teaching Persian to Speakers of Other Languages*”. To be more exact, the RAs published in the first 9 volumes including 20 issues were downloaded and coded from 1 to 141. In order to speed up the data collection process, four PhD students helped the researcher in the data collection process. They downloaded all the 141 RAs and coded them as 1 to 141. However, the numbering was not done according to the order they were published so that readers cannot guess the codes and find the articles. This was done for keeping the data as confidential as possible because the main drawbacks of the RAs will be discussed in the last research question.

Having downloaded and coded the data, the researcher needed to read and analyze all the subsections or elements of the method section of the 141 RAs in this journal. However, since the files were in PDF format, copying and pasting all these sections needed a great deal of time, the data analysis was done on the PDF files of these RAs, using sticky notes in the margins. Finally, all the notes written about the method section in the margins were rewritten in a Word file, in the form of a table consisting of six columns: article code; approach and design; data collection instruments; participants, sample, or data source; data analysis test and software, and drawbacks. In the last column named drawbacks, an essential or main element which was missing in the method section or the main weakness of this section was recorded.

First of all, the researcher asked four PhD students to help with the data analysis, finding the five needed elements. These were the researcher's PhD students, willing to cooperate in this research. However, they were paid research assistants and were paid for collecting the data. Each student read and analyzed around 33 RAs, then filled out the tables, which were designed and explained by the researcher. Although the researcher had explained all the possible designs and a briefing session was held for informing the students of the details, the researcher decided to check ten of the RAs at random and found that there were some slight inconsistencies in using the terms and finding the exact information needed. Therefore, the researcher read all the RAs one by one again by himself, making sure that all the details needed for answering the research questions are recorded. It must be mentioned that although this research focused on the method section of the RAs, the researcher read the abstracts too since some of the needed data could be found in the abstract. Besides abstract, the researcher had to read all the parts related to the method section of the RAs to find out about the five elements of the RAs.

The analysis of the data was the most difficult and time-consuming part of the research since the authors mentioned these elements in different sections or sometimes forgot to mention them. In order to keep record of all the changes made, the time spent for each section, and to recheck the changes in the final version, the researcher activated the Track Changes function in Word. This can show the exact time spent for editing the Word file, that is analyzing the data in this case. Finally, the data related to all these RAs were put together, compared, and counted. The researcher had to reread the final table again and use exactly the same term for the designs, tools, and tests since he aimed to find the number of times each term was repeated in the data set. The final data consisted of 18 pages consisting of 4427 words.

4. Results

4.1. Research Question One

The first aim of the study was to find out the research approaches, methods, designs, or types that were mentioned by the researchers in the method section. The analysis of the RAs did not follow a preplanned categorization, scheme, or methodology; and the researcher reported the exact words and phrases used in the RAs except for the cases where the name of the design was wrongly mentioned. First of all, it was clarified if the paper followed a quantitative, qualitative, or mixed-methods approach. The research designs which were used in the RAs included descriptive, correlational, case study, survey, comparative, quasi-experimental, and exploratory designs. The results of the data analysis are summarized in the table below. It must be pointed out that the data presented in the results section are not based on the classification and judgement of the researcher; instead, the researcher has exactly reported what the researchers had reported in their studies even if they were wrong. These are done since the aim is not to correct the researchers' claims and classifications. On the contrary, the researcher aimed to draw attention to the drawbacks of the manuscripts and the common problems in these published RAs.

Table 1. Descriptive Statistics of Research Approach and Design

| Research approach | Frequency | Percentage |
|--------------------------|------------------|-------------------|
| Quantitative | 80 | 57 |
| Mixed-methods | 44 | 31 |
| Qualitative | 17 | 12 |
| Total | 141 | 100 |
| Research Design | Frequency | Percentage |
| Descriptive | 97 | 44.29 |
| Comparative | 30 | 13.50 |
| Correlational | 26 | 12 |
| Survey | 25 | 11.41 |
| Quasi-Experimental | 23 | 10.50 |
| Exploratory | 13 | 6 |
| Library Research | 3 | 1.30 |
| Case Studies | 2 | 1 |
| Total | 219 | 100 |

As the results show, a large number of RAs (80 cases) published in this journal employed a quantitative approach and reported the data in the form of numbers, while only 17 RAs followed a pure qualitative approach. To be more exact, the number of RAs following quantitative approach was almost five times as many as RAs with a qualitative approach. However, the researchers chose mixed-methods design in 44 RAs, which is around 30 percent of the RAs. Being

one of the three options available, the researchers seem to have made a fair decision and choice in this regard.

As far as the type and design of RAs were concerned, the total number of designs were not limited to 141 since some of the RAs followed descriptive and quasi-experimental at the same time because they involved two stages, thus the researcher categorized such papers under two categories. Some other RAs were descriptive mainly, but they also analyzed the relationship between two variables, hence they were labelled as descriptive and correlational. The results revealed that descriptive and comparative designs were the most frequent type of research, with 97 and 30 RAs respectively. On the contrary, the researchers did not conduct case studies and library research, which was mostly a kind of document analysis in this case, very much.

4.2. Research Question Two

The second research question addressed the data collection tools or instruments which were employed by the researchers. This section also included the data sources which were investigated and analyzed by the researchers since many of the research studies in the collected corpus did not employ the usual data collection tools and focused on the analysis of the texts and documents. The analysis of these two aspects in the RAs revealed that there were many instruments used by the researchers, the results of this analysis are presented in Table 2. The first column presents the name of the instrument, the second column shows the number of studies in which that instrument is used, and the third one presents the percentage of the studies using this tool or source.

Table 2. Data Collection Tools and Data Sources

| Data Collection Tool Or Source | The number of studies using this tool | Percentage |
|--|---------------------------------------|------------|
| Questionnaire | 41 | 25 |
| Only One test | 40 | 24.39 |
| Pre-test and Post-test used in one study | 22 | 13.41 |
| Documents, Compositions | 12 | 7.31 |
| Textbooks | 10 | 6.09 |
| Frameworks | 9 | 5.48 |
| Interviews | 8 | 4.87 |
| Recordings | 7 | 4.26 |
| Observations, Texts | 5 | 3.04 |
| Midterm And Final Exams, Pratt, Checklist | 4 | 2.43 |
| Website, Corpus, Vocabulary Knowledge Scale | 3 | 1.82 |
| Assignments, Exercises, Microphone, Lexical Items, | 2 | 1.21 |

| | | |
|--|-----|------|
| Discourse Completion Test | | |
| Scale, Recorder, Writing Portfolio, Speedometer, Snagit Screen Capture, Negotiation Sessions, Barrett's Taxonomy, E-Mail, Chat, Dictations, Facets Software, Oxford Concordance Program (OCP), Newspapers, Writing Continuum | 1 | 0.60 |
| | 164 | 100 |

The results showed that questionnaires and tests were the most frequently used data collection tools, with 41 and 40 cases respectively. However, it must be mentioned that the first category called *only one test* included those studies in which a single test was run just one time in order to show the correlation between two variables in correlational studies or describe the present situation of the learners in descriptive studies. The third category which is named *pre-test and post-test used in one study* included studies in which both pre-test and post-tests were conducted. This was the case mostly in quasi-experimental studies and experimental studies in which the researchers were looking for possible differences or effects of independent variables on the measured variable.

4.3. Research Question Three

Regarding the third research question which focused on the number of participants and the sampling technique, the results will be presented in different subsections since each research design needs a certain amount of data, number of participants, and sampling technique. With regard to the sampling technique, it was shown that 11 studies used cluster sampling, 10 studies used simple random sampling, 8 studies used purposive sampling, 5 studies used convenience sampling, and 2 studies used stratified random sampling. As regards the number of participants, the results are presented in Table 3.

Table 3. Number of Participants

| Design | Number of participants in some of the studies | Mean |
|------------------------------|---|------|
| Quasi-experimental | 22-42-50-10-60-31-42-136-11-30-96-30-86-24-30-30-60-62-44-58-30-109-122-8 | 50 |
| Correlational | 112-10-68-178-65-137-160-180-125-64-126-124-42-37-30-399-400-146-155-45-136-50-30-141 | 123 |
| Qualitative and case studies | 5-10-30-2-8-23 | 13 |

| | | |
|-------------|--|------------|
| Survey | 112- 36-60-30 -178- 10-31-80 -240- 40 -137-160- 80 -100- 65 -124-120- 62-19-40-94-30 -265 | 92 |
| Comparative | (32 vs 32), (18 vs 42), (12 vs 16), (30 vs 30), (12 vs 8), (6 vs 6), (8 vs 8), (80 vs 80), (32 vs 32), (30 vs 30), (12 vs 5), (37 vs 44), (151 vs 30), (20 vs 20), (120 vs 120) | 37 |
| Descriptive | 20-34-133-12-64-80-107-105-28-14-80-94 persons 4-4-1-6-2-3-3-3-4-24 books 54-180-493 writings | 64 persons |

Note: The bolded numbers are fewer than the required number of participants in each design.

According to Table 3, the number of participants in quasi-experimental studies ranged from 8 to 136 participants, which were divided into two 4-member groups and six 22-member groups respectively. The rest of studies in this category collected data from around 30 participants, which is a quite usual sample size for two-group experimental studies which include control and experimental groups. The average number of students in this type of research was 50, which is a good sample size. The number of participants in correlational studies ranged from 10 to 400 students, and the average number of learners in this research design was 123. However, it must be emphasized that in the study which included 10 participants, each student wrote ten essays for the later data analysis. Qualitative and case studies, which do not need many participants by nature, collected data from 2 to 23 language learners, with the average number of 13 students in each study. The number of participants in survey studies which need much more participants because of the nature of the research were between 10 experts to 240 language learners. The minimum sample size for this design is 10% of the population, but those numbers below 100 are bolded in this category since it is very unlikely that the number of Persian learners in Iran be fewer than 1000 learners. Since comparative studies compared at least two groups of participants, the results related to this category were presented in the form of pairs. The minimum number of participants in this category was 6, and the highest number was 80. However, in one special case, the attitudes of 151 students were compared with those of 30 ones. Finally, descriptive studies analyzed the data from at least 1 to 24 books, 12 to 107 persons, and 54 to 493 writings.

4.4. Research Question Four

The fourth aim of the study was to find out which statistical tests or software are used in the data analysis of the study. In analyzing the data related

to this aspect, almost all the method and results sections as well as the abstract were checked to make sure of the test which was used.

Table 4. Number and Frequency of Statistical Tests and Software Used in Data Analysis

| Number | Name of the test | The number of studies using this tool | Percentage |
|--------|--|---|------------|
| 1. | Descriptive Statistics | 100 | 31.64 |
| 2. | Content Analysis | 62 | 19.62 |
| 3. | T-Test | 41 | 13 |
| 4. | Pearson Correlation | 26 | 8.22 |
| 5. | Cronbach Alpha | 21 | 6.64 |
| 6. | Chi-Square | 17 | 5.37 |
| 7. | Regression Analysis | 14 | 4.43 |
| 8. | Kolmogorov-Smirnov | 9 | 2.84 |
| 9. | ANOVA | 8 | 2.53 |
| 10. | Levene's Test, ANCOVA | 6 | 1.89 |
| 11. | Man-Whitney | 5 | 1.58 |
| 12. | Shapiro-Wilk Test, Factor Analysis | 4 | 1.26 |
| 13. | Friedman Test, MANOVA, Rash Statistical Model, Scheffee Post Hoc Test, Spearman | 2 | 0.63 |
| 14. | Kurtosis Test, Amos Software, Average Variance Extracted, Bartlett, Binomial, Bonferroni Post Hoc Test, Cramer's Phi Test, Edraw Max, Eta Coefficient Test, Facets, Fisher Exact Test, General Least Square, KMO, Kruskal-Wallis, Kuder-Richardson Method, Maximum Likelihood, Principle Alpha Factoring, Structural Equation Modeling, Trend Analysis, Tukey's HSD Test, Unweighted Least Square, MAXQDA 10 | 1 Each test or software is used only in one study. | 0.31 |
| | | 316 | 100 |

The researchers used 41 different statistical tests in order to analyze the data in these 141 RAs. As the results in row 14 show, some 23 of the tests were used just in one study. The other less frequently used statistical tests were Man-Whitney, Shapiro-Wilk, ANCOVA, Factor analysis, Friedman test, MANOVA,

Confirmative factor analysis, Rash statistical model, Scheffee post hoc test, and Spearman, which were used in 2 to 5 RAs. The most frequently used statistical tests were t-test (41 times) to compare the groups, content analysis (62 cases) to analyze the qualitative data, and descriptive statistics (100 times) to describe an event, a certain behavior, or specific language element.

4.5. Research Question Five

The last aim of this research was to find out the weaknesses or missing elements of the method section of the RAs. Although the researcher did not aim to determine the weakness of the RAs at the beginning of the study, the analysis of the method section for other aims revealed some interesting points which are worth mentioning in this section.

Table 5. Missing Elements in and the Weaknesses of the Method Section

| Number | Weakness | F | Examples |
|--------|---------------------------------------|----|---|
| 1. | Instruments are not specified clearly | 6 | <p><i>The reliability and validity of the test are not mentioned.</i></p> <p><i>The teachers reported that it was reliable.</i></p> <p><i>Not using a standard test.</i></p> <p><i>Final exams are seen as the proficiency test.</i></p> <p><i>The form and number of questions in the test are not clear.</i></p> |
| 2. | Very low number of participants | 13 | <p><i>The number of participants was not as many as needed for certain designs.</i></p> |
| 3. | Data analysis was not clarified | 24 | <p><i>The researcher did the analysis by himself.</i></p> <p><i>The raters are not specified.</i></p> <p><i>If there were two raters, what about reliability?</i></p> <p><i>The content analysis method is not explained.</i></p> <p><i>Some linguistics students and two editors analyzed the data, while no assessment criteria was mentioned, and no training was held.</i></p> <p><i>Only SPSS is mentioned in the data analysis section, and no other information about the data analysis test is given.</i></p> |

| | | | |
|----|---|---|---|
| 4. | There is no correspondence between title and content or questions | 4 | <i>Title did not match the aims. Type of study was not mentioned rightly. Research questions and results are not related.</i> |
| 5. | There is no method section at all | 6 | <i>There is no method section.</i> |
| 6. | The term questionnaire is used instead of test | 1 | <i>The term questionnaire is used wrongly.</i> |
| 7. | No detail about the treatment | 1 | <i>It is not clear how the treatment was implemented.</i> |

As the results presented in Table 5 show, the most problematic part of the method section was the data analysis section. To be more exact, it was combined with other sections, it was forgotten all together, the data were presented in other sections, the raters were not specified, the researchers themselves did the data analysis, number of raters was not mentioned, inter-rater reliability was not reported, or the exact technique for data analysis was not elaborated upon. As a result, the researcher had to search most parts of the RAs, check the results section, or reread the abstract to find out what data analysis test was used. The other serious weakness of the method section was the very low number of participants in quasi-experimental studies, survey studies, or correlational studies.

5. Discussion and Conclusion

This study aimed to investigate the research methodology section of all the RAs published in an Iranian journal named *"Teaching Persian to Speakers of Other Languages (TPSOL)*, which is the Iranian counterpart of TESOL. To this end, the method section of all the 141 RAs published in this journal from 2012 to 2020 were studied through manual content analysis. The results revealed that quantitative approach in research was the most frequent one, followed by mixed-methods and qualitative approaches. This result is in line with Gao, Li, and Lü (2001), Lazaraton (2000), Lazaraton (2005), Yağız, Aydın, and Akdemir (2016) who found that Chinese, international, and Turkish researchers preferred quantitative studies in applied linguistics and English language teaching journals. This tendency toward quantitative approach is also seen in the studies

in other disciplines as well (Çiltaş, Güler, & Sözbilir, 2012; Erdoğan, Marcinkowsky, & Ok, 2009; Gül & Sözbilir, 2015; Sözbilir, Kutu, & Yasar, 2012; Seçer, Ay, Ozan, & Yılmaz, 2014; Solak, 2014).

However, it is opposing the results of studies conducted by Benson, Chik, Gao, Huang, and Wang (2009), Gao, Li, and Lü (2001), Khany and Tazik (2017), Tazik, Khany, and Aliakbari (2020) which found that studies in applied linguistics have recently experienced a move from quantitative to qualitative aspects of language learning and teaching. Gao, Li, and Lü (2001) also found that while Chinese researchers conducted more quantitative studies, Western researchers preferred qualitative method. The reasons for preferring quantitative studies can be ease of conducting this type of research, needing less time and energy, and easier analysis of the data. While content analysis of transcribed data and content analysis of the books take so much time, conducting an experimental or correlational study which need one or two tests seems much easier. This situation is exacerbated by the fact that most Iranian researchers, university professors, and PhD students are under tremendous pressure to publish their RAs as soon as possible in order to get promotion, defend their thesis, or increase their h-index.

Furthermore, it was found that descriptive, comparative, and correlational studies were the most frequent types of research. This result is almost the same as the results obtained by Yağız, Aydın, and Akdemir (2016) where they found that descriptive, comparative, correlational, and survey studies were the most frequent designs in the RAs written by Turkish ELT researchers publishing their RAs in Turkish journals between 2005 and 2015. However, it was found that Iranian researchers working on the teaching of Persian have used mixed-methods design in one third of the RAs which is much more than Turkish authors (just 13%). Iranian researchers seem to have started a move from quantitative approach to qualitative one, and are right now in the middle of the way.

The next finding was that questionnaires and tests were the most frequent data collection tools, followed by documents and textbooks. Iranian researchers used interviews, video recordings, and observations very rarely. These findings are again similar to the results reported by Yağız, Aydın, and Akdemir (2016). In their study, questionnaires and scales and tests were used 153 and 61 times out of the 368 data collection tools. Turkish authors used interviews and observations in 17.50% and 23% of their RAs, while Iranian authors used interview and observation in 4.50% and 3% of the studied cases.

Regarding the number of participants, quasi-experimental studies had 50 participants, correlational ones included 123 persons, qualitative case studies collected data from 13 learners, survey studies were attended by 92 students, comparative studies compared groups of at least 37 persons, and descriptive studies described around 37 cases on average. Although all the research designs

mentioned collected data from enough number of participants, some of the studies collected data from a sample which was very low for that purpose and design.

Considering the rule of thumb suggested by Dornyei (2007) which suggests that correlational studies must include at least 30 participants, and comparative and experimental studies need at least 15 in each group, five of the experimental studies did not include enough number of participants (8, 10, 11, 22, and 24 students divided into two groups). Besides, only one of the correlational studies with 10 learners did not have enough participants. In addition, the number of participants in five of the comparative studies was fewer than 15 in each group. Regarding the survey studies, the sample size should be 10% of the population. However, since the exact number of the population was not mentioned in the RAs, it is not possible to make a sound judgement in this regard for all the studies. However, the number of participants was fewer than 100 in 14 studies.

It was furthermore revealed that researchers used 44 different statistical tests in order to analyze the data in these 141 RAs. This finding is similar to the results found by Khany and Tazik (2017), who found that the researchers used 41 statistical tests in 1366 RAs. Considering the fact that the number of analyzed RAs in their study (1366) was almost ten times the number of RAs in this study (141 RAs), it is obvious that Iranian researchers relied on statistical tests and quantitative data much more than foreign researchers. Furthermore, it was found that descriptive statistics, t-test, and correlational tests were the most frequent types of statistical tests used in the RAs addressing Persian language teaching courses, issues, and books. Corroborating this finding, Khany and Tazik (2017) also found that descriptive tests were by far the most frequently used statistical technique in applied linguistics journals. Pearson correlation coefficient (13.38%), ANOVA (11.87%), and t-test (9.78%) were the next most frequently used statistical procedures in Khany and Tazik (2017)'s study. The findings of this study are also similar to these results, and only difference between this study and the one by Khany and Tazik (2017) is that ANOVA was used in much more cases by international authors than the Iranian ones. Structural equation modelling, factor analysis, and Shapiro-Wilk test which are useful methods for the quantification and measurement of substantive theories, identifying latent variables and constructs, reducing the number of factors, and checking normality of the data were not used very often.

To sum up, the RAs published in TPSOL mostly described the features of language learners, analyzed the contents of the books, compared Persian learners with native Persian speakers, or found about the learners' attitudes through survey studies. To be more exact, they seem to have addressed mostly the learning aspect of the language, thus neglecting the teaching side of the coin. This was reported by Sahragard and Meihami (2016). As the name of the journal

suggests, researchers are expected to address other areas such as teaching and teacher variables as well, conduct more experimental studies, and design quite different studies to give a better picture of teaching Persian in Iran. Furthermore, the RAs published in TESOL and other journals in the field of applied linguistics have recently moved toward the qualitative end of the research continuum, but it seems that Iranian researchers still deal with the quantitative aspects of learning. Even in cases that the RAs in TPSOL employed content analysis, the results were presented in the form of numbers and percentages. Researchers are strongly suggested to combine the strengths of both qualitative and quantitative research and conduct more mixed-methods studies in this area.

The next point is that five data collection instruments accounted for 80% of the collected data in these studies, and the rest of data collections tools were used very rarely. Researchers are recommended to employ various data collection tools, complement the quantitative data with interview and recorded data, and focus on the learning process rather than the end-of-term product and achievement in experimental studies. More importantly, the method section which is the heart of every RA and needs to be in enough details and steps lacked some important aspects such as data analysis procedures, treatment details, piloting of the tools, and reporting the validity and reliability of the tests. The journal editors are suggested to incorporate these elements in the template they design for the journal and require all the researchers to report and include all these elements in their RAs. In fact, the method section should not be limited to one or two heading, and it is wise to have different subcategories to remind the researchers to report all the elements of method so that other researchers would be able to replicate these studies in future. Finally, the researchers are recommended to design studies with more participants so that the requirements of the used statistical test are met, and the results are more reliable and generalizable.

This study looked at the method section of the RAs in TPSOL and compared the results with previous studies in applied linguistics and teaching English journals, future researchers are suggested to make a comparison between TESOL and TPSOL in terms of the content areas covered or research designs used. Future studies can address the textual organization, lexical features, discourse features, and rhetorical structure of the RAs published in TPSOL journal alone or compare them with other fields or commonly used frameworks. They are finally invited to conduct studies addressing the lexical bundles, lexical phrases, or collocational patters of the RAs published in TPSOL to produce a list of common words and phrases for the researchers in this area.

Like any other study, this study suffered from a number of limitations. First of all, since the manuscripts were published in Persian, the language used in the text and the classifications used for the research designs were to some extent different from those proposed by books published in English for applied

linguistics students and researchers. Thus, there were some inconsistencies in the terms used, and this might have not been appropriately presented in the data analysis. Secondly, the researchers' main aim in this study was not to evaluate the papers published in this journal, as a result, they just focused on serious methodological issues or the main elements which were missing in the papers. It is obvious that employing a rating criteria for evaluating the method section of these papers is necessary for researchers who are going to conduct evaluative studies of these papers. The elements which the researcher aimed to collect were presented in different sections of the papers, and the researcher sometimes had to read almost all the paper in order to find out what exactly the researcher has used. However, it must be pointed out that the researcher did not change the wording of the authors and just presented the data to depict a picture of the current situation.

The researcher found out that many of the papers published in this journal followed a certain formula for calculating the number of sample and population, and this was considered as a strength of the papers. However, he found out later that it was not the authors who paid sufficient attention to this matter, but the fact that it was posted in the journal website for the authors. Thus, the results of this study can be useful for both the researchers who aim to publish in this journal, the journal editors, and the researchers who are going to conduct further studies on the papers published in this journal. The researchers can become aware of the commonly needed elements in the papers, avoid the common serious problems found in this study, and increase their chances of being accepted. The journal editors can change the office word template produced for the authors and add the missing elements found in this study in order to make authors submit more organized, well-written, and comprehensive manuscripts.

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تحلیل محتوای بخش روش مقالات پژوهشی منتشر شده در "مجله آموزش زبان فارسی به سخنرانان دیگر زبانها" (پژوهشی)

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نویسنده‌ی مسئول، استادیار زبان شناسی کاربردی، دانشگاه دریاوردی و علوم دریایی چابهار

چکیده

از آنجا که بخش روش‌شناسی اطلاعات کافی را درباره مراحل انجام تحقیق، ابزارهای گردآوری اطلاعات، روایی و پایایی مطالعه ارائه می‌دهد، مهم‌ترین بخش مقالات علمی پژوهشی محسوب می‌شود. از این رو، این بخش از نظر اکثر سردبیران و داوران نشریات علمی دارای اهمیت زیادی است. پژوهش حاضر به تحلیل محتوایی بخش روش‌شناسی تمامی ۱۴۱ مقاله چاپ شده در *پژوهش‌نامه آموزش زبان فارسی به غیرفارسی‌زبانان* بین سال‌های ۲۰۱۲ تا ۲۰۲۰ می‌پردازد. به عبارت دقیق‌تر، رویکرد و روش تحقیق، منابع و ابزار گردآوری اطلاعات، تعداد نمونه و روش نمونه‌گیری، آزمون‌های تحلیل آماری و نقاط ضعف این مقالات مورد بررسی قرار گرفتند. نتایج نشان داد که در ۵۷٪ مقالات از رویکرد کمی و در ۳۱٪ آنها از رویکرد ترکیبی استفاده شده است. در بین روش‌های تحقیق، روش توصیفی، مقایسه‌ای، و رابطه‌ای بیشترین فراوانی را به خود اختصاص داده، در حالی که مطالعه موردی کمترین فراوانی را دارد. پژوهشگران برای گردآوری اطلاعات مورد نیاز پژوهش خود عمدتاً از پرسشنامه، آزمون پیشرفت، پیش‌آزمون-پس‌آزمون، و اسناد موجود استفاده کرده‌اند. تعداد فراگیران و حجم نمونه عمدتاً به اهداف و روش تحقیق بستگی داشته و حجم نمونه در تعداد کمی از مقالات کمتر از حد استاندارد بوده است. در میان آزمون‌ها و روش‌های تحلیل اطلاعات، آمار توصیفی، تحلیل محتوا، و «آزمون تی» بیشترین کاربرد را داشته‌اند. تحلیل داده‌ها همچنین نشان داد که بخش تحلیل داده‌ها، نمونه‌گیری و ابزارهای گردآوری اطلاعات از نقاط ضعف مقالات مورد بررسی می‌باشد. در پایان، با توجه به نتایج به دست آمده، پیشنهادهایی کاربردی برای محققان آینده، داوران فعلی، و سردبیران مجله ارائه می‌شود.

کلیدواژه‌ها: بخش روش شناسی، آموزش زبان فارسی، مقالات علمی، تحلیل محتوا.