

The Hawthorne effect:

Is it a help or a hindrance in social science research?

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This article reconsiders the interpretation of the Hawthorne effect in social science research. For well over seventy years the research community has assumed a positivist interpretation that has cautioned professionals against participating in social experiments from within their own work-based team of colleagues and clients. These fundamental assumptions are reexamined from the philosophical perspective of relativism. This perspective maintains that the Hawthorne effect provides a different rationale towards the methodology of applied research when reconsidered from the different relative perspectives of the positivist and participatory action research paradigms. Given this new relative perspective on the Hawthorne effect, we propose that it now validates the use of participatory action research from within any social setting.

INTRODUCTION

The Hawthorne effect has long been regarded as the "Achilles heel" of participatory-based research ever since its accidental discovery in the late 1920s. Researchers, drawn mainly from the positivist paradigm, have cited the Hawthorne effect as a validation of research that places the researcher in a detached position from his/her "subjects", thereby avoiding any chance of corrupted data through social engagement. In more recent times, however, this positivist research paradigm has been challenged by many qualitative and action researchers (e.g., Carr & Kemmis, 1986; Eisner, 1991 & 1999; and Harré, 1993). Rom Harré, for instance, proposed a "new paradigm" approach to social psychology (Harré, 1993). New paradigm social psychology offers an alternative research paradigm to that of the long-accepted positivist agenda, which adopts a physical science approach (Harri-Augstein & Thomas, 1985). This new paradigm approach of human inquiry is considered by John Heron (Heron, 1981) and others (e.g., Carr & Kemmis, 1986; Torbert, Harré, Elden, Sanford & Parlett in Reason & Rowan, 1981) to validate "intentional interaction", whereby the researcher and his/her subjects work fully together on a cooperative basis. This cooperative partnership of research is carried out in real-life social situations and forms the philosophical basis of what is now understood

to be participatory action research. The “real-world” has become the action researcher’s laboratory and “subjects” have become co-research workers, or change-agents of the congruent social enterprise, which attempts to achieve positive change within the unique action research situation rather than achieve replicable results that validate some wider hypothesis. This article reexamines the Hawthorne effect in the light of this new approach towards social science and demonstrates that, relative to the value-system assumptions of this alternative research perspective, a new interpretation of the Hawthorne effect actually validates participatory action research.

WHAT IS THE HAWTHORNE EFFECT?

The Hawthorne effect is the phenomenon that was first discovered in an experiment conducted at the Hawthorne plant of the Western Electric Company in Chicago, Illinois, in the late 1920s. The aim of the experiment was to learn whether certain physical features of the factory, such as the level of illumination in the factory’s light globes, influenced worker productivity. A mini-factory within the factory was arranged in a separate room, with selected production workers being removed from the factory floor and placed in this room to produce their normal products – light globes. After the workers’ productivity was measured during a baseline period of time, the level of illumination in the room was increased. Worker productivity, in terms of the number of light globes produced, subsequently increased. Then the illumination was raised again, with a corresponding increase in productivity. When the illumination in the separate room was decreased by mistake, productivity increased a third time, indicating that the level of illumination was not the variable responsible for productivity gains. Rather, it was concluded that the phenomenon of paying special attention to these workers by separating them from their co-workers and observing them work in a separate room was somehow responsible for their increase in productivity. The Hawthorne effect was responsible for the widely publicised recommendation to social science researchers that they include a control group in their randomised experimental designs. The purpose of including a control group is to ensure that the experimental treatment is making the difference to the dependent variable, rather than uncontrolled events, thereby avoiding a serious threat to the internal validity, or the credibility of the findings (e.g., Campbell and Stanley, 1966; Gephart and Antonoplos, 1969; Tuckman, 1988). In fact, Campbell and Stanley (1966) were so adamantly opposed to the use of the single-group, case study method, to make generalizations in social science research that they stated: “It seems well-nigh unethical at the present time to allow, as theses or dissertations in education, case studies of this nature (i.e., involving a single group observed at one time only)” (p. 7). How the pendulum swings in the educational research fashion stakes! Even Campbell (1974) subsequently modified his view to accept the legitimate role of action research in social science inquiry.

A “middle path” approach to the issue of the contribution of qualitative and quantitative research methodologies was proposed by Gage (1989). In his watershed article on the “Paradigm Wars and their Aftermath”, he provided us with a twenty-year

historical gaze into the future on how the different opposing factions of educational research might resolve themselves. Gage advocated compromise, calling for pragmatism in the form of “interdisciplinary collaboration” to bridge the philosophical divide between qualitative and quantitative researchers in the social sciences. He predicted that “investigations with both kinds of methods [qualitative and quantitative] turned out to be more fruitful of insights, understandings, predictive power, and control resulting in improvements in teaching” (p. 7). Process-product research conducted via a multiple perspective approach, which could bring together and recognize the diverse paradigmatic approaches, was extolled as the pragmatic way forward and seen as “changes toward the recognition of paradigm compatibility [that] undermined the hegemony of [traditional] psychology in educational research” (p. 9). We believe that the Hawthorne effect was also a victim of the same psychological hegemony, in that it was only interpreted via the research establishment paradigm of its time, but has, nevertheless, remained more or less unchallenged. Gage’s predictions have proved correct, with most educational researchers advocating a combination of qualitative and quantitative research methods in order to shed more light on complex phenomena in teaching and learning.

THE SOCIAL PARADOX OF EDUCATIONAL RESEARCH IN THE CLASSROOM

The common interpretation of the Hawthorne effect’s acting as a hindrance to the action research evaluation of the effectiveness of a new program, curriculum or product will now be questioned. The impact of the original interpretation of the experiment in the Hawthorne Western Electric factory in the late 1920s was to recommend the necessity of a control group with a double-blind experimental research design in order to neutralize the Hawthorne effect. The aim was to implement controls against experimenter bias and avoid the possibility of a self-fulfilling prophecy. In drug-testing experiments, a placebo is generally recommended for the same reason, whereby it is seen as providing a dummy treatment for boosting personal physical improvement via one’s own psychological and cultural perceptions that the taking of any drug will improve one’s feeling of well-being. The Hawthorne effect has, unfortunately, been regularly used as a kind of “academic Exocet” in order to invalidate classroom-based research that has not taken into account the above traditional experimental cautions. Indeed, the Hawthorne effect was used to criticise and became the unfortunate stumbling block towards the otherwise positive findings of the 1960s Initial Teaching Alphabet (ITA) educational research project in the United Kingdom (Downing, 1967). The ITA Project was based on teaching children to read and write a modified alphabet that spelt words according to a strict phonetic approach. This kind of invalidation, however, led to the undermining of most small-scale classroom-based research activities involving the teacher as researcher. Sir James Pitman (1969), chief protagonist of the ITA project, tried to rebut the serious criticisms of the classroom-based ITA project that were published by the ITA symposium in the Downing report (Downing, 1967) by concluding:

"If [the] Hawthorne Effect is indeed as great as some critics suggest, then we should have to write off here and now all research into method based on matched groups hitherto attempted, including much of the research on which methods supported by the critics are based" (1969, p.167).

The irony of this statement was that the ITA research project was both large-scale and well funded, through the UK Government agency of the National Foundation for Educational Research (NFER), and fully attempted to operate within the positivist educational research paradigm. The research designers of the ITA ensured that the necessary safeguards of the positivist paradigm were implemented through the use of the classic "control" and "experimental" group model with an up-front identification of the key project "variables." Despite all these precautions, the social reality of real teachers and real pupils in real-life classrooms was felt to adversely influence the "findings" in both groups. The problematic social interactions and biased attitudes of teachers, parents, visitors and the outside media in general were seen as behaviorist-styled stimuli acting either in favor of, or against, the Hawthorne effect for both the control and experimental groups:

"Teachers are more susceptible [to providing stimulating attention to pupils], but in assessing the Hawthorne Effect one must differentiate between the stimulus that comes from knowing the results are being watched and the quite separate and growing stimulus provided by the success of the work under investigation. It is also fair to say that in the control classes the Hawthorne Effect on the teachers was heightened because, as we have seen, they were confident of their ability to hold their own and were even anxious to prove that the ITA medium was ill-conceived" (Pitman, 1969, p.166).

If a large-scale and well-controlled, classroom-based educational project such as the ITA can flounder on the basis of the Hawthorne effect, what hope is there for validating any kind of social science research that is designed to effect change in social situations? Thus, relative to the traditional positivist research paradigm, any classroom-based teacher operating as a small-scale researcher is claimed to "bias" his/her own data and such an experimental model has been strongly discouraged by much of the positivist research community. This has resulted in a preference towards large-scale projects with sufficient control groups in place, so that the experimental "variables" could be properly measured and possible confounding variables controlled. This paradigm also promotes an Orwellian ethical approach that encourages a dehumanisation of social science research practice, with people defined as experimental "subjects", to be socially detached from the researchers, so as to avoid any contamination of data through social interaction. Another bizarre solution to overcome the social interaction problems attributed to data interference has been the development of Hawthorne effect-free unnatural classroom settings. Such places are generally found within university laboratories, or laboratory schools, as alternative venues for conducting both educational and social science

research. One example of this trend is the phenomenon of artificial intelligence educational laboratories, which are experimentally used for inferring generalizations about pedagogic theory that employs computers as learning tools. The subjective human learning setting of a real-life classroom is considered by these researchers as an inappropriate research venue for inferring what might actually happen in the classroom! This is because the classroom itself is considered by the positivist experimenters to be an inappropriate place for examining the relationship between social interaction and psychological learning theory. Therefore, within this experimental paradigm, we have now reached the absurd position where studies requiring observation of social interactions cannot be fully validated by professional practitioners operating from within the same situation.

The alternative paradigm of participatory action research, however, does validate small-scale projects by teachers who both operate and intervene naturally within their own classroom settings. This experimental approach appears to contradict the traditional positivist research paradigm and follows, instead, the humanistic paradigm rationale of an ethnographic inquiry. So the question naturally arises as to what are *the major differences* in methodology between these two main research paradigms. How does the new paradigm approach, which encompasses an umbrella movement of diverse qualitative evaluation researchers, ranging from ethnographers to critical theorists, explain and come to terms with the consequences of the Hawthorne effect?

ACTION RESEARCH: A DIFFERENT VIEW

Action research has a different view of the Hawthorne effect. Strong social relationships between the researcher and his/her field "subjects" are considered to be essential to the successful outcomes of an action research project - this is often referred to as developing a "Rogerian" relationship and improves the scope and quality of the in-situ shared discourse and recorded qualitative accounts. Subjects are usually called "partners" in this research model, because they are of equal status to the researcher who negotiates a contract to engage their cooperation and active contribution to the research process. Rogers' (1971) concept of "congruence" is often used to describe the ethical relationship between the researcher and field-based research participants, just as he used it to describe the ideal therapeutic climate for generating qualitative trust through a process of initiating "unconditional positive regard" in the counselor-client relationship. This concept of congruence, however, has since been extended to define the action research protocol of "social parity". Coombs (1995) maintains that:

" clients involved in the developmental social learning setting should not be treated as *subjects*. A more symmetrical approach was required, involving a symbiotic relationship between researcher and client purposes. ... The rationale underpinning this symbiotic approach is the thesis that [there exists] a ... climate of *humanistic parity* between researcher and [action research] domain clients - which I propose to call *social parity*". (p.144-145)

The paradox of achieving social parity as an experimental methodology is that it diametrically opposes the ethical values, and hence the experimental rationale, of the traditional positivist paradigm. Positivists consider social phenomena such as the Hawthorne effect from within their own experimental perspective and use it as a means to caution, discredit and invalidate research findings obtained through participatory action research. Rom Harré (1981) understands the positivist-empiricist research approach and considers that "positivism [is] a science [that] should be taken to be no more than a well-attested body of rules for predicting the future course of observation"(p.8). Since that statement Harré has encouraged researchers to "develop methodologies commensurate with the nature of the phenomenon they are studying"(Harré, 1993). Harré argues against the traditional paradigmatic approach of standard experiments with variables and numerical results and, instead, proposes a new approach, which he calls new paradigm ethogenics. These ideas of Harré have been adopted by Coombs (1995) who maintains that the new paradigm approach towards social science experiments provides both a new perspective and alternative research agenda:

"These arguments, coupled with Harré's idea of relating context to understanding 'social episodes' in 'real-life scenarios' through the evidence of personal accounts - discursively obtained and rationalized - provides an alternative research agenda compared with the more traditional physical science paradigm approach" (p.35).

Indeed, it is the nature of human relationships in real-life social settings that Harré claims is the basis of genuine developmental social psychology, implying that new paradigm social psychology ethogenics provides both a rationale and validation of participatory action research:

"...people become capable of jointly producing the flow of actions that make up social episodes and in the structures of which social relations have their immanent being."(Harré, 1993, p.26)

It is from this new paradigm social psychology perspective that we wish to re-examine the nature and social phenomena underpinning the Hawthorne effect. In doing so, we would like to consider the nature of evaluation research relative to the experimental approaches of positivism, humanism and new paradigm social psychology. It is from a deeper understanding of these alternative research perspectives that we can perceive a new role for the Hawthorne effect in terms of validating qualitative data obtained by a participatory action researcher from within a social setting. Interpreting the social context of the Hawthorne effect is therefore subject to the relative perspective of the experimental paradigm that it is being compared with. It is not that the positivist experimental paradigm is wrong *per se*, but more that it does not recognise the sociological value of complex human relationships only to be found in real-life social settings. From the positivist perspective, the Hawthorne effect has been used to validate the notion of

reducing the complex number of "interfering" variables of real-life situations by referring social psychology and educational experiments to a laboratory that both reduces and removes these "noisy" confounding variables. The problem with this experimental approach is that the human actions observed in the laboratory are not necessarily the same actions of real life. Actions are relative to social context, which defines the nature and formation of "social episodes" in reality. Reducing the reality changes the action and, thus, alters the *qualitative nature* and purpose of the social investigation, which, presumably, wanted to find out reasons behind the way persons "act" and interact in a given social situation. The laboratory strips away the value-systems underpinned by the cultural practices found in any real-life situation. This, in turn, affects the decision-making capability of persons involved in reflecting upon actions to take in any given scenario. Indeed, Carr and Kemmis (1986) maintain that:

"Another area of criticism focuses on the positivist claim to offer ways of guiding educational practices that are not supportive of any particular value orientation towards the educational situations it studies. These criticisms stem from the fact that, insofar as it studies educational situations in the same way as natural scientists study natural phenomena, scientific research inevitably assumes that these situations operate according to a set of 'general laws' that regulate the behaviour of individuals. ...these laws are assumed to be independent of the purposes of the individuals whose actions they determine, it follows that the only way to affect practice is by discovering what these 'laws' are and manipulating educational situations accordingly" (pp.78-79).

So the difference lies in the interpretation of behaviour. The positivist paradigm assumption that all human behaviour and interaction is governed by some form of universal "laws" justifies the approach taken in reducing the number of "variables" and by moving experiments to the safety of the laboratory. The new paradigm psychology approach believes this assumption to be too simplistic, arguing that human behaviour is not so much governed by laws of social interaction, but that the actions occurring in a social situation are unique to its context. This is why Carr and Kemmis (1986) state:

"What is distinctive of educational research is that it employs a methodology which enables it to describe how individuals interpret their actions and the situations in which they act. This [provides an] alternative view of the social sciences as descriptive and interpretive rather than explanatory and predictive...." (p.79).

Social interactions are complex and difficult to study. They represent uncertain acts and actions in the context of a particular situation, rather than obey predictable outcomes governed by a general set of laws. Human beings do not necessarily provide the same answer to the same question asked of them, unlike identical springs that always stretch to the same distance for a given force and set of environmental conditions!

EVALUATION RESEARCH: POSITIVISM, HUMANISM AND THE NEW PARADIGMS

Evaluation research does not require or even generally advocate the use of a control group, because it asks a different question from that asked by mainstream experimental researchers. Rather than comparing two programs, *one designated as experimental and the other as control*, whereby positivist researchers typically conduct experiments relative to some hypothesis, evaluation researchers instead ask the question, "Does this program, curriculum or product make a difference?" Evaluation research involves a decision-oriented approach, rather than a conclusion-oriented approach to answering research questions (Cronbach, 1980). It also questions the positivist, or "physical science", paradigm of social psychology with an alternative agenda, embracing the rationale of both Rogers' (1971) humanistic approach and Harré's (1981) new paradigm "ethogenics", which adopts a more metaphysical systemic encounter toward validating real-life social experiments. Harré's metaphor of validating "social episodes" as episodic qualitative events redefines the social psychology experimental paradigm. New paradigm social psychology promulgates an agenda based on, and commensurate to, the unique social needs of any real-life setting undergoing change, thereby defining an experimental protocol based upon the assumption that behavior is affected by social context rather than innate laws. This ethogenic-based protocol is the philosophical axiom that differentiates humanism, social constructivism and new paradigm social psychology from mainstream behaviourism, which, as we established earlier, provides the positivist experimental rationale for observing social behaviours and actions. Indeed, David Silverman argues that "there are areas of social reality which statistics cannot measure... Qualitative researchers [believe] they can provide a 'deeper' understanding of social phenomena" (2000, p. 8). Silverman also points out that there is no collective agreement on what constitutes qualitative social research methods, maintaining that there are many diverse philosophical movements, including: interactionism, feminism, postmodernism and ethnomethodology. Silverman postulates five common preferences shared by most qualitative researchers:

1. Preference for qualitative data;
2. Preference for naturally occurring data;
3. Preference for meanings rather than behaviour;
4. Rejection of natural science as a model; and,
5. A preference for inductive, hypothesis-generating, rather than hypothesis-testing research (2000, p. 8).

Gage (1989) recognises that action is defined as behaviour plus meaning and considers the important distinction that interpretative researchers place upon interpretations of real-life social events, stating that "'standard' researchers had grievously neglected meaning-perspectives, because they tried to observe [only] behavior" (p. 5). We,

therefore, have an alternative experimental agenda and methodology for both delivering and validating action research. This paradigm assumes what Coombs (1995) refers to as a "social manifesto" approach toward social science action research and considers that the Hawthorne effect represents a validation of the Rogerian social interaction relationships generated during the field's real-time social episodes. In reality, this is about validating the experiences witnessed by normal persons in their authentic social settings, or as Winter (1998) so eloquently puts it:

"action research is about seeking one's own voice, an authentic voice, a voice with which to speak one's experience [and] learn [from it]. Action research is about decentralising the production of knowledge... .. and giving a 'voice' [instead] to practitioners and community members" (p. 54).

The real-life social 'field' is also recognised by many other qualitative movements. Naturalism promotes observational accounts of real-life social fields, while ethnomethodology validates conversational interaction and the collection of such accounts gleaned from the same scenario. Emotionalism validates intimate contact with research "partners" and validates evidence in the form of personal biographies. Postmodernism, however, redefines the experimental assumptions and concepts of "subject" and "field", much in the way that Harré (1981;1983) has redefined them as partners sharing the action within a given social episode. Moustakas (1981) argues that such "person-based" research is a process of individual discovery and considers this qualitative axiom as a "total person as research method" paradigm. Constructivists further argue that such real-life settings are situated learning environments and it is from this instructional design rationale we have the concepts of "authentic learning" and "anchored instruction" as a means to provide what Perkins (1991) describes as "richer learning environments" (p. 19).

Given this "real-life" perspective of the *social* field as a motivational learning environment, the researchers at the Hawthorne factory should have further investigated the important lessons regarding the relationship between business productivity and the new emerging methods of industrial social psychology. Clearly, the social context at the time of the 1920s was one of Henry Ford-inspired mass-production techniques, in which the social welfare of workers was given scant regard. The social issues and consequences of boredom in the workplace were not considered to be relevant to productivity, yet the social context of the workplace experiment was positively influenced by the researcher's inclusive actions. For once, these workers were the focus of special interest and made to feel important. This interest in their daily tasks was sufficient to boost morale and, thereby, productivity. The Hawthorne effect was, in reality, a social and ethical phenomenon peculiar to that particular socio-business context and additional studies should have been pragmatically recommended in order to both understand and exploit it further as a means of boosting production. However, the research experimental model adopted was constrained by the *assumptions* of its own concepts of the time. These

research concepts were viewed through a positivist *lens* that somehow filtered out the need to further investigate the positive attributes of the social phenomena discovered. Indeed, in today's climate of team building and task-management sharing in the workplace the Hawthorne effect would have been interpreted somewhat differently, given the alternative conceptual lens of change-management social experiments. Workers in the Twenty First Century are no longer regarded as unquestioning mechanical slaves, but as life-long learners who belong, as participants, to learning organisations. Senge et al. (1994) maintain that:

"In organizations, we believe the people who contribute the most to an enterprise are the people who are committed to the practice of these disciplines [skills related to personal mastery, mental model reflection, shared vision building in a group, team learning and systems thinking] for themselves - expanding their own capacity to hold and seek a vision, to reflect and inquire, to build collective capabilities, and to understand systems" (p. 7).

The Hawthorne effect, therefore, provides a confirmation of how action researchers may successfully interact within a social context to bring about positive change in both attitudes and task performance and provides a good example of Harré's "jointly producing the flow of actions", in Heron's manner of "intentional interaction". Such a paradigm recognises the unrepeatable and unique nature of social events occurring during real time. Its reality requires evidence to be collected and evaluated according to an "Event-Time" rationale, implying an action research methodology toward data collection and analysis of qualitative real-life "episodes" (Coombs, 1995). The irreversible and unique nature of such social events may be conceptualised as real-life social experiments, or considered as a form of "social entropy" that defines the unique and unpredictable actions of complex human behaviour to be found within a unique social context. This perspective of social science research invalidates the simplistic assumptions of the classical experimental-control group positivist paradigm that requires "repeatability" of the research-tested process in order to establish a hypothesis based upon some behavioural law (see the clarifications given in Table 1).

Table 1 outlines some of the key differences between the positivist and participatory action research perspectives. For example, the positivist perspective aims to produce findings that may be generalised to other situations similar to the one studied experimentally. On the other hand, the participatory action researcher attempts to uncover findings that are unique to the setting in which they occur. This paradigm maintains that, if the change-management process works in diverse settings, then it has general utility by providing a model to assist educational practice. An example of this paradigm is Fensham's (1986) interpretation of adolescent alienation in a variety of different school settings. This new methodology of action research evaluation, based

within the community and workplace, is commensurate to Harré's (1993) "ethogenic" experimental social policy and Heron's (1981) notion of "intentional interaction". Such an approach is suited to all applications of action research that have an agenda of developing and understanding change-management practices from within what Senge (1990) would define as a learning organisation. A summary of the above comparison of the positivist research methodology with that of the participatory action research paradigm is outlined in Table 1. Important generic experimental components have been identified and compared to their respective research perspectives relative to both paradigms. The purpose of this table is to clarify the key differences in methodology adopted by each paradigm relative to the standard set of experimental components listed. The rationale of each paradigm's research methodology is intended to explain the ethical basis and value-system (Zeni, 1998), from which the experimental assumptions are derived and how they provide a contrasting interpretation of the Hawthorne effect.

CONCLUSION

We believe that this article has provided a new and useful perspective of the important differences between the positivist, traditional experimental approach in social science research and participatory action research paradigms. Moreover, we have shown, relative to the positivist research paradigm's behaviourist assumptions, how the Hawthorne effect validates the exclusion of the researcher within a social setting, and justifies the use of artificial social laboratories. However, from the postmodern new paradigm social psychology assumption of ethogenics, which explains how social and personal context affect human behaviour in a complex manner, we may reinterpret the Hawthorne effect as a validation of participatory action research. This phenomenon may be used, instead, to explain how and why the action researcher may function as a positive influence upon attitudes - and thereby invoke a change of practice - of participants operating within the social setting of any learning organisation.

TABLE 1: A COMPARISON OF THE POSITIVIST AND THE PARTICIPATORY ACTION RESEARCH PARADIGMS

Generic experimental component	Positivist perspective	Rationale of research methodology - value-system assumptions and ethics	Participatory action research perspective	Rationale of research methodology - value-system assumptions and ethics
<p>Purpose and key objective.</p> <p>Philosophical assumptions related to the experimental participant's behavior.</p>	<p>Principal experimental objective is to prove some hypothesis leading to generalized facts and "laws" governing social interaction behavior.</p> <p>Isolated subjects - "research on" rationale. Links to behaviorist notion of general "laws" affecting behaviour (i.e., the stimulus-response metaphor).</p>	<p>Need for control groups and repeatability to avoid novelty and Hawthorne effect corruption.</p> <p>To avoid social engagement with researchers. No perceived relationship between experimental "variables" and individual subject's personal and social context. Thus, placing subjects into laboratory settings can safely reduce "noisy" confounding variables.</p>	<p>Change-management within a unique social setting as the principal experimental objective.</p> <p>Participants are seen as co-researchers - "research with" the action researcher according to a policy of "social parity" in order to jointly produce and evaluate the actions that constitute as the field's social episodes.</p>	<p>Uniqueness of project leads to permanent benefits - "social manifesto" approach towards negotiating the experimental needs underpinning the social context.</p> <p>Key assumption is that behaviour, in the form of acts and actions, is related to the field's social context and each person's prior learning. Social context is thus experimented with itself, with action researchers operating as change-agents within the field. That is, a policy of "intentional interaction" within the social setting in order to achieve Hawthorne effect benefits of changes in attitude and performance by the field's participants - commensurate to an action research model for learning organisations.</p>
<p>Results obtained from social data as evidence.</p>	<p>Generalised findings related to confirming or refuting the hypothesis.</p>	<p>Attempt to move from the particular situation to the general case in order to induce principles and/or laws.</p>	<p>Unique findings obtained as discursive "Event-Time" qualitative accounts.</p>	<p>Each situation is unique, but if the change-management process works in diverse settings, then it has general utility in terms of providing a generic model for practice.</p>
<p>Variables and other experimental factors.</p>	<p>To be manipulated or controlled and reduced, where possible.</p>	<p>Assumption that physical science paradigm may be extended to social science settings.</p>	<p>To be negotiated with the field's co-researchers as a need's analysis exercise identifying the "social manifesto" learning objectives.</p>	<p>Variables become project management objectives influenced by unrepeatable historical events. This leads to cohort effects and requires qualitative data to be collected from the on-going "social episodes" (i.e., "Event-Time" qualitative data collection and analysis drawn from the social setting itself by all participants).</p>
<p>Wider lessons learnt and implications for general social practice.</p>	<p>Social events may be predicted, explained and treated according to established social science principles and/or laws.</p>	<p>Researchers must be objective and detached from the phenomena they study in order that the observed effects of the "treatment" can be generalised into repeatable social science laws and principles that can be applied to any social situation leading to predicted actions.</p>	<p>Social events are both complex and unique situations relative to their context. Lessons may be learnt from the subjective interpretations from all the field participants operating within the experimental social setting.</p>	<p>Generic lessons may be learnt across unique social settings if a systemic process and/or pattern of social activity and relationships can be established across diverse social fields via a process of triangulation of the obtained qualitative evidences. Generalisation is obtained via generic models of practice that positively influence/guide the actions within a social context.</p>

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