

THE JOURNEY OF UNDERSTANDING ACTION RESEARCH: WHAT IS AND WHAT IS NOT! (PART 2- WHY NO TO 'PRE-' AND POST-TEST?)

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Abstract

Before doing field work, it is fundamental that researchers plan their data collecting methods based on their research objectives. This is further determined by the research philosophy and approach concerned. Action researchers also need to reorient themselves to action research (AR) definition and concepts which require an understanding of the AR philosophy when collecting data to enable the presenting of findings based on the said philosophy. One of the misconceptions that I constantly encountered through my experiences in facilitating AR among in-service and pre-service teachers is related to the use of 'pre-' and post-test as one of the data collecting techniques and presenting of findings among the teachers concerned in their studies. Further analysis on samples of local and international action research articles also indicated such trend. This prompt the question of whether such trend truly portray the main aim of AR. The objective of this paper is to discuss why 'pre-' and post-tests should be avoided when collecting data and presenting AR findings. Suitable data collecting methods, such as, observation, interviews, and document analysis are proposed as alternatives to enable the reporting of AR findings being carried out that befit the AR philosophy.

Keywords: pre-test, post-test, data collecting techniques, presenting findings, action research

Abstrak

Sebelum seseorang penyelidik melakukan kerja lapangan, adalah merupakan perkara asas seseorang penyelidik itu merancang kaedah mengumpul data berdasarkan tujuan penyelidikan dijalankan. Ini ditentukan oleh falsafah dan pendekatan penyelidikan berkenaan. Penyelidik penyelidikan tindakan (PT) juga perlu orientasikan diri dengan definisi dan konsep berkaitan dengan PT yang memerlukan suatu pemahaman ke atas falsafah PT semasa mengumpul data bagi mempersembahkan dapatan kajian. Salah satu daripada miskonsepsi yang saya sering temui dalam pengalaman saya sebagai fasilitator PT dalam kalangan guru-guru dalam perkhidmatan dan praperkhidmatan ialah penggunaan ujian pra dan ujian pasca sebagai salah satu teknik mengumpul data dan persembahan data dalam kajian mereka. Analisis seterusnya ke atas sampel artikel PT tempatan dan antarabangsa turut menunjukkan trenda berkenaan. Ini menimbulkan persoalan sama ada dapatan kajian berkenaan benar-benar dapat memaparkan tujuan asas dan utama PT. Objektif artikel ini adalah untuk membincangkan mengapa penyelidik yang melakukan penyelidikan tindakan perlu mengelakkan diri daripada menggunakan ujian pra dan ujian pasca bila mengumpul data dan mempersembahkan dapatan PT. Kaedah dan teknik mengumpul data seperti pemerhatian, temu bual, dan analisis dokumen dicadangkan sebagai alternatif untuk membolehkan pelaporan dapatan PT dibuat sesuai dengan kehendak falsafah PT.

Kata Kunci: ujian pra, ujian pasca, teknik mengumpul data, persembahan dapatan, penyelidikan tindakan

INTRODUCTION

Background

Renowned and established researchers (e.g., Bogdan & Biklen, 2003; Cohen, Manion & Morrison, 2007; Creswell, 2007; Denzin & Lincoln, 2011; Merriam, 2009; Patton, 2001) have classified different approaches and various types of research that are useful as signposts for researchers embarking in doing research. Researchers need to know about the philosophy and aims of the researches concerned to enable the planning of suitable research design for their research. Thus, before doing field work, it is fundamental that researchers plan their data collecting methods based on their research objectives. This is further determined by the philosophy and approach of the research concerned.

Issue or Concern

Conducting AR is not an easy professional development activity for any novice action researchers. They have to juggle between doing research and being the reflective practitioners. In addition, they need to reorient themselves to AR definition and concepts which require an understanding of the AR philosophy and paradigm. This is to help them plan their data collecting methods that will enable the presentation of findings be made based on the said philosophy and paradigm. Nevertheless, it is not surprising that various conception and misconception arise among novice action researchers. One of the misconceptions that I have constantly encountered through my experiences in facilitating AR among in-service and pre-service teachers is related to the use of 'pre-' and post-test as one of the data collecting techniques and in presenting of findings among the teachers concerned in their studies.

Further analysis on samples of local and international AR reports and articles (e.g. ITE Batu Lintang Campus, 2012; ITE Ilmu Khas Campus, 2013a, 2013b; Schalich 2015; Allen, 2007; Evmenova, Warren, & Rider, 2006; Budi Prasetyono, 2014), also indicated such trend of preference for using 'pre-' and post-test as one of the data collecting techniques. For instance, in the year 2012, 39 of the 95 [41.05 percent (%)] (refer Table 1) pre-service teachers' AR articles from the institute of teacher education (ITE) that I am with used 'pre-' and post test as one of the data collecting techniques in assessing the impact of their actions for their AR.

Table 1

Number of Pre-service Teachers Using 'Pre-' and Post-Test As One of the Data Collecting Techniques (n=95)

Types of Programme	Number of Articles	Articles with 'Pre-' and Post-Test	
		No.	%
Malay Language	20	0	0
Remedial Education	18	1	1.05
Science	18	17	17.89
Preschool	18	7	7.37
Islamic Education	21	14	14.74
Total	95	39	41.05

An AR study conducted by Schalich (2015), for example, used 'pre-' and post-test to examine the impact of small group instruction using select reading comprehension strategies on students' reading achievement. Similarly, Allen (2007) conducted an AR study to explore the impact of meaningful educational activities and the use of a manipulative in those activities on students' achievement. Jeff, Evmenova, Warren, and Rider (2006) also used 'pre-' and post-test to conduct an AR study on computer-assisted instruction within the first-grade classroom. Likewise, Budi Prasetyono (2014) used similar tests for his AR study related to improving reading comprehension among second grade students of SMP Muhammadiyah 3 Mlati.

The choice in using 'pre-' and post test to present the said researchers' findings evoked great concern for the writer. This led to the question of whether such findings truly portray the basic aim of AR?

Objective

The objective of this paper is to discuss why 'pre-' and post-test should be avoided when collecting data and presenting AR findings. In addition, suggestions are provided on the suitable data collecting methods for AR that fit AR paradigm.

Why No to 'Pre-' and Post-Test?

One of the reasons why it is a no to 'pre-' and post-test when collecting data and presenting AR findings is related to AR paradigm. Hence, here lies the importance of knowing, understanding and applying AR definition and purposes that would lead to "What is AR!"

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Kemmis and McTaggart (1988), for instance, defined AR as:

...a form of **collective self-reflective** enquiry undertaken by participants in **social situations** in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices, and the situations in which these practices are carried out. (p 5)

Kemmis and McTaggart (1998) also reiterated that AR “is not research done on other people. Action research is research by particular people on their own work, to help them improve what they do, including how they work with and for others” (p 21).

Elliott (2003) described the purpose of AR is for “the improvement of practice” (p 173) and that AR is:

...the study of a **social situation** [classroom/ school] with a view of improving the quality of action [managing classroom/managing teaching and learning/managing school] within it – carried out by practitioners seeking to improve their understanding of events, situations and problems so as to increase the effectiveness of their practice. (1991, p 69)

Based on the definition and description given on the purpose of AR by proponents of AR, I would summarize AR as a form of systematic enquiry undertaken by the practitioner(s) to study or research his/her own or group practice(s) towards improvement of his/her own or group practice(s) other than solving problems identified in his/her/group practices. Nevertheless, AR is conducted within a **social situation** that involves **interaction of those who are involved in the research** (note that the writer **bold** and **underlined** the words **‘collective self-reflective’** and **‘social situation(s)’** in the AR proponents’ definition.)

The question posed then is how do action researcher(s) capture his/her/their data related to the interaction process of implementing the action in the AR conducted? For answering this, I would like to draw your attention to Elliott’s (1978) description of one of the characteristics of AR.

Action research interprets ‘what is going on’ from the point of view of those acting and interacting in the problem situation, e.g., teachers and pupils, teachers and headteacher (sic).” Events are interpreted as human actions and transactions rather than natural processes subject to the laws of natural science. Actions and transactions are interpreted in terms of the conditions they postulate, i.e., as expressions of a person’s

- a understanding of, and beliefs about, his situation;
- b intentions and goals;
- c choices and decisions;

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- d acknowledgement of certain norms, principles, and values in diagnosing, setting goals, and choosing courses of action.

What 'is going on' is made intelligible by reference to the subjective meanings ascribed to it by the participants. This is why interviewing and participant observation are important research tools in an action-research context. (pp 121-122)

Thus, more suitable data collecting methods that befit this to capture the essence of the group processes or social interaction in the form of 'collective self-reflection' and 'social situation' should be used when conducting action research, specifically when conducting educational AR. As Dewey (in Cohen & Manion, 1994) posits that education system is a form of social process, therefore, the types of AR data required in educational AR are data that should provide evidence(s) of the interactive and humanistic nature of education.

Even Kemmis (1988) described the aim of AR method is to produce and collect evidence about practice. Hence, the techniques used to analyze and interpret evidence are similar to techniques used in case studies and ethnography due to the object of the study which is the action, views and historical situation which gives meaning to the action. He reiterated that this is due to the "logical, empirical and political coherence of interpretations in the reconstructive moments of self-reflective spiral (observing and reflecting) and the logical, empirical and political coherence of justification of proposed action in its constructive perspective moment (of planning and acting)" (p 46).

Therefore, using 'pre-' and post-tests definitely do not befit AR as it is only the end product or end of the process that is captured and reported. The missing link of the process of implementing the action in social situation or social process is lost upon using the said test. In addition, the progress or development of the pupils/students or intended receiver(s) of the action(s) would not be able to be captured. Consequently, a more interactive and humanistic data collecting method (Marshall & Rossman, 1999) is suggested.

In addition, 'pre-' and post-test are pre-dominantly used in experimental and quasi-experimental studies that involve treatment and control groups in the studies. An action researcher who conduct AR in his/her own class would not have treatment and control groups in his/her study due to the nature of AR itself. Thus, novice action researchers need to be careful in using 'pre-' and post-test when collecting AR data to enable the reporting of findings be carried out based on AR paradigm, definition and purposes. Using these terms will lead to "What is not AR!"

Suggestions

Suitable data collecting methods, such as, observation (e.g., researcher's observational notes, audio-visual recording, photographs), interviews, and document analysis (e.g., students' worksheets) are proposed as alternatives to enable the reporting of AR findings be carried out that befit AR philosophy and paradigm. For instance, in one of the case study that I have conducted collaboratively with a preschool teacher in relation to learning of mathematics among preschoolers, observation of pupils were carried out using observation notes (Figure 1) and visual recording.

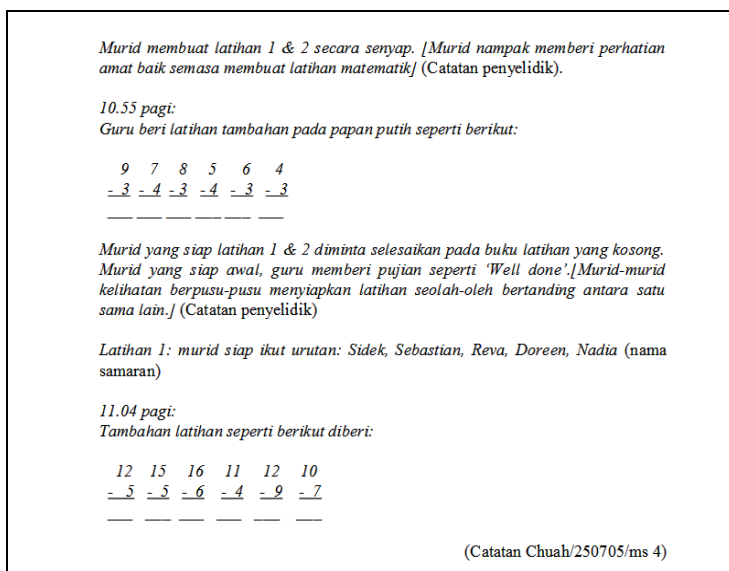


Figure 1. Observation notes on pupils' learning

The visual recording was transcribed based on episodes and incidents to describe the preschoolers' learning processes or situation (Chuah & Rabuyah, 2006) (refer Figure 2) in relation to learning mathematics. We discovered that these data collecting methods were suitable to capture the processes or social situations. Other suitable and interesting techniques are proposed by Creswell (2007), Bogdan and Biklen (2003) and Merriam (2009).

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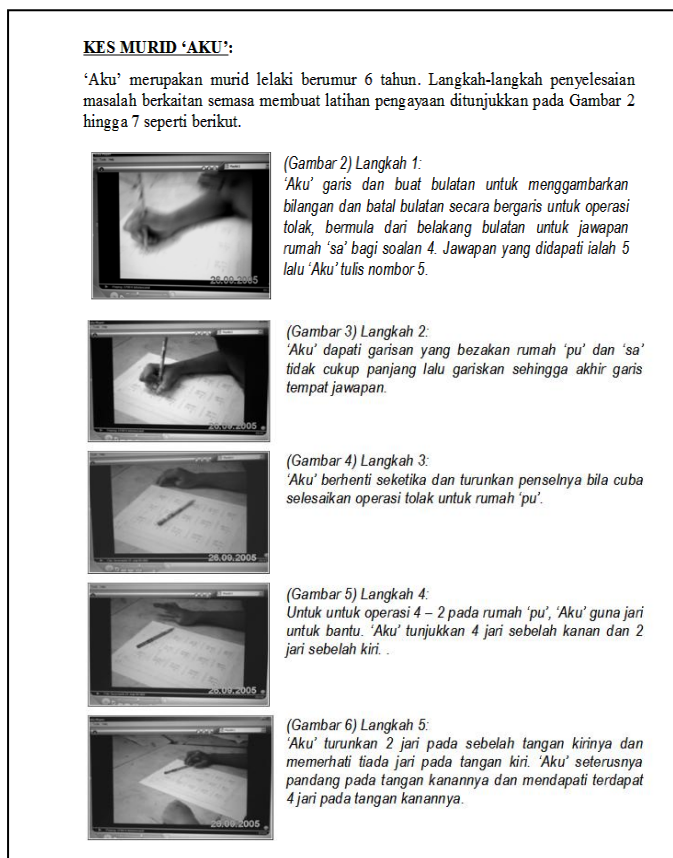


Figure 2. Visual recording transcribed based on episodes of a preschooler learning mathematics

In addition, instead of using 'pre-' and 'post-test' terms in collecting data and reporting of findings, action researchers might consider using the following terms: initial data or 'pre-action' data, and 'post-action' data. This would avoid issues of control and treatment groups in AR as AR do not involve conducting experiment on the participants (e.g., pupils/students) in the study.

CONCLUSION

Conducting research on own practices is not an easy task especially for beginning action researchers among teachers who have to juggle between doing AR and carrying out teaching and learning in the classroom. Nevertheless, the journey of understanding AR will be made easier through practice, discussion and reading scholarly work. Action researchers need to familiarize themselves with AR philosophy and paradigm in order to understand "What is and what is not AR!"

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Subsequently, suitable data collecting methods and techniques and reporting of AR findings could be made based on AR paradigm. This would assist in improving the quality of conducting and reporting AR findings among action researchers.

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