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Combining Participatory Action Research (PAR) and Design Thinking (DT) as an Alternative Research Method in Architecture

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Abstract

Architecture as knowledge and practice is expanding its fields more than ever in this now entangled exciting new collaborative world network. We argue that the true nature of architecture is participatory one. Thus, architecture should be positioned as a social situation – it is neither affecting nor within. With this, we propose Participatory Action Research (PAR) that promotes 'empowerment, equality and social justice for all' as a framework for an alternative research methodology in architecture. Although PAR is still debatable as an academic research methodology, its growing popularities since the past decades could not be simply overlooked, especially when the reality of the world is now the connected one. With the same spirit, we adopt Design Thinking (DT) as a tool to complement PAR in architectural research method. Undoubtedly, the combination of PAR and DT will eventually enrich architectural research with new social and participatory dimensions.

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Keywords: architectural research method; Participatory Action Research; Design Thinking; social and participatory dimensions

1. Introduction

Architecture as body of knowledge is an interesting discourse. Its design process and production had led to active and fluid discussions on its potential research methods, because of its nature of moving alternatingly between ideas and implementations. Architecture is a comprehensive method of thinking and action, expanding theoretical

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knowledge and practice into one activity that is embedded in its (social) context.

This paper will theoretically explore possibility of building an alternative research model which situates architecture in its dynamic social context and thus hinted it as participatory activities, by making reference to Participatory Action Research (PAR) and Design Thinking (DT) as combine strategies which have been overlooked by designers and planners.

As an initial endeavor to establish critical discourse on architectural research model, this paper is still beset with shortcomings and imperfections. Nevertheless, the pioneering steps have to be taken.

2. Opening arguments: architecture as a social situation and participatory activities

Herbert A. Simon (1972) had tried to put architecture alongside science with its unique characteristic. Propelled by the modernist spirit and positivist point of view, he argued that architecture creation is the same as any innovation in science. Thus borrowing the rigorous science research methods, Simon tried to give architecture a position as scientifically design process. Later on he added social aspects to his proposition, thus hinted on participation in design activities as a new dimension in architecture (Caroll, 2006).

Simon's view is than expanded by others into a more thorough discussion of design or architecture research methods (Cross, 1999; Roth, 1999; Buchanan, 1992; Buchanan, 1996 in Roth, 1999; Margolis, 1998 in Roth, 1999; Caroll, 2006; Kimbell, 2009). Cross (1999) argued that design research should be seen as serious and rigorous research activities on design (ways of thinking, process and products) to be conducted by professional researcher in accordance with research standard procedure. Cross dismissed architectural professional practice as research in its term; he regarded professional practice, not as a research activity. Cross's view were debated by Roth (1999) as a too simplistic point of view. She argued that architecture or design in its nature would be intersecting with its social context. Thus, it would act as a source of interpretation of its architect or its user. In this sense, Roth asked for a place for subjectivity, not just objectivity proposed by Cross. Thus, she proposed to consider qualitative and participatory research model for architecture or design. She argued that human-centered design research should involve those who will ultimately use the product or system, and provide a framework for achieving more successful solutions, thus design contained participatory process in its nature and will facilitated rapid development and resulted in a better product. Similar to Roth, Caroll (2006) also argued that the new design approach should consider active participatory process during the whole process of design activities – in which users actively help in setting design goals and planning prototypes as opposed to the conventional design methods that involve users only after initial concepts, visions, and prototypes were decided.

Nowadays the development of an architecture body of knowledge is leaning more towards the latter argumentation, which places architecture within the social sciences context rather than natural or pure sciences grouping. It puts an emphasize that architecture in its nature is both a thinking and action process, objectively and subjectively based creation. In respect of design research, architecture moves along both quantitative and qualitative methods of research.

Probably it was Groat and Wang (2002) that showed the straightforward relationship between architectural research methods and social sciences research methods. They proposed quantitative as well as qualitative methods in social science (i.e.: *Interpretive-Historical Research, Qualitative Research, Correlational Research, Experimental and Quasi-Experimental Research,* etc.) to be applied in architectural research. Others still tried to build a design research model that is based more on design activities, thus would give more emphasize to design process and practice (Buchanan, 1992; Owen, 2007; Cross, 2010; Doorst, 2010). This research model combines both design research and design (-as and -in) practice (Kimbell, 2009). Thackara (2005) proposed 10 (ten) considerations for designer in their design activities. His 5th consideration warns that designers should be aware that every design builds a situation within its social context. For Thackara '*design does not take place in a situation; it is the situation*' (2005:80), thus what designer should do is designing (meaningful) situation. Stickells (2011) argued that in architecture, issues of participation and empowerment now has emerged more contextually than ever. The current constellation of practices, publications, exhibitions and events confirmed the ceaseless fluctuation of architecture's boundaries towards participatory and collective approaches. It reimagines and tests the potentialities of architecture to confront its entanglement in political, social, economic and cultural process. Thus, spatial production should be seen as shared enterprise, where everyone participated in creative transformation architectural design processes.

Stickells then offered a new role of architecture as a participatory collective construction process for emancipatory empowerment. With the true nature of architecture in mind as a participatory activity and social situation, this paper proposes a combination of PAR and DT as an alternative architectural research method.

3. What is PAR (*Participatory Action Research*)?

It would be best to start the discussion about PAR (*Participatory Action Research*) with Neuman's categories of social science methodological approach (2006:79-107): PSS (*Positivist Social Science*), ISS (*Interpretive Social Science*) and CSS (*Critical Social Science*). According to Neuman, PSS is the most used approach in social science research. PSS saw social situation as stable condition that can be dissected and analyzed for an objective point of view, using abstract formulation extracted from external sources as tools for doing the research. PSS usually falls into quantitative research category (Neuman, 2006: 81-87). ISS, on the other hand, is a social research methodology approach based on emphatic understanding (*Geisteswissenschaft*) or *Verstehen* – everyday life experience of a human being. ISS is often related to hermeneutic methods and used for deep critical reading of individual subjective experience within their social situation and condition, while in the same time the researcher made an interpretation based on it to build deeper understanding, thus to construct comprehensive meanings within it. ISS researcher regarded social situation as unstable, as it is always changing. ISS usually falls into qualitative research category (Neuman, 2006: 87-94).

CSS is the latest approach of social science research methodology. CSS is essentially a critic and expanded version of combined PSS and ISS. CSS believes that social science research and its researcher should be impacting and improving the social situation and condition of the community being researched. Social research should unveil and demystify social condition that is regarded common by its societies, but often acts as the source of disparities and oppressions. Social research could never be neutral - objective and stable as PSS believed nor subjective but passive as ISS did. In fact, social research is always political. CSS defines social science as critical investigation process beyond the illusory surface in a social situation and condition. It tries to find the truest meaning, motivation and mode of production beneath it, even if it needs to deconstruct every understanding. It aims at knowledge production of what the societies capable of, so that they can improve and had better lives for themselves. It often aims for radical changes in societies. Since CSS is realist and activist in its nature, it does not have a certain approach in its research methodology. CSS welcome all methodologies that can serve the specific research's goals, which is called bounded autonomy. The researcher will use abduction method – borrowed theoretical framework deemed necessary to build research methodology – and explanatory critique approach aiming at developing reflexive dialectic orientation and transformative perspective for both the researcher and especially the communities within the research context (Neuman, 2006: 94-102).

Although CSS seems to be problematic in its methodology building and research operating system – especially within the research conduct and ethics – when it is done properly, CSS usually moves beyond the conventional research in terms of its results and impacts to the societies. It is also gaining popularity especially in the area of community empowerment and development, where full participation and bottom-up approach is put into practice (Mc Taggart, 1996, 2006; Ife & Tesoriero, 2008; cdx & changes guide, 2008; Jenkins & Forsyth, 2010; Kaszynska, Parkinson & Fox, 2012; Klocker, 2012, Banks et.al, 2013). CSS approach is labeled by Creswell and Clark (2007) as *Advocacy and Participatory,* one of the 4 (four) types of worldview in research nowadays, comprising: *Post Positivism*, *Constructivism, Advocacy and Participatory* and *Pragmatism*. Hence, it can be inferred that PAR – *Participatory Action Research* as a method falls into the category of CSS approach of social science methodology and Advocacy and Participatory research worldview.

The extensive explanation about PAR was provided by Robin Mc Taggart (1994, 2006). PAR was derived from Action Research (AR) defined by Kurt Lewin, a social psychologist, to differentiate it from applied research. In *Lewinian* tradition, AR is comprehended as progressive research stage consisted of cyclical steps of planning, action, observation, and results. Thus, AR was a combination of research and action. The other source of defining PAR was Participatory Research (PR), a model developed for community development especially in rural areas within developing countries, widely known as RRA (Rapid Rural Appraisal- also known as Relaxed Rural Appraisal) and PRA (Participatory Rural Appraisal). Action Research is one of the research methods and approaches

used in RRA or PRA (Mikkelsen, 2011; Kumar, 1996; Ife & Tesoriero, 2008; Mardikanto & Soebiato, 2012). Thus, the combination of AR and PR resulted in PAR – *Participatory Action Research,* Action research with participatory disposition.

PAR or AR for Taggart started with the feelings of concern about something happened or believed within certain social context (that usually promote social injustice and inequities), and desire to do action for changes towards improvement and better condition. The decisions of what should be done are best come from within the social context itself, or from a group of people or community members dwell within that social context. There should be awareness of the researcher, which his/her position equals to the community when some actions shared and happened within PAR or AR context. In this way PAR is not only meant as learning process, but also aimed at the production of knowledge and improvement of practice within committed communities in some social context where the research took place (Taggart, 1994, 2006). Other things about PAR that is important are: (1) PAR worked extensively and dependent on the practice of critical reflexive action from all the stakeholders involved in the research, especially the researcher; (2) PAR in its nature is never in the homogenous condition within its conceptual and operational frameworks. It usually involved academics, community activist and community participant or members; (3) PAR worked based on theoretically informed practice - a research based on exploration and objectification of experience and the disciplining of subjectivity as common features in any qualitative research models, and most importantly; (4) PAR is based on and believed with the good nature in every human being (Taggart, 1994, 2006).

4. What is DT (*Design Thinking*)?

Design Thinking is a thinking method popularized globally by IDEO principal Tim Brown and Barry Katz (2009). The term *Design Thinking* was coined by David Kelley, then the IDEO founder and Brown's partner. IDEO is a creative innovation-driven design consultant (with product or industrial design as their specialties). Kelley came up with the term as an explanation for many questions from his client about how they as designer and as a consultant worked on projects. When Kelley decided to go back to Stanford for teaching, Brown continued IDEO and promoted Design Thinking as ways of practicing design. Kelley also developed Design Thinking in the academic context, forming the now known d-school in Stanford University. Although the term *Design Thinking* is associated with many discussions, especially within the research design discussion (Buchanan, 1992; Cross, 1999, 2010; Owen, 2007; Kimbell, 2009; Doorst, 2010), in this paper *Design Thinking* in IDEO and Tim Brown's term will be referred. Brown (2009) started the argument by saying that "what needed most nowadays is a comprehensive thinking methods, done collaboratively, and oriented towards human needs aimed at innovation to ensure its sustainability." He (2008) also stated "a design thinker should have empathy, integrative ways of thinking, optimism as value, experimentalism in heart and love collaboration." Because Design Thinking aimed at innovation, Brown made 3 (three) spaces to ensure innovation process worked: Inspiration space – for identifying problems and opportunities that leads to collection of problem solving ideas; Ideation space – where ideas will found its form through prototyping, and; Implementation space – designing a comprehensive scheme of production to deliver the innovation for its targeted user or societies. He also gave 3 (three) considerations for design thinker to work with: desirability, viability, and feasibility. He believes in a cyclical process for his 3 (three) spaces of innovation, and interaction among them. (fig.1 & 2)

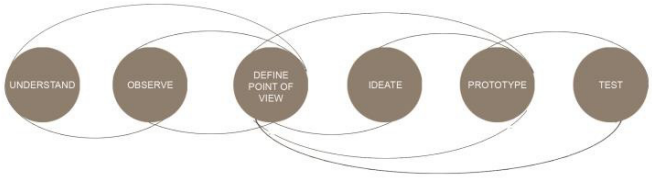

Fig. 1. Iterative process of Design Thinking. Source: HPI School of Design Thinking, Prof. Ulrich Weinberg, Potsdam, 2013.

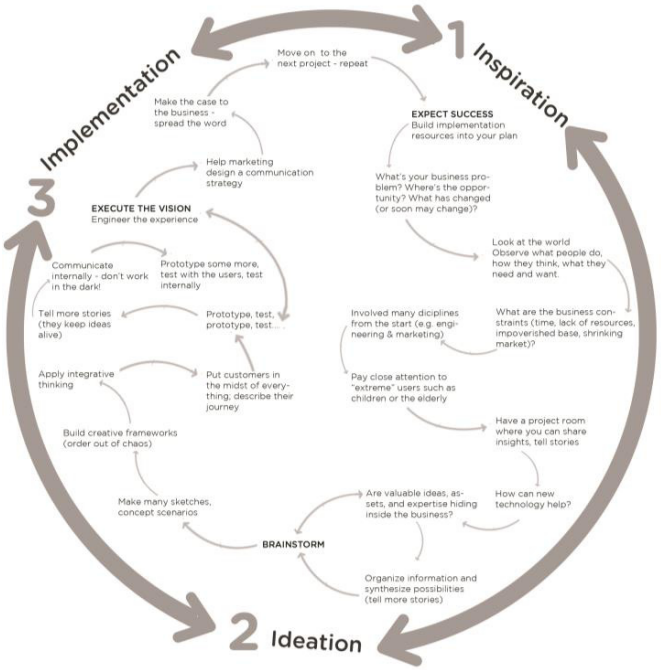

Fig. 2. Design Thinking - a cyclical process of the three spaces of innovation. Source: IDEO & Tim Brown, *Design Thinking* in Harvard Business Review, 2008.

Although it seems like a fairly usual design method, Design Thinking becomes phenomenal and is appealing to the design community, because (1) it brought back design to its essence, serves as problem solving methods, innovative in its heart and human centred oriented; (2) it has potentials of bridging theoretical knowledge and practice in design, and promotes comprehensive and collaborative ways of thinking; (3) the process brought rapid, critical and contextually specific innovation through the combined inspiration, ideation, and implementation stages; (4) DT leaned towards responsible sustainability, and; (5) DT could be applied and transferred into knowledge and practice in many disciplines other than design (i.e.: management and business service, health care system, interactive design, institutionalized policy makings).

Within social projects, Tim Brown and Jocelyn Wyatt (2010) argued more about the connectivity between Design Thinking and social situation, especially DT potentials in channelling (fast and accurate) innovation to change and improved social condition within communities in needs. Brown and Wyatt with other IDEO team

members, IDE, Heifer International and ICRW, funded by Bill & Melinda Gates Foundation, have developed *Human-Centered Design* (HCD) *toolkit* (2013), a Design Thinking Toolkit for social innovation project. The toolkit was aimed as design innovation guidelines for communities living with income below USD 2. HCD toolkit has similar considerations as DT, which is: desirability (what is the most needed and wanted by the societies), viability (financially sustainable) and feasibility (technical aspects and organizational structure – all the stakeholders possible within the societies). In short, design innovation produced by HCD must be needed, feasible and appropriate to its social context. HCD worked in three stages, which are: (1) Hear – on what is needed and where design teams blend within the communities to collect stories and inspirations from the locals using field research methods; (2) Create – in which design teams will work collaboratively with the communities in form of workshops (i.e.: design *charrettes*) and then translating stories and inspirations from the first phase of frameworks, opportunities, problem solving and solutions thus resulted in prototypes making; (3) Deliver – where all stakeholders gather and create sustainable implementation plan.

5. Why PAR & DT as Architectural Research Methods?

Our previous argument showed that an architecture in its nature is a participatory activity and also a social situation context. If we thought of architecture as a social situation, it would never be neutral. Architecture will always be political in a good sense of believing that it should be emancipatory and empowering. With this new dimension of architecture in mind, we propose PAR (Participatory Action Research) as an umbrella model for architectural research, which accommodates architecture thinking and theorizing act, while at the same time also accommodates architecture modes of design process and production. The abduction methods adopted in PAR is in line with architecture sense of creation, innovation and prediction of the future uncertainties, and also flexible in its approach and connection with other disciplines and possibilities that could be emerging from them. PAR's goal to make a sharing production of knowledge is also compatible with architecture social dimensions – where architectural activities should not just encourage physical productions, but also profound productions of knowledge that emancipate and empower human and social context dynamic connections. PAR reflexive nature is also in parallel with architecture modes of works, where reflection is highly regarded. Other PAR characteristics: heterogeneous, theoretically informed practice and believed in the good nature of every human being, also share similar conceptual frameworks where architecture stands.

DT (Design Thinking) with its HCD (Human Centered Design) toolkit for social innovation project fits well with PAR-Architectural research model, as it promotes innovations, the key themes of architecture work that connected directly with social concerns. The toolkit - Hear, Create and Deliver parts show potentials for developing sustainable architectural innovations projects. To put the idea of combining PAR and DT as an alternative research method in architecture into practice, a mixed methods model developed by Creswell and Clark (2007), namely Sequential Embedded Experimental Model (Fig. 3) will be adopted as the main framework.

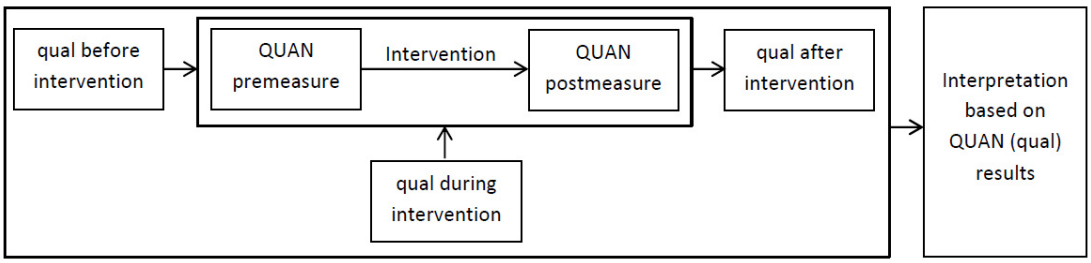

Fig. 3. Mixed Methods Research: Sequential Embedded Experimental Model (Creswell & Clark, 2007) – Designing and Conducting Mixed Methods Research: 68 – fig. 4.2 (b)

The proposed mixed methods design will allow both quantitative and qualitative methods to be used in architectural research, taking the researcher along quantitative sides as experimental innovation works through

prototyping, effects measurements and evaluation process of architecture designing; and qualitative sides as participatory activities between every stakeholders during the whole process of an architectural creation, through what we called Field Action Research. Thus, it will give new values to architecture by virtue of its design innovation and how it responds to a social context. For this reason, architecture will emerge as intermediary spheres where people initiate activities of knowledge production and become a shared enterprise that eventually will emancipate and empower everyone within it (Fig. 4).

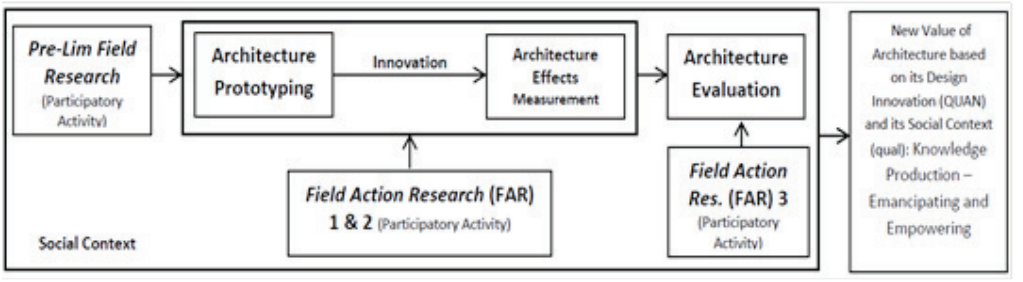

Fig. 4 Proposed mixed methods for architectural or design research (Katoppo & Sudradjat, 2014) translation based on Creswell & Clark, 2007.

6. Closing: The New Beginning

Architecture in its nature is shifting reversibly between theoretical and practical domains, inherently participatory, and acts as a social situation. All of these characteristics should be taken into consideration in doing architectural research, simply because the architecture should be investigated as the totality of actions and being. With this kind of new understanding and looking at architecture, PAR (Participatory Action Research) as a research model umbrella, combined with DT (Design Thinking) as a comprehensive thinking approach with its HCD (Human Centered Design) design thinking toolkit for social innovation project, is proposed as an alternative research tool.

This alternative research tool will work best if put into practice using mixed methods model that will allow the researcher to investigate architecture along its quantitative sides (as experimental innovations) as well as its qualitative sides (as experience and appreciation of participatory endeavors). Hence, the new alternative research tool will provide comprehensive understanding and new values to architecture, in virtue of its design innovation and response to its social context.

The new research tool will be beneficial in unveiling the truest meaning of architecture as situated in its social context, which engaged everyone within it. In this sense, it is also effective as an evaluation method for architecture modes of engagement. The new research tool will push boundaries of architecture. As an action planning method for architecture in the making, it will define its position within a social context, and make better social situation that will engage everyone within it. This will finally make architecture as places where people can actively engage themselves and ultimately can share knowledge production activities that emancipate and empower everyone.

As a matter of fact, the alternative research method being proposed in this paper still needs further development and assessment, prior to its application in architectural research practice. We see this as a new beginning for limitless boundaries in architecture.

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