

# Mixed Research Method as the Third Research Paradigm: A Literature Review

U.L.T.P Gunasekare

Senior lecturer, University of Kelaniya

**Abstract:** *According to the research methodology literature quantitative research paradigm was accepted as the first phase while the qualitative research paradigm was emerged as an alternative to it and was conceptualized as the opposite of quantitative paradigm. As many researchers started advocating in mixing both quantitative and qualitative methods, resulted to established mixed research method paradigm. With many discussions among the methodologists several definitions were given to mixed research method. This paper identified several definitions given by methodologists and two types of mixed research methods called mixed method research and mixed model research. Further describes confirmation and complementarity as two purposes of mixed research method. The paper identifies multiple advantages of mixed research method over using one method in a study. Finally it was identified six key research designs that described in mixed research method literature.*

**Keywords:** Qualitative research paradigm, Qualitative research paradigm, Mixed method research paradigm, Confirmation, Complementarity.

## 1. Introduction

There have been numerous waves or phases in research methodologies from past few years. In many disciplines, the quantitative research paradigm, which incorporates multiple types of quantitative research designs, was the first and only research design choice during the 19th century. The quantitative research paradigm was considered as the only research methodology because it was the first research paradigm that incorporated ontological, epistemological, axiological, rhetorical, and methodological assumptions and principles. (Leech, and Onwuegbuzie, 2007). At the turn of the 20th century, some of the researchers who refused the assumptions of quantitative paradigm and principles turned to the qualitative research paradigm. Between 1900 and 1950, according to Denzin and Lincoln (2000), was the first historical moment for qualitative research. It was then, shortly after this period, during the 1960s, that the concept of mixing the two approaches was introduced.

Quantitative research was the generally accepted research paradigm in educational research until the early 1980s, when the “paradigm wars” between advocates of quantitative and qualitative research reached a new peak (Tashakkori & Teddlie, 1998). During the 1980s, many quantitative and qualitative researchers argued that their approach was superior. Some of these researchers were “purists,” in the sense that they argued that the two approaches could not be used together because of differences in the worldviews or philosophies associated with the two approaches.

This position of purists believed, one must use quantitative or qualitative research but not both. This created the incompatibility and this problem of incompatibility fails to recognize that creative and thoughtful mixing of assumptions, ideas, and methods can be very helpful and offers many uses to the researchers. The mixing of ideas and approaches has been presented throughout history because mixing or combining offers new ways to understand and study the world. In short, in addition to quantitative and quantitative research, mixed research offers an exciting way

of conducting educational research. Mixed methods research has been established as a third methodological movement over the past twenty years, complementing the existing traditions of quantitative and qualitative movements (Tashakkori&Teddlie, 2003)

Since the 1960s, mixed methods research has become more popular in many disciplines including education (Johnson and Onwuegbuzie, 2004; Rocco et al. 2003), psychology (Waszak and Sines, 2003), nursing (Morse, 1991; Sandelowski 2001; Twinn, 2003), sociology (Hunter and Brewer 2003), health sciences (Morgan 1998; Forthofer 2003), management and organizational research (Currall and Towler, 2003), library and information science research (Onwuegbuzie et al. 2004), and program evaluation (Greene et al. 1989; Rallis and Rossman, 2003).

In the broad area of social science research, mixed method studies have caught the attention of writers who call it as a third paradigm in evaluation and conducting of research. Brewer and Hunter in 1989, called it as a more conventional research style which is distinctive in several ways. It can be positioned between the extremes of quantitative research and qualitative research, in attempting respectfully to the wisdom of both of these viewpoints while also seeking a workable middle solution for many research problems of interest. Today, the primary philosophy of mixed research is that of pragmatism. Mixed methods research is, generally speaking, an approach to knowledge (theory and practice) that attempts to consider multiple viewpoints, perspectives, positions, and standpoints of qualitative and quantitative characteristics.

This paper presents a review of recent literature about mixed methods research as a separate design. It finds an analysis of definitions for mixed method research currently available in literature. Then it provides two major types of mixed method research and identifies purposes of mixed method research. It then reviews advantages of mixed method research providing guidance for a researcher to identify the type of mixed methods design to use in a particular study. Then six

core designs, within the designing stage of a mixed research are being presented.

## 2. Mixed Method Research Defined

This third methodological movement as an intellectual and practical synthesis has been given many names. Here are a few: blended research (Thomas, 2003), integrative research (Johnson & Onwuegbuzie, 2004), multimethod research (e.g., Hunter & Brewer, 2003; Morse, 2003), multiple methods (Smith, 2007), triangulated studies (Sandelowski, 2003), ethnographic residual analysis (Fry, Chantavanich, & Chantavanich, 1981), and mixed research (Johnson, 2006; Johnson & Christensen, 2004).

The actual terms used to denote a mixed methods study vary considerably in the procedural discussions of this design. Writers have referred to it as multi trait – multi method research (Campbell & Fiske, 1959), integrating qualitative and quantitative approaches (Glik, Parker, Muligande, & Hategikamana, 1986–1987; Steckler, McLeroy, Goodman, Bird, & McCormick, 1992), interrelating qualitative and quantitative data (Fielding & Fielding, 1986), methodological triangulation (Morse, 1991), multi methodological research (Hugentobler, Israel, & Schurman, 1992), multi method designs and linking qualitative and quantitative data (Miles & Huberman, 1994), combining qualitative and quantitative research (Bryman, 1988; Creswell, 1994; Swanson-Kauffman, 1986), mixed model studies (Datta, 1994), and mixed methods research (Caracelli & Greene, 1993; Greene et al., 1989; Rossmann & Wilson, 1991). Central to all of these terms is the idea of combining or integrating two different methods. The term mixed methods is perhaps most appropriate since mixing provides an umbrella term to cover the multifaceted procedures of combining, integrating, linking, and employing multi-methods (Creswell, 1994; Creswell et al., 1996; Creswell & Miller, 1997).

John W. Creswell, Vicki L. Plano Clark, Michelle L. Gutmann and William E. Hanson in their “Advanced Mixed Methods Research Designs” say that a more elaborate definition, would specify the nature of data collection (whether data are gathered concurrently or sequentially), the priority each form of data receives in the research report (equal or unequal), and the place in the research process in which “mixing” of the data occurs such as in the data collection, analysis, or interpretation phase of inquiry. Combining all of these features into a single definition they suggest the following definition:

*A mixed methods study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research.*

R. Burke Johnson, Anthony J. Onwuegbuzie and Lisa A. Turner, examined the criteria that leaders in the field currently consider as important for defining mixed methods research. Their sampling frame started with a list of 31 leading mixed methods research methodologists from Tashakkori’s “Bridges Web site” plus five other additional

leaders who are contributors to a special journal issue on mixed methods research. They asked via e-mail all of these methodologists if they would share their current definitions of mixed methods research. The participating methodologists presented 19 definitions. These definitions were diverse and were differentiated in terms of what was being mixed, the stage in the research process where the mixing occurred, the extent of the mixing, the purpose of the mixing and the drive behind the research. Based on their analysis of the definitions they offered the following general definition:

*Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. This definition refers to mixed methods research as a type of research that would involve mixing a single study; a mixed method program would involve mixing within a program of research and the mixing might occur across a closely related set of studies (Johnson, Onwuegbuzie and Turner 2007).*

A more comprehensive definition is provided by Creswell and Plano Clark (2003). They defined *mixed methods as a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination top provides a better understanding of research problems than either approach alone.*

## 3. Types of Mixed Research

There are two major types of mixed research: mixed method versus mixed model research. Mixed method research is a research in which the researcher uses the qualitative research paradigm for one phase of a research study and the quantitative research paradigm for another phase of the study. For example, a researcher might conduct an experiment (quantitative) and after the experiment, conduct an interview study with the participants (qualitative) to see how they viewed the experiment and to see if they agreed with the results. Mixed method research is like conducting two mini-studies within one overall research study. Mixed model research is research in which the researcher mixes both qualitative and quantitative research approaches within a stage of the study or across two of the stages of the research process. For example, a researcher might conduct a survey and use a questionnaire that is composed of multiple closed-ended or quantitative type items as well as several open-ended or qualitative type items. For another example, a researcher might collect qualitative data but then try to quantify the data.

## 4. Purpose of Mixing Research Methods

Mario Luis Small in “How to Conduct a Mixed Methods Study: Recent Trends in a Rapidly Growing Literature”

(2011) explained why researchers employ more than one kind of data in a single study? He says researchers in recent years have proposed a number of answers, most of these can be subsumed under one of two categories, confirmation or complementarity. (Greene, et al. 1989; Newman et al. 2003; Greene 2007) Confirmation is to verify the findings derived from one type of data with those derived from another (Pager & Quillian 2005, Miller & Gatta 2006, Engel 2007). This approach is sometimes referred to as triangulation, wherein researchers collect different kinds of data to measure the same phenomenon (Kadushin et al. 2008). Researchers have used confirmatory designs when attempting to ensure that their findings do not depend primarily on the particular kind of data they have collected. Complementarity is the ability of one type to compensate for the weaknesses of the other (Brewer & Hunter 1989). Researchers have used complementary designs when they are reluctant to limit the kind of knowledge gained to that which a type of data can produce. The core assumption is that any given type of data can produce only a given kind of knowledge. During the 2000s, most mixed data collection studies in the major sociological journals and academic presses have used complementary, rather than confirmatory designs (Obstfeld 2005, Taylor et al. 2009, Small 2009a).

Greene J, Caracelli V and Graham W (1989) have presented five most important rationales or purposes for mixed research as 1) Triangulation, which seeks convergence, corroboration, correspondence of results from different methods. 2) Complementarity, that seeks elaboration, enhancement, illustration and clarification of the results from one method with the results from another method. 3) Development, seeks to use the results from one method to help develop or inform the other method where development is broadly construed to include sampling and implementation as well as measurement decisions. 4) Initiation, seeks the discovery of paradox and contradiction of new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method. 5) Expansion, seeks to extend the breath and range of inquiry by using different methods for different inquiry components. (Greene, Caracelli and Graham, 1989). Most researchers would agree that any research methods have inherent limitations and, by systematically combining alternative methodologies in a given study, a researcher can compensate for uni-paradigmatic limitations and can, therefore, examine the complementary depth and breadth (Anchin, 2008; Gelo, Braakmann, & Benetka, 2008; Lonner, 2009). This broadened perspective of research purpose and method has been called the “compatibility hypothesis” and has led to the “third methodological way” (Karasz & Singelis, 2009).

## 5. Advantages of Mixed Research Methods

When mixing research or when reading and evaluating research that involved mixing, it should be sure to consider the fundamental principles of mixed research, which says that it is wise to collect multiple sets of data using different research methods, epistemologies, and approaches in such a way that the resulting mixture or combination has complementary strengths and nonoverlapping weaknesses (Johnson & Turner, 2003). That says the mixed approach

helps improve the quality of research because the different research approaches have different strengths and different weaknesses.

In the case of research methods, an experimental research study might demonstrate causality well, but it might be limited in realism because of the confinement to the research laboratory. On the other hand, an ethnographic research study might not demonstrate causality especially well, but it can be done in the field, which enables a researcher to observe behavior as it naturally takes place in the field and therefore it increases realism. When both methods are used, causality is strong, and realism is no longer a big problem.

The momentum for the use of this method continues to build, particularly in the last 10 years. Integrated reviews of mixed methods research have now appeared in the field of counseling (Hanson, J. W. Creswell, Plano Clark, Petska, & J. D. Creswell, 2005; Plano Clark & Wang, 2010), community-based, health services, culture-specific psychological, and behavioral science literatures (Ponterotto J.G, Mathew J.T., Raughley B, 2013). Carefully designed mixed methods studies offer a valuable investigative tool to researchers in studying a wide variety of psychological topics across and within cultures (Bartholomew & Brown, 2012). The flexibility inherent in mixed methods studies can result in a more holistic and accurate understanding of the phenomena under study. Most believe, the qualitative, quantitative distinction is a false dichotomy. The best research can be richly informed by the insights and perspectives of those who prefer to use a variety and often a mixture of procedures, techniques, and methods.

A well executed mixed methods study is characterized by 1) convincing rationale for why a mixed methods design is appropriate; 2) explication of the research paradigm and philosophy of science parameters for each of the methods including a discussion of how the variant paradigms coalesce to enhance the study; 3) demonstrated expertise in both methodological components of the mixed design; 4) high multicultural awareness of the research team; 5) ethical vigilance that transcends both the quantitative and qualitative components; and 6) strong writing that incorporates “thick description” of the qualitative component, and objective precision in the quantitative component with a fluid integration of the findings across methods. (Ponterotto J.G, Mathew J.T and Raughley B. 2013.). A mixed method approach, therefore, presents a logical and intuitive appeal and provides a platform for bridging the divide between qualitative and quantitative paradigms. This attribute, consequently, makes an increasing number of researchers to utilise mixed method designs in undertaking their studies (Onwuegbuzie & Leech, 2005).

Mixing methods help to think creatively and ‘outside the box’, and to enhance and extend the logic of qualitative explanation. Mixed methods approaches raise challenges in reconciling different epistemologies and ontologies, and in integrating different forms of data and knowledge. (Mason, 2006) There is a range of well-rehearsed arguments about the value of mixing methods, many of which centre on the concept of triangulation and its value in validating data or analysis, or in gaining a fuller picture of the phenomenon is

still under study (Bryman 2007, Fielding and Schreier, 2001; Kelle, 2001; Mason, 2006). Mixing methods therefore offers enormous potential for exploring new dimensions of experience in social behaviors, and different intersections between these. It can encourage researchers to see differently or to think outside the box, if they are willing to approach research problems with an innovative and creative palette of methods of data generation. As Gillies and Edwards point out Qualitative, empirical research tends to expose the contradictory, tangled complexity of real life experience, which often stands in stark contrast to neatly packaged theoretical accounts of social change. (Gillies and Edwards, 2005).

## 6. Selecting A Mixed Method Design

The design and conduct of any two mixed methods studies will never be exactly alike. There are several key principles that researchers consider in selecting the mixed method design. Creswell and Plano Clark (2011) provide several principles for designing a mixed methods study. First is recognizing whether mixed methods designs can be fixed and/or emergent. Fixed mixed methods designs are mixed methods studies where the use of quantitative and qualitative methods is predetermined and planned at the start of the research process, and the procedures are implemented as planned. Emergent mixed methods designs are found in mixed methods studies where the use of mixed methods arises due to issues that develop during the process of conducting the research. Second is identifying an approach to design. There are several approaches to design, and researchers can benefit from considering their personal approach to conducting mixed methods studies. These design approaches fall into two categories: typology-based and dynamic. Third is matching the design to the research problem, purpose and questions. The importance of the research problem and questions is a key principle of mixed methods research design. This perspective stems from the pragmatic foundations for conducting mixed methods research where the notion of “what works” applies well to select the methods that work best to address a study’s problem and questions. Fourth is being explicit about the reasons for mixing methods. Another key principle of mixed methods design is to identify the reason(s) for mixing quantitative and qualitative methods within the study. Combining methods is challenging and should only be undertaken when there is a specific reason to do so.

In addition, Creswell and Plano Clark (2011) also pointed out several key decisions in choosing a mixed methods design:

- 1) Determine the level of interaction between the quantitative and qualitative strands.
- 2) Determine the priority of the quantitative and qualitative strands.
- 3) Determine the timing of the quantitative and qualitative strands.
- 4) Determine where and how to mix the quantitative and qualitative strands.

## 7. Mixed Methods Design Strategies

Creswell in his book “Research design: Qualitative and Quantitative Approach” describes six research design strategies that can be used in mixed method researches. They are .1. Sequential Explanatory Design, which collects and analyses of quantitative data followed by a collection and analysis of qualitative data for the purpose of using qualitative results to assist in explaining and interpreting the findings of a quantitative study. 2. Sequential Exploratory Design which is an initial phase of qualitative data collection and analysis followed by a phase of quantitative data collection and analysis with the purpose to explore a phenomenon. This strategy may also be useful when developing and testing a new instrument. 3. Sequential Transformative design which is a collection and analysis of either quantitative or qualitative data first. Then the results are integrated in the interpretation phase to employ the methods that best serve a theoretical perspective. 4. Concurrent Triangulation Design which uses two or more methods to confirm, cross-validate, or corroborate findings within a study. Data collection is concurrent. This is generally used to overcome a weakness in using one method with the strengths of another. 5. Concurrent Nested Design which includes nested approach that gives priority to one of the methods and guides the project, while another is embedded or “nested.” The purpose of the nested method is to address a different question than the dominant or to seek information from different levels. 6. Concurrent Transformative Design is the design that uses of a theoretical perspective reflected in the purpose or research questions of the study to guide all methodological choices to evaluate a theoretical perspective at different levels of analysis.

## 8. Conclusion

Mixed research method as third methodological or research paradigm, which was defined by Creswell and Plano Clark (2003) as a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination to provides a better understanding of research problems than either approach alone. Mixed methods research is important today because of the complexity of problems that need to be addressed and the practical need to gather multiple forms of data for diverse audiences. It has many advantages to a researcher. The objective of this present paper was to review the existing literature relating to mixed research method as the third research paradigm and add some knowledge about mixed research method for research directions, development and advancement as a methodology for future researchers. It provides knowledge of how mixed research method can be used to enhance the relevance of the research findings. The article includes Greene et al.’s (1989) five purposes of mixed research method as triangulation, complementarity, development, initiation and expansion. In particular, it contended that six types of mixed method research designs as sequential explanatory, sequential exploratory, sequential

transformative, concurrent triangulation, concurrent nested and concurrent transformative designs.

## References

- [1] Anchin, J.C. (2008). Contextualizing discourse on a philosophy of science for psychotherapy integration. *Journal of Psychotherapy Integration*, 18, 1-24.
- [2] Bartholomew, T. T., & Brown, J. R. (2012). Mixed methods, culture, and psychology: A review of mixed methods in culture-specific psychological research. *International Perspectives in Psychology: Research, Practice, Consultation*, 1, 177-190.
- [3] Brewer J, Hunter A. 1989. *Multimethod Research: A Synthesis of Styles*. Newbury Park, CA: Sage.
- [4] Bryman, A. (1988). *Quantity and quality in social science research*. London: Routledge.
- [5] Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1, 8-22.
- [6] Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.
- [7] Caracelli, V. J., & Greene, J. C. (1993). Data analysis strategies for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 15(2), 195-207.
- [8] Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*.
- [9] Creswell, J. W., & Miller, G. A. (1997). Research methodologies and the doctoral process. In L. Goodchild, K. E. Green, E. L. Katz, & R. C. Kluever (Eds.), *Rethinking the dissertation process: Tackling personal and institutional obstacles* New Directions for Higher Education, No. 99, pp. 33-46). San Francisco: Jossey-Bass.
- [10] Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. (2nd ed.). Thousand Oaks, CA: Sage.
- [11] Creswell, J. W., Goodchild, L., & Turner, P. (1996). Integrated qualitative and quantitative research: Epistemology, history, and designs. In J. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 11, pp. 90-136). New York: Agathon Press.
- [12] Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.
- [13] Currall, S.C., Towler, A.J.: Research methods in management and organizational research: toward integration of qualitative and quantitative techniques. In: Tashakkori, A., Teddlie, C. (eds.) *Handbook of Mixed Methods in Social and Behavioral Research*, pp. 513-526. Sage, Thousand Oaks, CA (2003)
- [14] Datta, L. (1994). Paradigm wars: A basis for peaceful coexistence and beyond. In C. S. Reichardt & S. F. Rallis (Eds.), *The qualitative-quantitative debate: New perspectives* New Directions for Program Evaluation, No. 61, pp. 53-70). San Francisco: Jossey-Bass.
- [15] Denzin, N.K., Lincoln, Y.S. Introduction: the discipline and practice of qualitative research. In: Denzin, N.K., Lincoln, Y.S. (eds.) *Handbook of Qualitative Research*, 2nd edn., pp. 1-28. Sage, Thousand Oaks, CA (2000)
- [16] Engel M. (2007), Mixing methods: reliability and validity across quantitative and qualitative measures of relationship Quality: In Small M.L. (2011), *How to Conduct a Mixed Methods Study: Recent Trends in a Rapidly Growing Literature*, *Annual Review of Sociology*, 37:57-86.
- [17] Fielding, N. and Schreier, M. (2001) 'Introduction: On the Compatibility between Qualitative and Quantitative Research Methods', *Forum Qualitative Social Research (On-Line Journal)* 2(1), <http://www.qualitative-research.net/fqs-texte/1-01/1-01hrsg-e.htm>
- [18] Fielding, N. G., & Fielding, J. L. (1986). *Linking data*. Newbury Park, CA: Sage.
- [19] Forthofer, M.S.: Status of mixed methods in the health sciences. In: Tashakkori, A., Teddlie, C. (eds.) *Handbook of Mixed Methods in Social and Behavioral Research*, pp. 527-540. Sage, Thousand Oaks, CA (2003)
- [20] Fry, G., Chantavanich, S., & Chantavanich, A. (1981). Merging quantitative and qualitative research techniques toward a new research paradigm. *Anthropology and Education Quarterly*, 12, 145-158.
- [21] Gelo, O., Braakmann, D., & Benetka, G. (2008). Quantitative and qualitative research: Beyond the debate. *Integrative Psychological & Behavioral Science*, 42, 266-290.
- [22] Gillies, V. and Edwards, R. (2005) 'Secondary Analysis in Exploring Family and Social Change: Addressing the Issue of Context', *Forum Qualitative Social Research* 6(1), <http://www.qualitative-research.net/fqs-texte/1-05/05-1-44-e.htm>
- [23] Glik, D. C., Parker, K., Muligande, G., & Hategikamana, D. (1987). Integrating qualitative and quantitative survey techniques. *International Quarterly of Community Health Education*, 7(3), 181-200.
- [24] Greene J, Caracelli V and Graham W (1989) Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis* 11: 255-274.
- [25] Greene JC. (2007), *Mixed Methods in Social Inquiry*. San Francisco: Jossey-Bass
- [26] Greene J, Caracelli V and Graham W (1989) Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11, 255-274.
- [27] Hanson, W. E., Creswell, J. W., Clark, V. L. P., Petska, K. S., & Creswell, J. D. (2005). Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology*, 52, 224-235.
- [28] Hugentobler, M. K., Israel, B. A., & Schurman, S. J. (1992). An action research approach to workplace health: Integrating methods. *Health Education Quarterly*, 19(1), 55-76.
- [29] Hunter, A., Brewer, J. :Multimethod research in sociology. In: Tashakkori, A., Teddlie, C. (eds.) *Handbook of Mixed Methods in Social and Behavioral Research*, pp. 577-594. Sage, Thousand Oaks, CA (2003)

- [30] Johnson R.B, Onwuegbuzie A.J., Lisa A. Turner *Toward a Definition of Mixed Methods Research* Journal of Mixed Methods Research 2007; 1; 112
- [31] Johnson, B., & Turner, L. A. (2003). Data collection strategies in mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 297-319). Thousand Oaks, CA: Sage.
- [32] Johnson, R. B. (Ed.). (2006). New directions in mixed methods research [Special issue]. *Research in the Schools*, 13(1). Available online at [http://www.msera.org/rits\\_131.htm](http://www.msera.org/rits_131.htm)
- [33] Johnson, R. B., & Christensen, L. B. (2004). *Educational research: Quantitative, qualitative, and mixed approaches*. Boston, MA: Allyn & Bacon.
- [34] Johnson, R.B., Onwuegbuzie, A.J.: *Mixed methods research: a research paradigm whose time has come*. Educational Researcher. 33(7), 14–26 (2004)
- [35] Kadushin C, Hecht S, Sasson T, Saxe L. 2008. Triangulation and mixed methods designs: practicing what we preach in the evaluation of an Israel experience program. *Field Methods* 20(1):46–65.
- [36] Karasz, A., & Singelis, T. M. (2009). Introduction to the special issue: Qualitative and mixed methods research in cross-cultural psychology. *Journal of Cross-Cultural Psychology*, 40, 909-916.
- [37] Kelle, U. (2001) Sociological explanations between micro and macro and the integration of qualitative and quantitative methods, *Forum: Qualitative Research*, 2, 1: e-paper. <http://www.qualitative-research.net/fqs-eng.htm>
- [38] Leech N.L., Anthony J. Onwuegbuzie A.J. *A typology of mixed methods research designs* Springer Science Business Media B.V Qual Quant 43:265–275,(2007) DOI 10.1007/s11135-007-9105-3
- [39] Lonner, W. J. (2009). Introduction to the special issue: Qualitative and mixed methods research in cross-cultural psychology. *Journal of Cross-Cultural Psychology*, 40, 907-908.
- [40] Mason J. (2006) *Mixing methods in a qualitatively driven way*, *Qualitative Research* SAGE Publications (London, Thousand Oaks, CA and New Delhi) vol. 6(1) 9–25.
- [41] Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA.
- [42] Miller SI, Gatta JL. (2006). The use of mixed methods models and designs in the human sciences: problems and prospects. *Qualitative and Quantitative Research* 40:595–610
- [43] Morgan, D.L.: *Practical strategies for combining qualitative and quantitative methods: applications to health research*, *Qualitative Health Research*. 3, 362–376 (1998)
- [44] Morse, J.M.: Approaches to qualitative-quantitative methodological triangulation. *Research in Nursing Health* 40, 120–123 (1991) multicultural counseling. *Journal of Counseling Psychology*, 52, 240-247.
- [45] Newman I, Ridenour CS, Newman C, DeMarco GMP. 2003. A typology of research purposes and its relationship to mixed methods: In Small M.L. (2011), *How to Conduct a Mixed Methods Study: Recent Trends in a Rapidly Growing Literature*, *Annual Review of Sociology*, 37:57–86.
- [46] Obstfeld D. 2005. Social networks, the Tertius Iungens orientation, and involvement in innovation. *Administrative Science Quarterly*. 50(1):100–30
- [47] Pager D, Quillian L. 2005. Walking the talk? What employers say versus what they do. *American Sociology Review*. 70(3):355–80
- [48] Plano Clark, V. L., & Wang, S. C. (2010). Adapting mixed methods research to weddings, and the impact on gay activism. *American Sociological Review*. 74:865–90.
- [49] Ponterotto J.G., Mathew J.T., Raughley B. (2013) The Value of Mixed Methods Designs to Social Justice Research in Counseling and Psychology, *Journal for Social Action in Counseling and Psychology*, Volume 5, Number 2.
- [50] Rallis, S.F., Rossman, G.B. : Mixed methods in evaluation context: a pragmatic framework. In: Tashakkori, A., Teddlie, C. (eds.) *Handbook of Mixed Methods in Social and Behavioral Research*, pp. 491–512. Sage, Thousand Oaks, CA (2003)
- [51] Rocco, T.S., Bliss, L.A., Gallagher, S., Perez-Prado, A., Alacaci, C., Dwyer, E.S., Fine, J.C., Pappamihel, N.E. : The pragmatic and dialectical lenses: two views of mixed methods use in education. In: Tashakkori, A., Teddlie, C. (eds.) *Handbook of Mixed Methods in Social and Behavioral Research*, pp. 595–615. Sage, Thousand Oaks, CA (2003)
- [52] Rossman, G. B., & Wilson, B. L. (1985). Numbers and words: Combining quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation Review*, 9, 627-643.
- [53] Sandelowski, M. (2003). Tables or tableaux? The challenges of writing and reading mixed methods studies. In Tashakkori A & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 321-350). Thousand Oaks, CA: Sage.
- [54] Sandelowski, M.: *Real qualitative researchers don't count: the use of numbers in qualitative research*. *Research in Nursing Health* 24, 230–240 (2001)
- [55] Small M.L. (2011) *How to Conduct a Mixed Methods Study: Recent Trends in a Rapidly Growing Literature*, *Annual Review of Sociology*, 37:57–86
- [56] Smith, M. L. (2007) Multiple methodology in education. In J. Green, G. Camilli, & P. Elmore (Eds.), *Complementary methods for research in education*. Washington, DC: American Educational Research Association.
- [57] Steckler, A., McLeroy, K. R., Goodman, R. M., Bird, S. T., & McCormick, L. (1992). Toward integrating qualitative and quantitative methods: An introduction. *Health Education Quarterly*, 19(1), 1–8.
- [58] Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches* Applied Social Research Methods, No. 46
- [59] Teddlie, C. & A. Tashakkori. (2003). *Major issues and controversies in the use of mixed methods in the social and behavioral sciences*. *Research in the Schools*, 13(1), 12-28.
- [60] Thomas, R. M. (2003). Blending qualitative and quantitative research methods in theses and dissertations. *Journal of Mixed Method Research* 2-54. Thousand Oaks, CA: Sage.

- [61] Twinn, S.: Status of mixed methods research in nursing. In: Tashakkori, A., Teddlie, C. (eds.) Handbook of Mixed Methods in Social and Behavioral Research, pp. 541–556. Sage, Thousand Oaks, CA (2003)
- [62] Waszak, C., Sines, M.C.: Mixed methods in psychological research. In: Tashakkori, A., Teddlie, C. (eds.) Handbook of Mixed Methods in Social and Behavioral Research, pp. 557–576. Sage, Thousand Oaks, CA (2003)