



## Critical Participatory Action Research: A Design to Empower Women in a Teacher Education Institution

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### Abstract

This paper discusses historical and meta-theoretical aspects of action research by defining what action research (AR), participatory action research (PAR) and critical participatory action (CPAR) mean in detail and explains a CPAR project idea in a teacher education institution. Action research was categorized under different names; however, all those different approaches represent the same foundations with different purposes. In action research, a group of people work with a researcher(s) to identify a problem, suggest possible strategies as solutions, apply them and recollect information to see how successful their efforts were. In PAR, there is a social aspect of action research that aims to solve real life problems of the participants by giving them the control of the research process and appreciating their values. With CPAR, parts of a system and functions become constraints for reasons of change. CPAR focuses on the issues of the oppressed and aims for social change. The final part of the paper explains a CPAR project idea as an example to improve the current position of women in computer science and make a social change in a teacher education institution. The current social system built inequality in computer science field due to the cultural norms dedicated to females. These norms cause lack of self-confidence in women to pursue CS as a field in their professional career.

**Keywords:** action research, participatory action research, critical participatory action research, women in computer science

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## **Introduction**

Positivist paradigm is the foundation of quantitative approach and recommends using objective methods to reach the “truth.” Researchers gather information using the instruments they design, and create mathematical relationships or causal models to understand human behavior (Fraenkel & Wallen, 2010). However, human beings are not stable agents, and it would be difficult to understand their actions and behaviors independent from their values and context (Creswell & Miller, 2000). As a response to positivist paradigm, interpretivist paradigm evolved and suggested using qualitative methods to understand human behavior (Walsh & Downe, 2006) and emphasized social construction of meaning (Creswell, 2012). However, even qualitative research studies lack participants’ involvement in the research process. Therefore, action research evolved from the roots of the interpretivist paradigm to include the participants’ points of view and values to the research process (Greenwood & Levin, 2007). Researchers are mostly external people in research studies and make the decisions for the participants of the study. However, action research aims to collaborate with the participants in the research process to give them voice and solve their real life social problems in collaboration with the researcher (Altrichter, Kemmis, McTaggart, & Zuber-Skerritt, 2002).

Action research was categorized under different names such as action research, participatory action research and critical participatory action research (Santos, 2011). However, all these approaches represent the same foundations. In general, a group of people work with a researcher(s) in an action research study to identify a problem, suggest possible strategies as solutions, apply them and recollect information to see how successful their efforts were (Altrichter et al., 2002). Action research follows a scientific path and the participants’ contribution to the research process guided by theoretical assumptions and methods (Altrichter et al., 2002). Furthermore, there is a social aspect of action research that aims to solve real life problems of the participants while appreciating their values. This paper discusses historical and meta-theoretical aspects of action research by defining what action research (AR), participatory action research (PAR) and critical participatory action (CPAR) mean in detail. At the end, an example CPAR project is provided to help the readers understand the CPAR as a new design to help people in need.

## **Action Research**

Action research is not a single paradigm, but a method evolved from various fields. Karl Marx, John Dewey, Kurt Lewin, Jürgen Habermas, Hans Georg Gadamer, and Richard Rorty were the primary founders of the action research process. Some foundational elements of action research could be found in Dewey’s educational psychology work as well (Kemmis, 1980). In his paper, “The Sources of a Science Education,” Dewey (1929) explained the fundamental principles of action research without using the term: “The answer is that educational practices provide the data, the subject matter, which form the problems of inquiry... These educational practices are also the final test of value of the conclusions of all researches” (p. 33). Kurt Lewin was considered as the father of action research who gave momentum to the action research studies. Lewin (1946) used the term action research for the first time in his paper titled “Action Research and Minority Problems”. His other major works were on group dynamics and social planning (1947), group decision and social change (1947) that represent the other primary examples of action research movement. In his first action research paper, Lewin presented the readers a character: Mr. Baldau. Mr Baldau approached Lewin to get help for his organization and improve group relations between minority groups in the organization. Lewin proposed that “[action research] will help the practitioners” (p. 34) in this context because action research could help people to understand their problems, difficulties that prevent them to overcome the problem and what they should do to solve it. In his paper, Lewin proposed action research as a “research for social management and engineering” and argued that it is “not less scientific” than any other research (p.35). Furthermore, Lewin claimed that it’s more rigorous in social settings than basic science because it could deal with more variables at a time than basic science could handle such as attitudes, socio economic status, political views, community life, family life, national and international problems with the participants’ own perspective. These strengths could make the product of action research more durable than any research that aims to understand group relations between minority people. Lewin in this paper also explained the guidelines for action research: “consisted in analysis,

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fact-finding, conceptualization, planning, execution, more fact-finding or evaluation; and then a repetition of this whole circles of activities; indeed a spiral of such circles” (Sanford, 1970, p.4).

Action research became popular in the western industrial democracies and was applied successfully in various industrial settings (Greenwood & Levin, 2007).

Kemmis & McTaggart (1988) defined action research as a collaborative inquiry action that a researcher and the participants conduct to improve the participants’ own social and educational practices based on their own understanding. The participants could be any group of people that act together for the same purpose such as teachers, students, and industry workers, with same means. Knowledge is socially constructed and research is value and context dependent. Action research proposes that practice should and could inform theory as well (Brydon-Miller, Greenwood, & Maguire, 2003).

### **Participatory Action Research**

In the book chapter titled “(Participatory) Action Research and Political Realm,” Doris Santos (2011) stated that the history of participatory action research couldn’t be separated from action research. Greenwood and Levin (2007) emphasized that the general action research process, based on Kurt Levin’s work, was evolved for industrial democracies. However, there was a need for “societal equity” in the world in addition to the participatory role of the general action research process. According to Greenwood and Levin, against the northern practice of action research, southern part of the world, Africa, Latin America, and Southeast Asia, considered the strengths of action research for the democratic equity to eliminate overt oppression. This was called as southern action research or participatory action research (PAR). Both the general action research and PAR has common participatory ground to develop “actionist” perspectives to action research. However, PAR in addition underlines “the problems societies suffer” in broad social engagements (Santos, 2011, p. 3) to improve societal equity.

**Participatory action research process.** PAR is a result of social movements in the developing world by the influence of Paulo Freire, Orlando Fals-Borda, Rajesh Tandon, Anisur Rahman, and Marja-Liisa Swantz (Santos, 2011). It has roots from the neo-Marxist methods for community development (Kemmis, McTaggart, 2005). The supporters of the PAR have argued that traditional research follows the positivist paradigm that creates a position and is based on the interests of wealthy people (Kemmis & McTaggart). On the other hand, PAR has been identified as the product of social actions in the oppressed communities (Kemmis, 2006). Some examples of these social actions are based on analysis of social, cultural, historical, and environmental conditions in the 3<sup>rd</sup> world countries, to improve unacceptable conditions of common people (Fals-Borda, 2006). The foundation of the PAR is that oppressed and poor people take action to change their own current situation to a desirable state using their own strengths (Rahman, 1991). Fals-Borda asserted that researchers’ job is promoting democratic arrangements in the PAR cycle through “shared ownership of research projects, community-based analysis of social problems, and an orientation toward community action” (Kemmis & McTaggart, p. 273). In this section of the paper, the researcher used Fals-Borda and Rahman (1991)’s book on PAR to guide the reader about what PAR is and its life cycle to help the oppressed. First, the researcher talks about the features of PAR research. According to Kemmis & McTaggart (2005), PAR has seven key features that has common grounds with and differentiates it from other types of action researches:

1. Participatory action research is a social process: PAR requires both individual opinion and the socialization of individuals’ ideas in groups.
2. Participatory action research is participatory: It is needed that all the members of a community have the opportunity to assess their own experiences (problems, constraints etc.) and reflect in the group.
3. Participatory action research is practical and collaborative: In PAR, members of a community observe their social practices (interactions and relationships) and reconstruct these social practices in collaboration with other members of the group.

4. Participatory action research is emancipatory: People who are limited or constrained with “social structures” (cultural, economic and political) need to relieve themselves from these obstructs or minimize these factors as a result of PAR efforts (p. 282)
5. Participatory action research is critical: People who are limited with “social media” (discourses, power relations, interactions with other people) need to relieve themselves from these obstructs or minimise these factors as a result of PAR efforts. It is a process where people should reconstruct their descriptions and interpretations of the interactions surrounding them (p. 282).
6. Participatory action research is reflexive: PAR is a reflection cycle that people self-criticize and reconstruct their practices. It is an intentional process and members of a community help each other to reshape their world.
7. Participatory action research aims to transform both theory and practice: In PAR, theory and practice work together to develop both theory and practice. PAR does not ignore either theory or practice.

Fals-Borda (1991) defines PAR as “a process of personal and collective behaviour occurring within a satisfying and productive cycle of life and labor” (p.3). In this life cycle, Fals-Borda highlighted that PAR empowers oppressed to have a chance to express themselves in their endeavours, and produce ideas in these actions. This cycle includes self-reflection of the following sequence:

- Planning a change
- Acting and observing the process and consequences of the change
- Reflecting on these processes and consequences
- Replanning
- Acting and observing again
- Reflecting again (Kemmis & McTaggart, 2005, p.276).

However, in real, this process does not go this clean. The steps could overlap and researcher might need to go back to the first step from the third one based on the participants’ reflections. Each step is a social learning practice for the participants and PAR emphasizes collaboration strongly between the researcher and the participants. PAR efforts can be seen as forums where people can join democratic discussions without artificial distances (Kemmis, McTaggart, 2005). German sociologist and philosopher, Jurgen Habermas, defined this occasion as “opening communicative space” in his book titled “Between Facts and Norms.”

PAR declines the traditional researcher-researched relationship and aims to create subject-subject relationships (equal roles and power in the research process between the researcher and the participants) to empower the oppressed. In traditional research, there is a distance between the researcher and the participants. Traditional research requires to use the methods based on theoretical frameworks for the validity and reliability of the research and to reflect the real life conditions as much as possible (Fraenkel & Wallen, 2010). However, PAR aims to involve the participants to the research design. The community, who knows the values and context more than any researcher, confirm the methods used in the research process. The results should have direct tangible impacts (Rahman, 1991) and emotional effects on the participants to be able to release their feelings in the research process (Roux, 1991).

The power of PAR is based on the cultural traditions (“helping hand, the care of the sick and the old”) of the common people (Fals-Borda, p.5) to reduce the societal distinctions between people. Scientific knowledge obtained in PAR is for the benefit of human beings, and the product of science should and could help the oppressed classes. Fals-Borda named this as “universal science” (p.7). This requires the subject of research (the participants) to take active roles in the research design process until they reach the conditions they aim and deserve. Fals-Borda suggested strategies to involve the participants actively and effectively to the research process.

1. Collective research is working as a group to gather the information through group meetings. This way all the members of the group could have voice to discuss and validate the data collected and the results.
2. Critical recovery of history means referring to the examples of the past to support the ideas of the oppressed classes through interviews with the older members of a community.
3. Valuing and applying folk culture emphasizes the importance of role models and examples from the traditions and morals of the community from “art, music, drama, sports, beliefs, myths and story-telling” (p. 9).
4. Production and diffusion of new knowledge refers to the production of knowledge through words, images, paints, gestures, and reviewing these example data with the community members.

To be successful with these strategies, PAR requires all the participants’ active interaction. Fals-Borda suggested that the data in the PAR are the members of the oppressed community.

### **Critical Participatory Action Research (CPAR)**

There were many different types of action research models used in the history based on Lewin’s work. These types include classroom action research, action learning, soft-systems approach, industrial action research (Kemmis & McTaggart, 2005). Action research, especially PAR, got popular during the late 50 years in the United States and scholars had created dialogue about the impact of different types of action research in the U.S. and international conferences (Greenwood & Levin, 2000). The final frontier, emergence of critical participatory action research, was dated back to late 1990s as a result of these discussions in important academic settings. Before we move to definition of critical participatory action research process, the researcher briefly introduces what critical theory is and explain how inquirers move from the PAR to CPAR.

**Critical theory.** There are inappropriate power relations in society, communities, groups and organizations, and critical theory aims to understand and change these power relations to encouraging social revolutions. Critical theory criticizes the researcher’s power over the participants. Criticalists assert that society is inequitable in practice but is able to change this improper situation to a desired level as a whole through collective inquiry.

### **Movement from PAR to CPAR**

CPAR transferred the primary concepts of PAR process such as participatory in nature, actionist, and collaborative as we discussed in detail before. However, long time discussions about the PAR revealed weaknesses, failures and misinterpretations of the PAR process. Thus, researchers in inquiry methodology examined these problems in the PAR cycle and proposed critical participatory action research as the new approach for collaborative social change. Kemmis and McTaggart (2005) summarized those problems and explained the new approach, CPAR, in detail.

**Assumptions about how empowerment might be achieved through action research.** PAR emphasizes that the collective action in groups can give the participants power to make social changes in their organization, group, team etc. However, Kemmis and McTaggart underlines that it is not that easy to make a social change from one group in an organization, and “such change is often technical and constrained, invoking concepts such as efficiency” (p. 285). Therefore, CPAR proposes that power to change comes from collective commitment in wider space of an organization.

Following Habermas’ system theory and life world, CPAR inquirers created guidelines for empowerment in CPAR that provide the researchers the necessary information for social action and revolution in particular projects. With CPAR, parts of a system and functions could be opportunities or constraints for sources of change. A researcher could claim change in his/her research when the outcomes spread around the organization when changes “were evident in both life world and system aspects of a situation,” (p. 318). CPAR provides facility for community members to communicate more rationally between each other during the CPAR process. This process should be in respect and recognition of each other’s ideas. This is the basis for CPAR’s empowerment and only rational decisions will be accepted in the community.

**The role of the facilitator.** The concept of facilitation is a broadly used term in the PAR process. The researcher carries this role to bring the participants together and consult their efforts in the research process. However, this idea was criticized because of its inconsistency with “the commitment to participate in the personal and social changes in practice” (Kemmis, & McTaggart, 2005, p. 285). Facilitator’s ideas might prevent the individual’s critique of the current inappropriate situation. Kemmis and McTaggart, therefore, suggested using a “critical theory of social life by the people who live in it” (p. 286). According to critical theory, facilitator role is not something assigned in advance before the research process. It should be something that members and nonmembers of the community should critique and assign. It is dangerous to assume that the researcher as the facilitator will be neutral and equal in the research process. Therefore, facilitator could be considered as part of the community with expertise and not a person who has more voice than any other members of the community. However, facilitator could be assigned double role as a member and expert when needed.

**The research-activism dualism.** Kemmis and McTaggart (2005) argued underestimation of theory in action research processes due to participants’ lack of understanding and expertise with theories. However, both the action perspective and research perspective have important contribution in the CPAR process. Kemmis and McTaggart (2005) explained this as “the commitment to conducting this critique, in relation to the action, the research, and the relationship between them, that is the hallmark of critical participatory action research” (p. 320). The researcher has a crucial role to embed theory in to the collaborative action.

**The role of the collective.** Working as a group in action research creates the potential for social change. There are three benefits of this collective work. It is the place where people could democratically speak up for social change in a scientific environment, called “objectification of experience”. Individual sharing ideas are all subjective. However, PAR makes subjective ideas and feelings disciplined for social change in a group environment. “Participants play a supportive role but the collective has a disciplining function” (Kemmis & McTaggart, 2005, p. 287). Individual subjective thoughts therefore become educated and organized while attending to collaborative action of the group. Final strength of collective work is having critical friends in the group to have the “conditions of learning.” However, how to create this critical environment for learning in action is a problem in this process. Based on Habermas public sphere highlighted the need for diverse and conflicting group conditions and suggested democratic and comprehensive context to have the conditions of free speech in CPAR environments.

As noted before, AR, PAR and CPAR share common characteristics such as action and participation focus. Different from AR and PAR, CPAR focuses on the issues of the oppressed and aims for social change. The rest of the paper will be given an example CPAR project that emphasizes to eliminate the limitations of PAR with criticalist perspective.

### **CPAR Example: Women in Computer Science (CS)**

Computer science has been male dominant field for many years and male dominance limits the half capacity to solve human problems. The solutions developed by males do not understand and address the needs of the half population. Therefore, recent studies highlighted the need for more female representation in computer science. In this study proposal, the researcher work with a group of female students in a computer science education program to understand the issues that discourages females to choose a computer science major for a career choice and offer strategies for broader female participation. The researcher and the participants follow critical participatory action research (CPAR) as the meta-theory to discuss the current situation and make a social change. The current social system built inequality in computer science field due to the cultural norms dedicated to males and females. These norms cause lack of self-confidence in women to pursue CS field that is defined as male dominant. If we sincerely want women to be confident, we need to give them freedom to express their feelings and meanings. This would follow a culture that values self-assured women.

The researcher advertised this idea using his/her teacher education institutions’ announcement boards and 12 students voluntarily agreed to participate to this critical participatory research project. The female students and the researcher will work together in a group to identify the female representation

issue in CS, decide the data collection methods to understand the issues more and suggest ways to overcome them for female students in the institution. The participant students in this institution continue their major area (e.g. secondary math, elementary education, early childhood education) and may choose to pursue an additional computer science licensure program to teach computer science in K12. The participants will attend meetings every week in the institution in an open space where any students from the institution could attend the forum and share their ideas.

Critical participatory action research has systematic action-reflection cycles of conducting initial investigations, proposing hypotheses, creating an action plan, collecting data and observing the outcome with the participants. CPAR suggest having subject /subject relationship rather than subject/object relationship (Fals-Borda & Rahman, 1991), that gives the same roles and control to the participants with the researcher. Critical participatory action research aims to generate recommendations for the participants that can positively influence their social lives. These are all the common characteristics of CPAR with PAR. However, this research also follows the critical theory and aims to address the limitation of the PAR process. There are four main problems with the PAR that CPAR suggests eliminating.

The female students need to advertise and spread their voice to the entire school for the success of this project. Just discussing the ideas in their small group would not be able to make major changes in their organization and have no change in the students' society. In order to claim change in the organization, the free and democratic speeches of this group of females should be spread around the institution. Hence, the participants opened the meetings to the public participation as well. Critical participatory action research should provide the facilitation for the community members to communicate in that regards and offer strategies.

The researcher is a faculty in the organization and could possibly have a distance with the student community members. Therefore, the researcher should clearly explicate that his/her role is not identified in advance and the community will assign his/her roles during the research process. Furthermore, the researcher should offer the possible methodological and theoretical help to the community when needed. The researcher and should be able to provide the theoretical background for the social change to the group. Otherwise, the action in the forum could not go further than unorganized talks. By the researchers clarification on theory and explaining the relationship between the theory and action could make the process a scientific social effort.

Final issue is the lack of critique in the group. The CPAR meetings should include diverse and contradictory ideas, which is a condition for learning in a social setting. Therefore, the researcher and the participants could encourage male student participation too with the advertisement of the campaign through school boards. Since the meetings are open to public, diverse opinions could reveal in the meetings. Furthermore, the researcher could take a facilitator role in the meetings and encourage diverse opinion representations in the meetings freely.

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