



International Journal of Contemporary Educational Research (IJCER)

www.ijcer.net

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To cite this article:

Şahin, M. D. & Öztürk, G. (2019). Mixed method research: Theoretical foundations, designs and its use in educational research. *International Journal of Contemporary Educational Research*, 6(2), 301-310. DOI: <https://doi.org/10.33200/ijcer.574002>

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Mixed Method Research: Theoretical Foundations, Designs and Its Use in Educational Research

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Abstract

In educational sciences, 90s were the scene of the paradigmatic wars, as the researchers of quantitative or qualitative research only defended the ideas of the type of research they used and they constantly criticized the counter-paradigm. While this struggle is going on, mixed method research has emerged, a pragmatist approach that believes both methods of research are necessary and useful, and that these two methods can be used together when the research problem requires. In the 2000s, numerous studies on mixed method research have led this approach to be accepted as a third paradigm. From this history to the present, many studies have been carried out on this topic, from the philosophy of the mixed method to the genres, from the methodological substructure to the stages. Presenting a theoretical perspective, this study aims to scrutinize mixed method research with a special emphasis on its philosophical development and models. The weaknesses and strengths of mixed method as a research paradigm are also touched upon. Finally, its use in educational sciences and future directions regarding the development of this research method are discussed.

Key words: Mixed method research, Educational research, Research design

Introduction

The source of knowledge is an important issue that scientists, especially philosophers, are struggling with. Some different approaches of thought in this regard include positivism, idealism, rationalism, realism, and empiricism. Instead of making a clear-cut definition of science, it will be better to use the definition of systematic knowledge that is validated (Karasar, 1991). Therefore, the process of producing scientific knowledge requires a methodology. In scientific research, the methodology guides the researchers in all processes from the correct creation of the research questions to the final reporting.

As a mainstream field of scientific research, Educational sciences have long witnessed the effect of quantitative research methodology based on positivist paradigm. According to quantitative research, there is an order of the universe and this order can be grasped by man. In this type of research, the opinion that knowledge can be obtained through experiments and observations is prominent. In quantitative research methods, the idea that if there is something, there is an amount of it, and that amount can be measured is dominant. Therefore, standardized measurement tools are used to measure latent variables believed to exist in individuals, and with the help of these tools, data is collected from them. Whether there is a difference between different groups categorized according to their specific features is tested by statistical methods. The aim here is to determine whether the averages obtained from the groups differ in terms of the measured feature.

According to quantitative research, all steps from the development and implementation of measurement tools to the interpretation of the obtained values are objective. Accordingly, the researcher carrying out a quantitative research process must be objective as well. Thus, the data obtained and the process of interpreting this data will not differ from person to person. As can be seen, in quantitative research method, the data obtained from the “sample” representing the “universe”, is generalized. In quantitative research method, the theory-concept relation must be confirmatory or falsifying.

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The emergence of new developments in natural sciences such as Einstein's "Theory of Relativity" and Heisenberg's "Uncertainty Principle" which undermine the foundations of positivism, also led the shaping of an alternative paradigm. According to this new paradigm called post-positivism / interpretive paradigm; reality is complicated, not simple. Systems cannot be classified in a hierarchical order from simple to complex, and the universe cannot be understood mechanically. Possibilities for the future might be known, but it is not possible to predict the exact results (Yıldırım & Şimşek, 1999).

Having emerged based on this paradigm, qualitative research is grounded on a constructivist, postmodern and post-positivist philosophy. The cause-effect relationship cannot be mentioned in qualitative research methodology. There is the mutual causality, intuition and deep understanding. Since each research is specific to itself and the group being applied, no concern is raised regarding the generalization of information. In this research method, theory and concept are reconstructed each time. Qualitative research argues that the researcher's own feelings and thoughts' not affecting the research process, in other words objectivity, is not possible. Accordingly, the identification of the problem and the focus of the study are also subjective. Therefore, the researcher's attitude, opinion and value judgments will naturally be a part of the research. Thus, qualitative research is defined as the research in which a qualitative process that uses qualitative data collection methods such as observation, interview and document analysis is followed to identify and explore perceptions and events in a realistic and holistic manner in the natural environment (Yıldırım & Şimşek, 1999).

Considering these basic arguments which quantitative and qualitative research methods are based on, it can be seen that the two research methods show significant differences and even their perspectives on the same subjects are completely opposite. These research methods of two different paradigms are supported by different epistemological, ontological and axiological philosophies (Johnson & Onwuegbuzie, 2004; Bergman, 2011).

Theoretical Foundations and the Development of Mixed Method Research

Researchers, not adopting a single quantitative or qualitative research approach alone, see their own side as the ideal paradigm. While the paradigm wars that arose in 90s were continuing among these two methodologies, mixed-method research emerged as a third research method which involved the use of both quantitative and qualitative research methods for research problems that cannot be answered by a mono-method perspective. Both of the paradigms are important and useful for mixed method research (Johnson & Onwuegbuzie, 2004). Mixed-method researchers believe that this hybrid method can serve as a bridge by eliminating the distinction/contradiction between the two paradigms (Onwuegbuzie & Leech, 2005). However, it should be kept in mind that the mixed method has no purpose in finding solutions to the philosophical and methodological differences between quantitative and qualitative research. The mixed method has a pragmatist perspective that brings these two methods together to better respond to questions under investigation (Johnson & Onwuegbuzie, 2004). Therefore, the mixed method researcher is expected to master the two research methods. According to Johnson & Turner (2003), to master the strengths and weaknesses of quantitative and qualitative research methods is the basic principle of the mixed method. It is maintained that mixed method research based on pragmatist and transformative paradigms balances the limitations inherent in the nature of qualitative and quantitative methods (Firat, Yurdakul & Ersoy, 2014). It emerges as a good way to find answers to the research problem when a single research method is not sufficient. The idea that the combination of quantitative and qualitative methods, instead of using a single method, will provide a better understanding of the research problem is the basic assumption of mixed method research (Creswell, 2012).

The mixed method is now used increasingly in research studies in educational sciences. At the end of the 19th century, the first representatives of mixed-method researchers used different data collection and data analysis methods without mixing them with a methodological basis. Since the 1990s, the second generation (Brannen, Bryman, Creswell, Teddlie, Tashakkari et al.) has made a major contribution to the success of the mixed method research with their studies to demonstrate the taxonomy, jargon and application process of mixed method research (Bergman, 2011). After these studies, the mixed method started to be accepted as a separate approach with its own rules at the beginning of the new millennium. According to Creswell (Fetters & Molina-Azorin, 2017), mixed-method research has gained momentum in 2003 when the first manual on the mixed methodology of Tashakkori and Teddlie was published. Creswell also published the first edition of the *Journal of Mixed Methods Research* (2007), followed by the best practices by the National Institutes of Health, and finally, mixed method research standards for academic publications to be published by the APA in the upcoming period is also seen as a milestone for the development of this type of research.

When the literature is examined, it is seen that scientists who contributed to the development of mixed-method research only think that they should prefer this method when the research problem requires it. There are five main reasons for the mixed research method, which are presented by Greene, Caracelli and Graham (1989).

Triangulation: In the same research, it is the situation of testing the validity of the qualitative and quantitative data obtained independently from each other, and thus the validity of the findings.

Complementarity: It is the use of qualitative results in order to increase the interpretability of the findings after a quantitative research.

Development: There is a gradual use of quantitative and qualitative methods. First, the qualitative method is used and the results are intended to contribute to the development of the quantitative research process.

Initiation: It is the situation of giving the research study a new direction led by the inconsistencies resulted among the findings of the study at the end of using qualitative and quantitative methods within the scope of it.

Expansion: In the simplest sense, the scope of the research is expanded. The aim here is to examine the different phenomena belonging to the research.

Classification of Mixed Method Studies

An important issue for researchers who will use mixed method research is to determine the type of the mixed method appropriate for their study. The first comprehensive study on the classification of mixed method studies was carried out by Greene, Caracelli and Graham (1989). In this study, a classification system consisting of six types was developed by examining 57 articles.

According to Johnson and Onwuegbuzie (2004), a researcher using the mixed research method has to decide on the dominance (which one will be more dominant, quantitative or qualitative?) and the time of implementation (will quantitative and qualitative methods be applied together or sequentially?). Therefore, the classification of mixed research types is made by taking these two points into consideration. Johnson and Onwuegbuzie (2004) identified nine types of mixed method in their classification based on the dominance and the implementation time. This classification is shown in Figure 1. The researchers used the symbols developed by Morse (1991) during this classification process. According to this, the symbol “+” means that both qualitative and quantitative studies are carried out simultaneously, while the symbol “→” means that two studies are conducted in a sequential order. In addition, the use of capital letters refers to priority and weight in the research, and the lower case refers to just the opposite. A table prepared by Johnson and Onwuegbuzie using these symbols is shown in Figure 1.

		Time Order Decision	
		Concurrent	Sequential
Paradigm Emphasis Decision	Equal Status	QUAL + QUAN	QUAL → QUAN QUAN → QUAL
	Dominant Status	QUAL + quan QUAN + qual	QUAL → quan qual → QUAN QUAN → qual quan → QUAL

Figure 1: Classification of mixed method studies according to Johnson & Onwuegbuzie (2004)

According to Figure 1, there is a total of nine mixed methods to be classified according to the implementation time and dominance. However, it is not expected that a researcher carrying out a mixed method study will always stick to this table. It is an important principle of the mixed method that the mixed method researcher is creative by adhering to the general principles.

In their study of the classification of mixed research methods, Leech and Onwuegbuzie (2009) benefited from the level of mixing in addition to the emphasis approach and application time. The table adapted from them is presented in Figure 2.

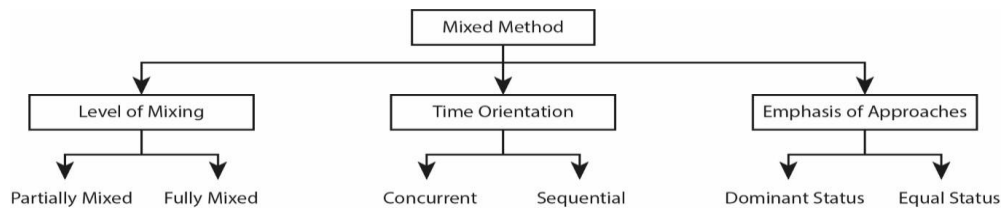


Figure 2: Classification of mixed method studies according to Leech & Onwuegbuzie (2009)

Creswell (2012), one of the prominent figures in the studies conducted on the classification of mixed-method studies, emphasized the importance of these four issues in order to determine the type of a mixed study:

1. *Deciding on which one of the quantitative and qualitative research methods will be prioritized or more dominant:* Which type of data is given more importance and emphasis is crucial. In some cases, however, quantitative and qualitative data sets might be equally important.
2. *The sequence of quantitative and qualitative data:* It is necessary to determine whether two data types are collected simultaneously or sequentially. If they are collected at different times, it should be noted which one was collected first.
3. *Data analysis process of the researcher:* It is the determination of whether the data are combined in a single analysis or the analyses are done separately.
4. *To determine in which part of the research the data is mixed:* The operation of mixing can be performed during data collection, analysis, or the interpretation phase. It is necessary to determine which of these four cases occurs.

Creswell (2012) maintains that the type of mixed method studies can be determined taking the issues above into consideration. Below are the six types of mixed-method proposed by him.

- The convergent parallel design
- The explanatory sequential design
- The exploratory sequential design
- The embedded design
- The transformative design
- The multiphase design

The first four types mentioned above are the most widely used types of mixed method research, while the use and consequent popularity of the last two methods are increasing day by day (Creswell & Plano Clark, 2011; cited in Creswell, 2012). The aforementioned six types of mixed method research and their principles are summarized in Figure 3.

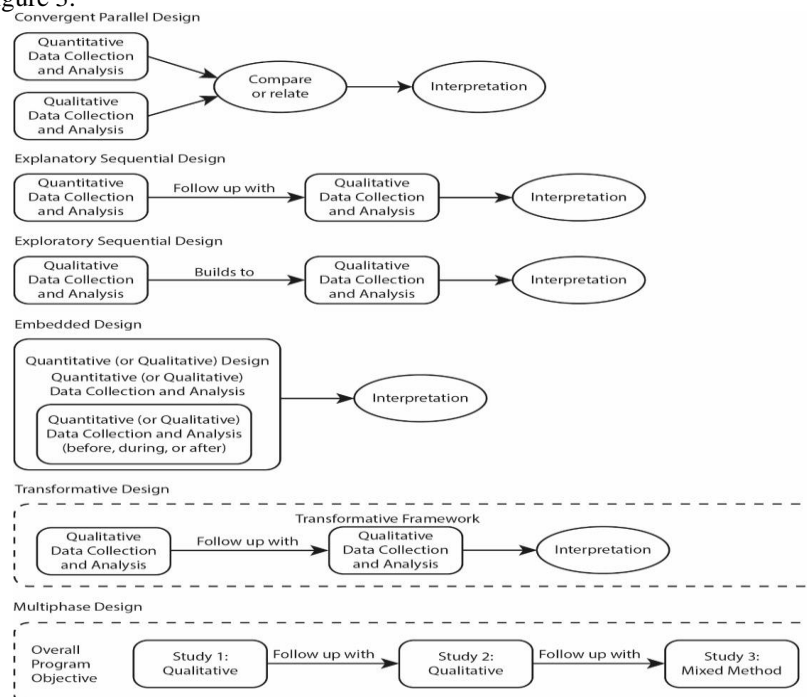


Figure 3: Types of mixed method research according to Creswell (2012)

The first four of the methods visualized in Figure 3 are the most widely used main types used in mixed research. These four methods are described in more detail below. The remaining two methods are basically based on the first four methods but have a more complex structure (Creswell, 2012):

The convergent parallel design

The purpose of this type of research is to collect and combine quantitative and qualitative data simultaneously and report the findings of the analysis to understand the research problem better. Based on this, it can be ensured that one of the collected data set can compensate the weaknesses of the other, finding a more comprehensive response to the research problem.

In parallel method, the researcher examines the situation whether the results are supporting each other or creating contradictions by analysing the quantitative and qualitative data sets separately. The direct comparison of the results from the two datasets in this way allows the data sources to be converged. Another important issue related to this method is that the researcher cares equally about quantitative and qualitative methods. In short, this method is mainly based on the simultaneous collection of quantitative and qualitative data sets, equal attention towards both methods and determination of the consistency-inconsistency status of the results derived from the analysis.

The explanatory sequential design

It may not be possible to collect quantitative and qualitative data at the same time due to the research problem. In such cases, it will be necessary to collect quantitative and qualitative data in order. In this type of research, firstly, quantitative data are collected. In the next step, the qualitative data collection process is started to explain the results obtained from the quantitative data.

In this research type, quantitative data collection and analysis process has priority. The data collection and analysis processes at each step with the qualitative data collected at the next stage are reported separately and respectively. The purpose of the qualitative data collection and analysis process is to present the results obtained from the quantitative data in a more pure and detailed manner. It is an important advantage of this method that the quantitative and qualitative parts are separated from each other in a clear way.

The exploratory sequential design

In the cases which requires the collection of quantitative and qualitative data sequentially, this is the method type in which the qualitative data is collected first and then the quantitative data is collected to explain the relationship among the qualitative data. This method can be used to discover a phenomenon, identify themes, and develop a data collection tool. In this kind of research, the qualitative method is emphasized more than the quantitative method. This might emerge as the most important and comprehensive problem in the research being open-ended or as a more detailed interpretation of the results of qualitative data analysis.

The embedded design

Although it shows similar characteristics with both parallel and sequential methods, it differs in terms of the purpose of use of either quantitative or qualitative method. The difference is that one of a set of quantitative or qualitative data collected simultaneously or sequentially is used to support the other. In the literature, the use of qualitative data is mostly intended to support the data obtained from quantitative research.

In the sequential use of the embedded method, in the first stage, due to the fact that the required information cannot be fully obtained from the basic source within the scope of the research problem, it is possible to utilize the secondary source. Combining the strengths of quantitative and qualitative methods is seen as a significant advantage of this type.

Mixed Method Research Process

There are several stages to follow in mixed method research. These stages are shaped according to the purpose of research, its sample and scope (Firat, Yurdakul & Ersoy, 2014). Figure 4 shows the mixed method research process adapted from Johnson and Onwuegbuzie (2004).

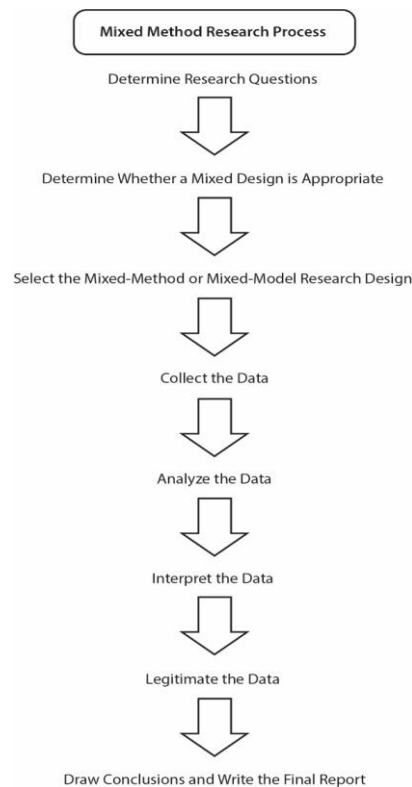


Figure 4: Stages of mixed method researches according to Johnson & Onwuegbuzie (2004)

When the above mixed method research process is examined, it is seen that the first step is to determine the research question which is the basis of the research. According to the structure of this research question, it is decided in the next stage whether the research requires the use of mixed methods. If it is decided to use a mixed method, the type to be used in the next step will need to be determined. After making this decision, the data will be collected and the analysis of these data will be carried out properly. After the interpretation of the results obtained at the end of the data analysis, final reporting will be carried out in detail. Researchers describe these stages in various models. As such, mixed method researches may begin with a purpose and at least one research question, while all other steps may vary. The steps taken by Creswell (2012), which describes the research process in mixed method in more detail, are shown below.

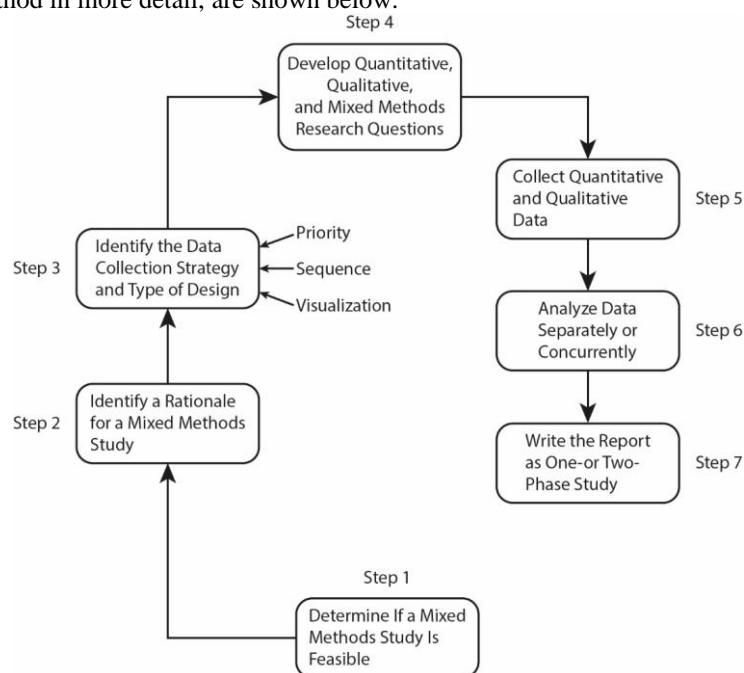


Figure 5: Stages of mixed method researches according to Creswell (2012)

Creswell examined the stages of mixed method research in seven steps. Accordingly, in the first step, a feasibility study should be done for mixed method research and it should be decided whether the method is applicable or not. If a mixed method can be applied, a justification should be made in the second step. The importance of this stage will be better understood when it is considered that mixed method research is appropriate for the situations required by the research problem. The third stage is mainly related with the presentation of the data collection strategy and the type of research design. At this stage, it is expected that the priority of the quantitative and qualitative data sets, in which order they will be collected and analyzed, are decided and the visualization of this process is made. Creswell states that the research problems should be formed only after the fourth stage. In this regard, it can be said that these stages that Creswell explained differed from the process mentioned in the previous figure. The next two steps involve the realization of the data collection and analysis process whose order and priority are decided in the third step. In the last step, reporting should be carried out according to the concurrent or sequential execution of the analyses.

The Use of Mixed Method Research in Educational Sciences

In the last two decades, the committed believers of mixed method research, even claiming that “mono-method research is the biggest threat to advancement of the social sciences” (Onwuegbuzie & Leech, 2005, p. 375), began to see this multiple perspective as a distinct advantage in educational research and superior to the ones employing either a quantitative or qualitative research design. Besides, these scholars also believed that mixed-method research could better enlighten the research matters in educational research which has historically faced with controversies in inquiring the complexities of educational phenomena (Walters, 2009). As mentioned before, one of the most important issues in mixed-method research is the fact that researchers should master the principles of both qualitative and quantitative data and how to mix them. For this reason, the first issue educational researchers must be aware and careful about is the notion of “principled mixing”, that is aggregating the strengths of both methods and minimizing the weaknesses of both to better explore a research phenomenon in the field of educational sciences. In this part of the study, some hypothetical situations fitting to widely-used mixed method designs are presented to illustrate how this principled mixing can be ensured so that emerging scholars can benefit in fitting their research problems into mixed method research design.

Suppose that a researcher is interested in the welfare of teachers as a field of study and aims to examine the job burnout level of biology teachers in his/her context. Within the scope of the study, this researcher can use an instrument, for instance a burnout scale, to measure the burnout level of participant teachers and present some statistical findings. Moreover, at the same time, he/she can prepare some open-ended questions or conduct semi-structured interviews to collect qualitative data regarding the burnout of the participants. While mixing these two different methods in this case, if the researcher does not prioritize any of the methods; in other words, if these two data collection methods are equal in terms of their importance within the scope of the study, this case fits into the convergent parallel design. In this mixed-method design, “the researcher often gives equal priority to both quantitative and qualitative data and collects both data concurrently or simultaneously during the study” (Creswell, 2012, p. 540), and the critical point the researcher needs to be careful about is how to relate these two different data sets since they are collected and analysed separately. In this situation, the qualitative data (quotes or expressions from the participants) can be used as the confirmation or disconfirmation of the statistical findings while reporting the findings or discussion to ensure the criteria of principled mixing.

In another research case, a researcher in the field of English language teaching is planning to carry out a study focusing on foreign language speaking anxiety experienced by EFL learners and the main purpose is to reveal whether the participant learners experience this anxiety, what its level is and what the underlying factors causing this anxiety are. At this point, an initial step that the researcher has to take is to decide on the sequence and the priority of the data collection method because this preference plays a vital role in the mixed-method design the researcher has to follow throughout the study. If the researcher decides on applying a scale to reveal whether the participants feel anxious while speaking English, or to measure the level of it and then collect some qualitative data with the intention to present a better understanding of EFL speaking anxiety (such as the factors increasing their anxiety level or the role of teachers on this anxiety), such a research perspective fits into the explanatory sequential design which is regarded as “a straight forward mixed-method design to enrich the final findings considerably” (Dörnyei, 2007, p. 171). This design is also labelled as “perhaps the most popular form of mixed methods design in educational research” by Creswell (2012, p. 542) and believed to provide a better understanding of the research matter thanks to the elaboration with the qualitative phase. On the other hand, if the researcher first employs the qualitative data using interviews, reflection reports or open-ended questions to explore EFL speaking anxiety by creating themes or sub-elements related with it, construct a measurement and use it for the extension of qualitative findings, this perspective can be labelled as an exploratory sequential design which “involves the procedure of first gathering qualitative data to explore a phenomenon, and then collecting quantitative data to explain relationships found in the qualitative data” (Creswell, 2012, p.543). By

doing so, the researcher may not only explore EFL speaking anxiety as a distinct phenomenon and a field of study but also construct a research instrument that will guide its measurement.

In addition to these two hypothetical situations which might serve as easy-to-apply examples for further mixed-method studies in educational sciences, it should be noted that both data sets can be embedded into experimental studies (employing interviews at the beginning or at the end of the experiment) such as measuring the effectiveness of a teaching technique, or in longitudinal ones by conducting a series of data collection and analysis including both qualitative and quantitative elements. Whatever the purpose and the planned design are, the researchers in educational sciences need to be careful about two main points while embedding different types of data into their studies: The priority of data sets (qualitative or quantitative) and how these different data sets will feed each other (building a specific set on the other). These two issues will mainly guide the mixed-method researchers in employing the appropriate design to enlighten the research matter better.

Strengths and Weaknesses of Mixed Method Research

Mixed method research is considered to be a good solution when the research problem requires concurrent or sequential use of quantitative and qualitative methods. According to Bergman (2011), a study in which mixed method is applied correctly,

- has epistemological and ontological foundations.
- has a correctly-constructed research question and a theoretical framework.
- has a clear sampling method.
- has interpretations and methods to help quantitative and qualitative research.

In a study with all these features, it is thought that the research problem is more suitable for the use of the mixed method and it is more powerful than the studies employing a single research method. However, knowing the strengths and weaknesses of mixed-method research prior to the study will enable researchers to be prepared for possible problems that will interfere with the process and disrupt the research.

Johnson and Onwuegbuzie (2004) also emphasized that mixed method research has strengths and weaknesses. Accordingly, with the use of mixed method research, it is provided that the results obtained through a method are supported by another one, and this makes the research study stronger. Furthermore, because the researcher is not limited to a single research method, the mixed method can allow a broader and more comprehensive research problem to be answered. On the other hand, different types of mixed method research may have their own inherent limitations. The researcher can find solutions to a situation in which the method he / she uses is weak for research problem by emphasizing the strengths of another method that he / she will use. Thus, the points that might be overlooked when a single method is used can be understood and comprehended better.

Besides all these strengths, mixed method research also has some limitations or weaknesses. In particular, in cases where the quantitative and qualitative methods in the mixed method research are conducted simultaneously, a single researcher may find it difficult to carry out the process in a healthy way. In this regard, the researcher or the researcher group must have mastered both methodologies. If this requirement is not met, the method (quantitative or qualitative) processes in which the researcher or the researcher group has a higher competence will be treated correctly, while the execution of the other method processes will be disrupted. It should be kept in mind that mixed method research is more expensive and time consuming than the studies with a single research method. If the researchers' budget is limited or they do not have enough time to carry out the study, the situation will prevent the quality of the mixed method research process (Johnson & Onwuegbuzie, 2004).

In addition to those strengths and weaknesses, it is admitted that there are still some discussions on the mixed method terminology. The first one is related to the concept of "mixed". Some researchers believe that the methods used in mixed method research are more blending and combining, and therefore, the processes performed do not meet the concept of mixed. Another issue of discussion is the concept of triangulation. There are three cases associated with the use of this concept (Bergman, 2011):

- Accept triangulation as a sub-dimension of the hash method
- Accept the mixed method as a sub-dimension of triangulation
- Accepting these two concepts as identical-synonyms

First of all, it is necessary to mention the concept of triangulation and its use in research methodology. In a general sense, it is defined as the case of researchers' gathering and combining different data types related to the same phenomenon (Creswell, 2012). According to this, the most acceptable of the above three conditions for

triangulation is that triangulation is a type (sub-dimension) of the mixed method. Another controversial issue related to mixed method is whether the studies in which two different methods of the same research paradigm (quantitative + quantitative or qualitative + qualitative) are used can be called as mixed or not. According to Tashakkari and Teddlie (1998), it would be appropriate to name this type of research as multimethod (as cited in Bergman, 2011).

Mixed Method Research and Future Directions

Mixed-method research has increased its popularity in the 90s, and since the beginning of 2000s, it has started to be accepted as a third paradigm with the works of the scholars of the field. One of the important contributions to this field is the publication of the journal "Journal of Mixed Methods Research" in 2007. In the fourth issue of the journal in 2017, an article of the previous editors of the journal on the current situation and future of the field was published (Fetters & Molina-Azorin, 2017). In this study, previous editors such as Creswell, Tashakkori etc. shared their opinions on the most important role that should be taken by the researchers in the field, the challenges they might face and what kind of responsibilities researchers in the mixed method field should take.

According to this, the most important developments in the field are the emergence of a multidisciplinary and international community which is methodologically competent in mixed method research, the creation and active work of different working groups, the development of big data and the progress in the software world. When their opinions related to the controversial issues in the field are examined, Creswell maintained that the question of whether the mixed method is a methodology that includes analysis and interpretation starting from data collection, or a methodology covering all the research stages, is still the most important question that researchers answer differently. According to Freshwater, the difficulties and debates already involved in data integration, association, and aggregation in mixed-method research will become more troubled with the development of large data. However, Freshwater also believes this issue will be an opportunity related with the discussion on the implementation of the data.

The next topic concerns the recommendations of former editors for those who are already learning mixed method research. For Creswell, first, about 30 books written by experts about the mixed method should be read by new researchers. Another remarkable point according to Creswell is the increase in the number of researchers who consider themselves as experts in the mixed method research, but include independent analysis of quantitative and qualitative data in their research. Creswell argues that such research is a starting point for the mixed method, whereas in mixed-method research, the important thing is the integration of quantitative and qualitative data sets. Tashakkori recommends new researchers in the field to use the mixed method only when the research explicitly requires it. According to Tashakkori, the freedom of the investigator and the allowance for the emergence of his own design is an important advantage of the mixed method. Therefore, he stated that the researchers should not carry out their researches within the pre-determined limits and that each mixed method research may require a different method than the ones planned in the process.

Conclusion

Mixed-method research proposes to use quantitative and qualitative research methods in combination with a pragmatist perspective when the research problem requires. In such cases, the mixed method claims that deeper and richer answers can be found in the research problem than when a single research method is used. This innovative paradigm brought by mixed method requires new perspectives towards science and scientific knowledge.

From the 2000s onwards, studies related with its methodological basis have played an important role in making the method as a third paradigm (method or approach according to some scientists). From this process until now, especially for mixed method research, it is noteworthy that the studies differed significantly in terms of their classification, research process and so on according to the researcher. Researchers often state that they definitely did not determine the final lines and that the mixed method researcher should be creative since they believe that using their creativity in accordance with the purpose and development of the study is one of the important features of mixed method research.

Almost all of the methodologists whose studies have been examined in this article agree with the basics of mixed method research. However, there is a point on which all these scholars agree that it harms mixed method research: The researchers who do not fully understand the philosophy and purpose of the mixed method research conduct studies, which are not compatible with the purpose and philosophy of this paradigm. In other words, the use of quantitative and qualitative methods in the same research is not considered sufficient for the method to be

mixed. For this reason, written sources describing the mixed method should present content that will illuminate the researchers who are new in this field regarding the basic principles of this research paradigm instead of the classification of mixed method research, research stages, types, etc.

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