# The Roles of Research Methods in Creativity Studies

**BY**

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## ABSTRACT

*This paper reviewed the roles of research methods in creativity studies. Majorly, the review showed that research methods are the techniques and methods which have to be taken for conducting research. Linking creative studies to the field of research, many experimental researchers view creativity as a cognitive process and require participants to solve problems in controlled settings. Creativity research was predominantly quantitative and psychometrics and experiment were the most frequently utilized quantitative methodologies. Furthermore, the paper reviewed some benefit creativity such as; problem solving, self-awareness and expression, faith and confidence in our instincts, creativity reduces stress and anxiety etc. Conclusively, some papers reviewed in this work viewed methodology as the general logic and theoretical perspective of a study, whereas methods only refer to specific strategies, procedures, and techniques of analyzing and interpreting data. One of the recommendations made in this paper was that academic institution should provide students with a creative environment, offering them mentors who, in addition to research competences in the narrow sense, also encourage students to develop a value system in the context of creativity in research.*

**KEYWORDS: Roles of Research Methods and Creativity Studies**

## Introduction

Around 15 years ago, Mayer (1999) summarized six methodologies employed by creativity researchers: psychometric, experimental, biographical, biological, computational, and contextual. According to him, each methodology entailed a unique viewpoint and a research procedure. Researchers who use psychometric methodology believe that creativity is a measurable mental trait, thus they administer creativity tests or questionnaires to assess individuals' creativity. Experimental researchers view creativity as a cognitive process and require participants to solve problems in controlled settings. Biographical methodologists study creativity with life stories and employ methods such as case studies and historiometry. Researchers using biological methodology examine neurological and physiological traits of individuals during the process of creative problem solving and describe EEG and PET results of the brain activities. Individuals using computational methodology use the principles of artificial intelligence and perceive the process of creative problem solving to be a computer program. Finally, scholars using contextual methodology detect social, cultural and evolutionary influences on creativity. In addition to Mayer's (1999) synthesis, two more articles also examined research methodologies of creativity studies along with other aspects of research. One was conducted by Wehner, Csikszentmihalyi, and Magyari-Beck (1991). This study analyzed

100 dissertation abstracts published in 1986 on the basis of a conceptual matrix, which incorporated three aspects of creativity (i.e., traits, processes, and products), four social levels of investigation (i.e., culture, organization, group, and individual), two research methodologies (i.e., quantitative and qualitative), and the nature of the study (i.e., empirical and theoretical). The authors found that qualitative studies accounted for 64% of the dissertations, which was higher than the percentage of quantitative studies (i.e., 36%). Using the same conceptual matrix, Kahl, da Fonseca, and Witte (2009) reviewed another 100 dissertation abstracts published between 2005 and 2007. They reported that there were slightly more quantitative (51%) than qualitative studies (42%) in this period of time but the difference was not statistically significant. They also observed a significant increase in the number of quantitative studies and a decrease in the number of qualitative studies, compared with the results in Wehner, et al.'s (1991) which provided profound insights to research methodologies that are employed to study creativity. Furthermore, Mayer's (1999) synthesis presented a thorough overview of different ways of studying creativity; however, his classification of the methodologies seemed to be grounded in a mixture of research methodologies and substantive contents, hence, resulting in some inconsistency. For example, psychometric and experimental methodologies are two quantitative methodologies.

## Concept of Research Method

Research methods is well understood as methods/techniques that are used for conducting a research work. Research methods or techniques according to Goddard and Melville (2004) refers to the methods the researchers use in performing research operations. The University of Newcastle (2019) defined research methods as the strategies, processes or techniques utilized in the collection of data or evidence for analysis in order to uncover new information or create better understanding of a topic. Likewise, Mishra and Alok (2011) defined research methods as the techniques and methods which have to be taken for conducting research. Similarly, Awal (2019) viewed research methods as the mean techniques, strategies, processes utilized in data collection, or finding evidence for analysis in order to explore new information or create a better understanding of a particular research topic. Whereas, on the other hand, research methodology is a systematic approach to collect and evaluate data in the research process. Mishra and Alok (2011) stress that research methodology is the approach in which research troubles are solved thoroughly. It is a science of studying how research is conducted systematically. It includes the assumptions and values that serve a rationale for research and the standards or criteria the researcher uses for collecting and interpreting data and reaching at conclusions (Maheshwari, 2017). Actually, there are two basic research methods. For example, Qualitative Research Methods & Quantitative Research Methods. The qualitative research method consists of open-ended and conversational research methods. It is used to collect in-depth and detailed data about the research topic (Bhasin, 2019). While quantitative research methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques (Babbie, 2010). Thus, it could be said that research method are methods used to define the topic of the research and to establish a deeper understanding about it whereas, research methodology provides a logical explanation behind the steps taken in the research.

## Concept of Creative Studies

Creative studies are all about creativity. Creativity in generating ideas of your own to make a better future, where you turn the creative idea of yours into something real (Azmi, 2010). Consequently, within education, the importance of creativity is now widely recognized as an essential 21st-century skill (Donovan, Green, & Mason, 2014; Rotherham & Willingham, 2010). The role of creativity in educational policies, however, is somewhat ambiguous. On the one hand, education experts and policymakers have emphasized the role of education in fostering creativity (Shaheen, 2010). By studying the transformative creations of others in the social, cultural, and historical contexts in which they were produced, you can nurture your own creative expression and develop a deeper understanding of the creative process in action. Creative Studies combines experiential and applied humanities through the study of the creative arts, expanding your ability to critically analyze, compare and evaluate the meanings and significance of creativity (University of Pennsylvania, 2018). Linking creative studies to the field of research, it is the creative production that produces new knowledge through an interrogation/disruption of form as well as the creative production that refines existing knowledge through an adaptation of convention (Green, 2017). It involves creative thinking, problem solving skills, and imagination. Creative Studies research covers a variety of topics, such as creative problem solving, effective collaboration, creativity education, talent development, and brainstorming (Osborn, 2019). Creative studies are often characterized by innovation, sustained collaboration and inter/trans-disciplinary or hybrid praxis, challenging conventional rubrics of evaluation and assessment within traditional academic environments (Green, 2017).

## Research Method and Methodology

Although research articles were often categorized by methods (e.g., Dai, Swanson, & Cheng, 2011; Hart, Smith, Swars, & Smith, 2009), the analysis in this review was based on both methodology and method. For this reason, it is necessary to make a distinction between these two concepts. Methodology refers to ‘‘the general logic and theoretical perspective’’ (Bogdan & Biklen, 2007) of a study, whereas methods only refer to specific strategies, procedures, and techniques of analyzing and interpreting data (Bogdan & Biklen, 2007; Merriam, 2002). It is generally agreed that there are three research methodologies: quantitative, qualitative, and mixed-methods (Cohen, Manion, & Morrison, 2011; Creswell, 2014). Each methodology reflects a set of ontological and epistemological assumptions. When conducting quantitative studies, researchers assume that there is a social reality external to the knower and knowledge is objective and tangible. Therefore, they view their role as observers and endeavor to detect universal laws about the relationships and regularities of the factors selected (i.e., variables) in their studies. In contrast, qualitative researchers assume that social reality exists independent of the knower and knowledge is subjective and personal. Therefore, they regard themselves as insiders and aim at interpreting individual experience in a unique social context. Mixed-methods researchers mostly espouse ‘‘pragmatism of the middle’’ (Johnson, Onwuegbuzi, & Turner, 2007) as their primary research paradigm. This stance is rooted in pluralism that provides legitimacy for combining multiple epistemological perspectives and methods in a single study (Greene, 2007; Johnson, 2012; Johnson & Onwuegbuzie, 2004).

Research methodology is significant not only because it embodies philosophical assumptions, but also because it guides the selection of research methods. Quantitative researchers tend to employ measurement, experiment, and statistical analysis to answer their research questions, and

qualitative researchers prefer observations, interviews, and content analysis. Because mixed-methods research represents a middle ground between quantitative and qualitative methodology, it "combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (Johnson et al., 2007). However, whether a study is quantitative, qualitative, or mixed-methods depends on the methodology, rather than the methods. For instance, some researchers employ observation and protocol analysis to collect data. But if they determine operational definitions of the behaviors before conducting research and are only interested in the frequency of the behaviors, the differences between two groups of participants, and the effects of one variable on other variables, this study is just an instance of quantitative methodology, rather than that of qualitative methodology. Furthermore, studies that use quantitative and qualitative methods in the stage of data collection but later code themes or categories generated from qualitative methods as numbers are also examples of quantitative methodology, but not an example of mixed-methods research. In contrast to methodology that embodies the nature of a study, research methods are the actual ways of conducting a study and the information obtained from the analysis of the methods is still beneficial to understanding creativity research.

**Benefits of Creativity**

Creativity has become the most important factor of success and competitive advantage of our today's societies. It is clear that the term creativity has taken on wider meanings than the endeavours of talented individuals; it has also become generalised across numerous activities as "new and valuable" and "original and useful". It was considered to play a significant role in the society (Kent, 2007). In recent scientific literature, different interpretations of creativity have been identified. The definitions differ in terms of context, as creativity plays a role in technical innovation, teaching, business, the arts and sciences, etc. (Runco, 2007). Palus and Horth (2003) add that creativity can come from the intersection of very different kinds of learning, knowledge, interest, or ability. Thus, Vanlint (2017) highlighted the following benefit of creativity including:

***Problem Solving*:** There isn't a manual to being an artist, and there isn't a manual for being alive. Obstacles and challenges throughout life are inevitable. However, when we make creativity a habit, we continue to learn new, resourceful ways of solving problems in our artwork, and in life.

***Self-awareness and Expression*:** Creativity is the route to authenticity. As we create we begin to access our thoughts, feelings and beliefs. When we take the time and energy to develop our own ideas, we learn to understand, trust and respect our inner self, in turn enabling us to better express ourselves.

***Faith and confidence in our instincts*:** When we create, we may start to value our work, even if it is not published, displayed or presented to the public. We can learn to trust our instincts and gain confidence from expressing them. This confidence carries over into decisions we make in other areas of life.

***Creativity reduces stress and anxiety*:** Creativity reduces anxiety, depression, and stress. And it can also help you process trauma. Studies have found that writing helps people manage their negative emotions in a productive way, and painting or drawing helps people express trauma or experiences that they find too difficult to put in to words.

***Stress Relief*:** Being creative is meditative. Taking the time to use our hands, minds, and energy doing something we enjoy and that makes us happy is of highest importance in life. Creativity is fun, and doing anything that brings joy reduces our stress levels and improves our quality of life.

***Reduces dementia*:** Creativity goes beyond just making you happy. It's also an effective treatment for patients with dementia (Stahl, 2018). Studies show that creative engagement not only reduces depression and isolation, but can also help people with dementia tap back in to their personalities and sharpen their senses.

## Creativity in Scientific Research

Heinze, Shapira, Rogers and Senker (2009) explain that, as in other fields, creativity in scientific research is defined as "knowledge and capabilities that are new, original, surprising, and useful", to which Charyton and Snelbecker (2007) add the observation that scientific creativity differs from artistic creativity, for instance, primarily in its special emphasis on the attribute of function or applicative value (usefulness); furthermore, more so in other fields, scientific and creative achievements and innovations are very precisely evaluated on the basis of highly developed scientific criteria, such as publicity, validity and originality (Simonton, 2004; Soler, 2007). Craig (2000) emphasises four conditions for a successful career in science: (1) knowledge, (2) technical skills, (3) communication skills and (4) originality or creativity. The latter is of particular importance, as the problems of scientific research are complex and multivariate, as well as being oriented towards innovative solutions. Amabile, Conti, Coon, Lazenby and Herron (2006) emphasise that "every innovation begins with a creative idea" and that creativity can be thought of as the creation of new meaningful ideas, while innovativeness is the transformation of these ideas into useful new products, with both processes arising as a function of the interaction between the individual and his or her environment. Similarly, Sawyer (2006) finds that a common characteristic of the most influential and most important scientists is their inexhaustible creativity, a fact that can be well explained from the sociocultural point of view; the most important scientific discoveries arise through the high level cooperation of scientific teams, which demonstrates that "scientific creativity is both a psychological and social process" (L'Abate, DeGiacomo, Capitelli & Longo, 2009). In his thinking, Simonton (2003) combines both approaches to understanding creativity: the point of view of the personality traits of creative scientists and that of the creative processes that take place during research. He explains scientific creativity as a stochastic structure in which a third element is also integrated: the creative product (creative ideas).

## Conclusion

In this paper, research methods concerning creatives studies has been reviewed. The paper highlighted that research methods are methods used to define the topic of the research and to establish a deeper understanding about it. Moreover, creative studies combine experiential and applied humanities through the study of the creative arts, and expanding person's ability to critically analyze, compare and evaluate the meanings and significance of creativity. Linking creative studies to the field of research, many experimental researchers view creativity as a cognitive process and require participants to solve problems in controlled settings. Thus, research methods are the actual ways of conducting a study and the information obtained from the analysis of the methods is still beneficial to understanding creativity research.

## Recommendations

1. It is critical that the academic institution should provide students with a creative environment, offering them mentors who, in addition to research competences in the narrow sense, also encourage students to develop a value system in the context of creativity in research.

2. In order to improve creativity in research, systematic encouragement of the development of a research mental attitude (critical thinking, curiosity, self-awareness and expression, faith and confidence) should be linked with a good self-concept in the area of research.

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