

Pre-Service Preschool Teachers' Views Related to Qualitative and Quantitative Data Collection Based on Their Experience

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Abstract

Although the issue of qualitative versus quantitative research is very common in the literature and courses, there is very limited evidence of an examination of these types of research based on teachers' knowledge about the methods. Therefore the aim of this study is to investigate pre-service preschool teachers' views related to the collection of qualitative and quantitative data based on their experience. The participants of this study were 26 pre-service preschool teachers. They were informed about qualitative and quantitative research during 4 hours seminars. Each participant administered a questionnaire to 5 preschool teachers and interviewed 2 preschool teachers. Then, the 26 pre-service preschool teachers were interviewed to ascertain their views about qualitative and quantitative data collection. On completion of the data analysis, 6 main themes were determined; (1) similarities and differences, (2) advantages and disadvantages, (3) ease and difficulty, (4) the quality of data, (5) cost and (6) preferences.

Key Words: Qualitative data collection, Quantitative data collection, Pre-service preschool teachers' views, Pre-service teachers' experience.

1. Introduction

It is very common to see chapters on qualitative versus quantitative research in the literature and as the content of courses concerning research techniques (Bernard, 2000; Bryman, 2004; Creswell, 2009; Denzin & Lincoln, 2005; Dobrovolny & Fuentes, 2008; Duffy & Chenail, 2008; Ercikan & Roth, 2008; Fraenkel & Wallen, 2006; Gliner & Morgan, 2000; Koshy, 2005; Plante, Kiernan & Betts, 1994).

Although there is very little difference in the explanations of the terms in these sources, there has been a debate about qualitative and quantitative research paradigms over the last 100 years (Onwuegbuzie & Leech, 2003), and a false dichotomy between qualitative and quantitative approaches has appeared (Denzin, 1978). Kazoleas (1993) summarized this debate as there were many people who used the idiom 'A picture is worth a thousand words'. However, others who discussed quantitative data joked; 'there are 3 types of lies: Lies, Damn Lies and Statistics'. In this study, the focus is not the debate, paradigms and dichotomy. It aims to describe pre-service preschool teachers' views about qualitative and quantitative data collection based on their experience.

Good teachers not only have knowledge about pedagogical approaches, methodologies, and classroom management but also they should have an understanding of how to conduct research. Research has two sides: abstract and concrete. It is necessary that teachers know about abstract knowledge such as theory, objective knowledge and concrete knowledge such as practices and activities (Ariizumi, 2005). Thus, teachers should take the opportunity of using research to self-evaluate to better understand their instructional methods, students and assessment methods in this way they can improve their classroom performance (Denscombe, 2010; Mertler, 2009). To this, first it is important to learn to match the best methodological and evaluative tools to collect data (Perla and Carifio; 2009). In first stage, it is important to support their skills of undertaking research rather than teaching them which research methods they should choose (Prakash, 2007). Universities in Turkey also attempt to give pre-service teachers the opportunity to learn about the abstract knowledge aspect of research methods however, these students rarely put this knowledge into practice. This study provided a group of pre-service teachers with the opportunity to collect data thus allowing their knowledge to become meaningful and concrete.

The issue of qualitative versus quantitative has been frequently discussed by researchers, therapists and educators (Plante, Kiernan & Betts, 1994) however, there are limited studies related to pre-service teachers' views. One study was conducted by Murtonen (2003) with 318 university students from Finland and the U.S. This study aimed to describe if there were different orientations among the students toward qualitative and quantitative methods. It was found that although there was a group which preferred quantitative methods over qualitative methods, in both countries there was a group that had negative views to quantitative methods and had a highly positive opinion of qualitative methods. Thus, the current study by choosing pre-service participants aims to make a further contribution to the literature.

This study examines the views of 26 pre-service preschool teachers' experience of qualitative and quantitative data collection. Specifically, it focuses on pre-service teachers' views and experiences related to the similarities and differences between qualitative and quantitative data collection, and advantages and disadvantages of the different methods.

2. Methodology

First, 40 pre-service preschool teachers were given information about the study and 26 volunteered to participate. The volunteers signed consent form and were informed about qualitative and quantitative research through 4 one hour seminars. This program included; the basic characteristics and data collection methods of qualitative and quantitative research, the main stages in data collection process, recording information and common issues related to the collection data in qualitative and quantitative research. Then, each participant administered a questionnaire to 5 preschool teachers and interviewed two preschool teachers based on 16 questions. In this study, questionnaire and interview were chosen because they are the most commonly used data collection tools in qualitative and quantitative research (Gray, 2004). For quantitative data, the Questionnaire of Situations Encountered by Male Preschool Teachers was used (Sak, 2005). It is a likert scale with 52 items. For qualitative data, an interview schedule developed by Sahin (2011) was used containing 16 questions investigating preschool teachers' perceptions about the physical environment of the classroom and its influences on practices for classroom management. The questionnaire and interview schedule were used as parts of the researchers' master's thesis. Thus, opinions of experts had been received and they had been piloted.

After the pre-service teachers collected their data, the researchers interviewed them and asked 9 main questions related to their views about qualitative and quantitative data collection based on their experiences. The data was collected through a semi-structured interview schedule designed by the researchers based on the literature (Creswell, 2007; Creswell & Clark, 2011; Yıldırım & Şimşek, 2005). The first draft of the schedule contained 12 open-ended questions.

Two experts from the department of Educational Research conducted the content and face validity of the semi-structured interview schedule and a pilot interview was carried out to provide structure validity. Then some items were modified and the final schedule consisted of 9 main open-ended questions.

The interviews were administered on a one to one basis by the researchers in settings chosen by the participants. Each researcher explained to each participant that she planned to audio record the interviews to obtain the full information and reduce the time taken in creating a written record of the interviews (Yıldırım & Şimşek, 2005). Some of the participants (n=4) did not want to be recorded therefore, those interviews were noted by hand, thus, the duration of interviews varied from 25 to 45 minutes.

For the data analysis, transcripts from the audio recordings and handwritten notes of the interviews were prepared and two of the researchers coded them separately. This is the qualitative data analysis process which mainly focuses on technique of word-repetition (Ryan and Bernard, 2003). In this technique, two coders found and listed the unique words from the data. Then, they discussed the codes and reached an agreement about them. Finally, 6 main themes were determined as:

1. Similarities and differences
2. Advantages and disadvantages
3. Ease and difficulty
4. The quality of data
5. Cost
6. Preferences

Lastly, certain quotes from the pre-service preschool teachers were selected from the data to support the findings and enrich the description of the themes (Creswell; 2007).

3. Findings

In the presentation of the findings the pre-service preschool teachers are referred to as the 'interviewees' and the preschool teachers are referred to as the 'participants'

3.1. Similarities and differences

Pre-service preschool teachers were asked about the similarities and differences they found during their data collection periods. Firstly, most (n=17) stated that all data collection methods aimed to obtain the most useful data about a research topic and also needed time (n=4), money and effort (n=2) to be spent. Also, in all methods, they said that names of participants should be kept confidential (n=2) but demographic information should be requested (n=1). According to one of the interviewees, the researcher should be active in both qualitative and quantitative data collection methods. Lastly, one interviewee stated that interview questions and the items in the questionnaire should be clear and understood by participants. However, two interviewees commented that qualitative and quantitative data collection methods were completely different and had no similarities.

When asked about the differences between qualitative and quantitative data collection, the pre-service preschool teachers focused on differences related to data and information, and the researcher and teachers who were interviewed. In relation to data and information, some pre-service teachers said that participants were asked their views, evaluations and interpretations (n=2) via open-ended, why/how questions (n=4) so their responses were original (n=1). However, the data in quantitative research was short and sharp (n=7). For instance, one of the interviewees said;

"In interviews, all the teachers expressed their ideas and gave original and individual responses. However, I gave the questionnaire and all the teachers selected appropriate choices for themselves in same way." (Interviewee 16)

According to interviewees, qualitative data collection methods provided the researcher with detailed and rich information and verbal data (n=10) but only general preferences of the participants were determined (n=4) and the main aim was to find out the choices and numerical data (n=3) in quantitative data collection methods. Thus, the data was brief (n=3).

In relation to the researcher and participants, interviewees said that the researcher would communicate with participants during data collection process (n=4) and recorded the data (n=4) in qualitative research.

Thus, the researcher was more active (n=2) and there were fewer participants (n=1). However, qualitative data collection methods took a long time (n=3) because the researcher would have to spend some time with the participants (n=1). On the contrary, according to interviewees, the participants answered the questionnaire individually (n=5) so the researcher would not be part of this procedure (n=1) and there were more participants (n=1). Also, many participants could answer the questionnaire at same time (n=1) therefore collecting data did not take a long time (n=2).

3.2. Advantages and disadvantages

The interviewees were asked to give their opinion of the advantages and disadvantages of qualitative and quantitative data collection.

3.2.1. Qualitative data collection.

In relation to the advantages of qualitative data collection, the interviewees stated that interviews with the participants provided the researcher with more detailed information (n=12) and the participants with the opportunity of expressing themselves clearly (n=7). It was more flexible (n=2) and natural (n=1). For example, an interviewee said;

“As a qualitative data collection method, the interview is really natural and warm. Thus, the participant can express her ideas comfortably and it gives you the opportunity to understand her.” (Interviewee 1)

For the disadvantages of qualitative research, many interviewees (n=11) said that it needed a long time. According to one person;

“Since the interview schedule included open-ended questions and was administered face to face, it took a long time. It may be tiring for the researcher and also the participant.” (Interviewee 14)

Two of the interviewees also stated that note taking during the research collection was time consuming in qualitative data collection processes.

3.2.2. Quantitative data collection.

In terms of the quantitative data collection methods interviewees said the advantage was that it needed less time (n=8). Also, time allowed for answering the questionnaire was flexible because the participants did not have to complete it immediately (n=1). Since in quantitative data collection the researcher did not interfere with the participants (n=1), both of them would feel more comfortable during data collection process. Also, one interviewee said that she gave the questionnaires to the participants and collected them on another day. Thus, the participants were comfortable in the time given to complete it. The number of the participants was also stated as an advantage by some interviewees (n=2). Lastly, one person said that an advantage of quantitative data collection was that it was more objective (n=1);

“There are some items and choices to select in a questionnaire so the participant can make a selection independently from her thoughts and feelings.” (Interviewee 16)

In relation to the disadvantages of quantitative data collection methods, interviewees stated that only brief information, which was not detailed, could be obtained (n=8) because there were limited choices to make selection (n=5) and it was difficult to understand the real idea behind the participants' choices (n=3).

“There were some items and choices in the questionnaire, and the participants had to select one of them. However, I have no idea why she selected it or if she understood the item correctly. She only ticked it.” (Interviewee 10)

3.3. Ease and difficulty

The interviewees commented on the ease and difficulty of the collection of qualitative and quantitative data while answering the questions related to advantages and disadvantages.

3.3.1. Qualitative data collection.

The interviewees stated three ease of application of the qualitative data collection: fewer participants (n=1), less time spent (n=1) and one to one settings (n=1).

In particular, one person stressed that one to one settings motivated the participants to express themselves comfortably and easily. However, according to eight interviewees, the one to one setting irritated the participants. For example, person said;

“When I asked my first question, one of my participants stopped and she said she could not answer since I had looked at her directly.” (Interviewee 13)

Also persuading the participant to be interviewed (n=1) was another difficulty. Some interviewees also said that organizing an interview date that suited the participants’ schedule was not easy. One interviewee commented;

“It is difficult for me to find the appropriate date for the interview because when the participant was free I had a class. Similarly, when I had time, she was teaching or on a trip.” (Interviewee 8)

Taking notes (n=3) and keeping the focus during the interview (n=1), and finding an appropriate place for it (n=1) were mentioned as other difficulties of qualitative data collection.

“While interviewing the participant, I had to listen to her, keep the focus of the question or interview, (maybe) ask additional questions, take notes and avoid adding my interpretation to my notes. It was so hard.” (Interviewee 15)

3.3.2. Quantitative data collection.

As related to ease of quantitative data collection, the interviewees said that the researcher could collect data from different participants at the same time (n=5). Also, it was stated that the researcher and participants expended less effort (n=2) because the participant answered the questions alone (n=1). Also, questions were short (n=1) and the participant only had to tick the choice appropriate for them (n=1).

Only two difficulties were mentioned for quantitative data collection. First, there must be large number of participants (n=3). Finding an appropriate time based on the participants’ schedule (n=1) was also stated as a difficulty for quantitative data collection.

3.4. The quality of data

Most interviewees (n=18) stated that qualitative data collection method would provide better quality of data, since it would provide the researcher with more detailed information (n=13), and additional questions could be asked (n=4). One interviewee said;

“One of my participants tried to respond to my question. However, she was not certain if she could explain, and I could not be sure if I had understood. Therefore, I asked one more question and asked her to give an example. These extra details helped me understand her explanation.” (Interviewee 15)

According to some of them (n=6), communication with the participant increased the quality of data in qualitative research because she could express herself comfortable (n=1) and the researcher could obtain information from primary source (n=1). An interviewee also stated that the participant did not have to select one of the choices. She had the opportunity of explaining her views, thoughts and making interpretations. Thus, a researcher could understand the details of the participant’s responses.

On the contrary, two interviewees said that quantitative data collection methods provided better quality because the participants had to select one of the choices (n=2) and had enough time to think about the items (n=1). One of them said;

“The participant had to select one of the choices in the questionnaire. It means that the participant selected the most appropriate one for herself from limited choices. Thus, it does not include interpretations or comments and it provides more objective data. It also means that the quality of information increases and this convinces me that the results of my study are valid.” (Interviewee 21)

However, there were two interviewees who said that the research area determined the quality of data. One of them emphasized;

“I interviewed teachers and the qualitative data approach was appropriate for this study because I think that this method would provide me with a better quality of information in some research areas such as education, psychology, sociology. However, quantitative data could be used for mathematics and science.” (Interviewee 24)

Lastly, two interviewees said that if qualitative or quantitative data collection methods were used alone, they provided partially qualified data. Thus, they should be used together.

3.5. Cost

The interviewees were asked which data collection method(s) were more cost effective. Most of them (n=15) said qualitative data collection methods because the researcher would not have to copy questionnaires (n=6) and would meet with fewer participants (n=4). One of them emphasized;

“Cost of data collection methods for qualitative and quantitative research seems same but you don’t need to use a document in qualitative research to collect data. Thus, I think it is more economic.” (Interviewee 26)

Only one interviewee said quantitative data collection methods were more cost effective and she explained;

“I think it is so hard to persuade a participant to attend an interview. The cost of transportation, organizing a schedule, and copying documents is really high. Thus, quantitative data collection is more economic.” (Interviewee 14)

Lastly, seven interviewees said that the cost of qualitative and quantitative data collection methods was same.

3.6. Preferences

The interviewees were asked that if they were planning a study, which research method(s) would they prefer and why. Most (n=17) chose qualitative research because the data collection methods would provide detailed information (n=16) and satisfying information (n=3). Also, they are more economic (n=2) and require less time (n=1). However, three of interviewees said that they would prefer quantitative research because the researcher obtains the information via short questions (n=2). Also, it is more practical (n=1). Lastly, five of the interviewees emphasized their topic would determine their research methods. For instance, according to one of them;

“If I aim to obtain data from natural settings, to learn about my participants’ view and to make interpretation related to my data, of course, I will use interview or observation. However, if brief and numerical data is enough for me; I would choose quantitative data collection methods.” (Interviewee 1)

Another interviewee said;

“I prefer to use both methods together because qualitative data collection methods will provide me with the opportunity of explaining my quantitative data.” (Interviewee 15)

4. Discussion

Findings of the study show that views of most pre-service preschool teachers related to similarities and differences, advantages and disadvantages, ease and difficulty, quality of data, cost and preferences were consistent. Similar reasons and justifications were mentioned in all themes. In particular their views related to the similarities of qualitative and quantitative data collection were also consistent with the literature (Malterud, 2001). On the contrary, it is interesting that there were some participants who stated that qualitative and quantitative data collection methods were completely different. It result from the fact that pre-service teachers might only focus on data collection tools such as interview and questionnaire rather than seeing the other components of data collection process such as; aim, time, cost, participants and confidentiality.

In terms of the differences between qualitative and quantitative data collection, as related to data and information, the pre-service preschool teachers have very positive views concerning qualitative data collection and focus on its strengths and on the limitations of quantitative research. This is in keeping with Dobrovolny and Fuentes (2008) who reported that qualitative data collection methods had the advantage of providing rich data whereas meaningful questions such as why or how remained as unanswered in quantitative research which is its limitation.

Also the pre-service teachers had no experience of data analysis but they did offer; determining general preferences and numerical data, and rich information and verbal data as the differences in the research methods. This finding is also consistent with the literature. It is stated that qualitative data represents human experiences with words whereas quantitative data shows human experiences as numbers (Duffy & Chenail, 2008).

The findings show that the advantages and disadvantages of qualitative and quantitative data collection are consistent with the literature such as; rich data, flexible structure, expressive language, full descriptions or time dependent, and time consuming for qualitative research, and time efficiency, generalizability to larger population or unanswered meaningful questions, larger population for quantitative research (Johnson & Onwuegbuzie, 2004; Sarantakos, 2005).

In terms of the ease and difficulty the pre-service teachers emphasized that scheduling interviews with the participants was a difficulty in both qualitative and quantitative research. However, the literature stresses that scheduling interviews with participants is time dependent and is considered to be a difficulty of qualitative research (Dobrovolny & Fuentes, 2008; Mack, Woodson, MacQueen, Guest & Namey, 2005). Also, ideas of the pre-service teachers in the current study are in agreement with Dobrovolny and Fuentes (2008) who found that qualitative research is considered to be time consuming. However, Dobrovolny and Fuentes (2008) found that this resulted from transcribing the interviews whereas note taking is expressed as a difficulty and time-consuming for qualitative research by pre-service teachers. It may be caused that pre-service teachers were told to take notes on the pre-school teachers' responses during interview period instead of audio-recording.

According to findings of this study, qualitative data seems of higher quality and contribute more to the research being undertaken by the pre-service preschool teachers. In particular, some of them emphasized that detailed explanations were important to convince them that findings of their study were valid. However, this was not in agreement with Kazoleas (1993) finding he commented that qualitative and quantitative data can be effective to convince the researcher or the reader about the results or findings of the study.

Hakim (2000) reported that qualitative data collection was cheaper than quantitative data collection methods. She stated that qualitative studies used simpler methods whereas quantitative researches were based on questionnaires, surveys, longitudinal and experimental data. Although in current study, findings showed that qualitative data collection were mentioned as cheaper similar with Hakim (2000), pre-service preschool teachers gave different reasons such as copying less paper and traveling less. These more basic reasons could result from their limited experience of research.

Most of the pre-service preschool teachers stated that they would chose qualitative data collection for their studies. These may be due to the fact that they have not had the opportunity to undertake data analysis and do not know how quantitative data may represent larger population. Also, students majoring in social sciences have difficulty in relating to quantitative methods and numbers. Generally, these students say they prefer to carry out qualitative studies (Murtonen, 2003). In the current study, the pre-service teachers justified their reason for choosing qualitative data because it gave detailed explanation and allowed more open ended questions. Only a few pre-service teachers said they would use both methods together as parallel with that Malterud (2001) reported that using qualitative and quantitative methods as complementary were appropriate rather than thinking them as completely incompatible.

To conclude, the views of pre-service preschool teachers are consistent in terms of similarities and differences, advantages and disadvantages, ease and difficulty, quality of data, cost and preferences about qualitative and quantitative data collection methods. Moreover, they mostly emphasize that they would prefer qualitative research and data collection methods if they were undertaking a study. This study seemed to be a positive experience for the pre-service teachers that participated and provided useful findings therefore, it is recommended that further studies should be carried out, in which the research process will be extended to cover several stages of qualitative and quantitative research such developing data collection tool, data collection, data analysis, generalization and interpretation. Such a study could be carried on with pre service and in-service teachers, thus providing more information on attitudes towards these two research methods.

References

- Ariizumi, Y. (2005). *Five empowering principles of action research that lead to successful personal and professional development*. Lanham: University Press of America.
- Bernard, H. R. (2000). *Social research methods: Qualitative and quantitative approaches*. Thousand Oaks, Calif: Sage Publications.
- Bryman, A. (2004). *Social research methods*. Oxford: Oxford University Press.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, Calif: Sage Publications.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, Calif: Sage Publications.
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed research methods*. Los Angeles: SAGE Publications.
- Denscombe, M. (2010). *The good research guide: For small-scale social research project*. Maidenhead, England: McGraw-Hill/Open University Press.
- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. New York: McGraw-Hill.
- Denzin, N., & Lincoln, Y. (Eds.). (2005). *The SAGE handbook of qualitative research*. Thousand Oaks: Sage Publications.
- Dobrovolny, J. L., & Fuentes, S. C. G. (2008). Quantitative versus qualitative evaluation: A tool to decide which to use. *Performance Improvement, 47*(4), 7-14.
- Duffy, M., & Chenail, R. J. (2008). Values in qualitative and quantitative research. *Counseling and Values, 53*, 22-38.
- Ercikan, K., & Roth, W. M. (2008). *Generalizing from educational research: Beyond qualitative and quantitative polarization*. New York, NY: Routledge.
- Fraenkel, J. R., & Wallen, N. E. (2006). *How to design and evaluate research in education*. Boston: McGraw-Hill
- Gliner, J. A., & Morgan, G. A. (2000). *Research methods in applied settings: An integrated approach to design and analysis*. Mahwah, N.J; London: Lawrence Erlbaum.
- Gray, D. E. (2004). *Doing research in the real world*. London; Thousand Oaks, CA: Sage Publications.
- Hakim, C. (2000). *Research design: Successful designs for social and economic research*. London; New York: Routledge.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has gone. *Educational Researcher, 33* (7), 14-26.
- Kazoleas, D. C. (1993). A comparison of persuasive effectiveness of qualitative versus quantitative evidence: A test of explanatory hypotheses. *Communication Quarterly, 41* (1), 40-50.
- Koshy, V. (2005). *Action research for improving practice: A practical guide*. London; Thousand Oaks, Calif: P. Chapman Pub.
- Mack, N., Woodson, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). *Qualitative research methods: A data collector's field guide*. North Carolina: Family Health International.
- Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The Lancet, 358*, 483-488.
- Mertler, C. A. (2009). *Action research: Teachers as researchers in the classroom*. Los Angeles: Sage.
- Murtonen, M. (2003). *University students' orientation to qualitative and quantitative research methods*. (ERIC Document Reproduction Services No. ED 478 981).
- Onwuegbuzie, A. J., & Leech, N. L. (2003). *On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies*. (ERIC Document Reproduction Services No. ED 482 462).
- Perla, R. J., & Carifio, J. (2009). Toward a general and unified view of educational research and educational evaluation: Bridging philosophy and methodology. *Journal of MultiDisciplinary Evaluation, 6* (11), 38-55.
- Plante, E., Kiernan, B., & Betts, J. D. (1994). Research to practice method or methodolotry: The qualitative/quantitative debate. *Language, Speech, and Hearing Services in Schools, 25*, 52-52.
- Prakash, D. (2007). The view from below. In D. Prakash & A. Klotz. Should we discard the "Qualitative" versus "Quantitative" distinction? *International Studies Review, 9*, 753-770.
- Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *Field Methods, 15* (1), 85-109.
- Sak, R. (2005). *Situations that male preschool teachers encounter at the beginning of their career and parents' views about male preschool teachers*. Unpublished Ms. Thesis, Gazi University, Ankara.
- Sarantakos, S. (2005). *Social research*. New York: Palgrave Macmillan.
- Şahin, İ. T. (2011). *Physical design for classroom management: Perceptions of early childhood teachers*. Germany: LAP Lambert Academic Publishing.
- Yıldırım, A. & Şimşek, H., (2005). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative research methods in social sciences]*. Ankara: Seçkin.