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TO RESEARCH TO EDUCATION (MEinART)**

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DESCRIPTION

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1. Education and Social Work as a Discipline and a Field of Study

Matters of disciplinary commitment in the social sciences are often experienced as matters of methodology. Methodologies, methods and analytic techniques that are commonplace in one of the many human sciences that have informed education and social work – anthropology, economics, history, linguistics, philosophy, psychology, sociology, and the rest – may well be dismissed as inapplicable, insufficiently rigorous, or even downright unscientific from the vantage point of others. But each discipline also has a history throughout which it has gathered and grown topics under its purview. These topics have often been constituted over time in terms of the metiers of the discipline's preferred theories and methods.

So disciplines entail dispositions about:

- (a) what counts as evidence in this discipline;
- (b) how it is, in this discipline, that an inquirer can move from experience of a phenomenon to a set of beliefs or preferred speculations, and from there on to knowledge; and
- (c) what it is, intellectually and socially, that a newcomer must accomplish through displaying appropriate 'acquisition and mastery' – preferred epistemological processes – in the formal educational or professional settings that relate to this discipline.

In terms of their growth as areas of professional practice and as areas for research, education and social work have long 'enjoyed' an ambivalent status as domains of knowledge. There seem to be at least three lines of thought in the history of this question. First, the terms 'education' and 'social work' are taken to refer to loose groups of topics (e.g., 'learning', 'curriculum', 'care', wellbeing', 'welfare') with no formal connection to any individual or cluster of disciplinary bases. So both domains of practice and fields of research, being methodologically agnostic, could be productively informed by research conducted from within any disciplinary tradition that can make a fist of describing the state of current practice and delineating the potential for improvement.

Secondly, the terms 'education' and 'social work' have been taken to refer to a finite cluster of social sciences – for example, history, philosophy, psychology and sociology – under each of which is collected a set of topics informed by known conceptual and methodological traditions. So our knowledge of topics (such as the 'teaching of reading') would be connected to methodological preferences (such as experiments, quasi-experiments and case studies) via disciplines (in this case, psychology). Cross-border incursions – such as linguists'

and anthropologists' trans-disciplinary raids on literacy education which began in earnest in the late 1980s – are usually resisted, often rejected, and therefore rare.

Finally, 'education' and 'social work' have been characterised as disciplines in their own right, their core inquiry being forms of praxis in particular kinds of institutional settings, and their attendant methodological preferences reflecting both the multiplicity of means for ordering and interpreting data relevant to the wide range of phenomena appropriate to their interests and the consequentiality of decisions made on the basis of research.

What remains contested – almost no matter which of these three takes is favoured – is the ownership of certain phenomena within the practical fields of education and social work. Sometimes a phenomenon has become tied to the particular discipline that identified it as a focus of rigorous inquiry in the first place – that gave it shape and located it with a set of theoretical neighbours. (These neighbours themselves having developed via the application of a certain set of conceptual and methodological procedures that can now in turn be applied to the newcomer.)

A view of research that derives from this notion of a discipline provides a number of benefits; it allows the researcher to prioritise conceptual choices and make methodological decisions about such aspects as:

- (a) the balance of deduction and induction;
- (b) appropriate criteria for establishing or refuting evidence;
- (c) the use of previous findings, theoretical axioms, models, and conclusions;
- (d) the balance of relativism, scepticism and positivism; and
- (e) the specific roles of logical, sensory, and intuitive knowledge.

Nevertheless, this clean notion of 'science' also involves some ambivalence that calls for care.

2. The Project of Researcher-Participant Collaboration

It is now almost an obligatory feature of government funded or directed research activities that the researchers incorporate the concerns of the practitioners whose work may be affected by the activity. Increasingly, this incorporation takes the form of the inclusion of practitioners within the research team. The research fields of education and social work are full of cautions regarding the politics of inclusions and exclusions of 'end users' into such composite teams.

One of the minority statements to the US National Reading Panel report, for example, concluded in these terms:

“the Panel needed to assess the implications for practice growing out of research findings. As a body made up mostly of university professors, however, its members were not qualified to be the sole judges of the ‘readiness for implementation in the classroom’ of their findings or whether the findings could be ‘used immediately by parents, teachers, and other educational audiences.’ Their concern, as scientists, was whether or not a particular line of instruction was clearly enough defined and whether the evidence of its experimental success was strong. What they did not consider in most cases were the school and classroom realities that make some types of instruction difficult – even impossible – to implement ... the work of the NRP is not of poor quality; it is just unbalanced and, to some extent, irrelevant. But because of these deficiencies, bad things will happen. Summaries of, and sound bites about, the Panel’s findings will be used to make policy decisions at the national, state, and local levels. (Yatvin, 2000, pp. 2–3)”

A key question in all of the possible research scenarios outlined above concerns the status of the knowledge, beliefs and practices of the participants in the study – the ‘subjects’ of the work – whether or not they are formally constituted as collaborators in the project. Objects of study in the non-human world (e.g., molecules, weather formations, schools of fish) cannot offer an account of the nature and rationale of the structure of their individual or collective behaviour. In contrast, the distinctive feature of studying humans, and one at the centre of the challenges it presents, is that humans show, describe and explain their nature and their behaviours to one another all day long, day in and day out. Rightly or wrongly, for better or worse, they understand one another, although not always in the ways in which they wish to be understood. They manage this without having been trained as psychiatrists or neurologists. As Schutz (1964) observed, statistical descriptions of the scientific laws obeyed by individuals and collectives are a legitimate kind of shorthand only if one assumes that they refer to the meaning-making activities of these individuals and collectives – Schutz’s ‘forgotten man’ of the social sciences. The status of the accounts humans produce in and as social behaviour in any given research methodology is a key question that needs to be applied to the formulations that follow in this volume. There are at least four options:

1. The beliefs, knowledge and practices of the participants are irrelevant to an understanding of the key phenomena of education and social work.
2. The beliefs, knowledge and practices of the participants are the problem that the research must set out to fix.

3. The beliefs, knowledge and practices of the participants are provisional, generally unfounded, but possibly accidentally 'right'.
4. The beliefs, knowledge and practices of the participants are the phenomena of study and the framework for study, including, if appropriate, by the collaborating participants themselves (building the 'constructs of everyday actor s constructs' in Schutz's terms).

3. Design-based Research: introductory remarks

'Design-based research' or 'design research' was proposed in the early 1990s by Brown (1992) and Collins (1992) as an approach that extends existing methods and addresses the issue of linking theory and practice in educational research. Since then, design research has evolved in different directions and has been used in learning research in various forms (see Confrey, 2006). In recent years, this approach has been the subject of extensive methodological discussions and reflections in special issues of educational journals and in books (Barab & Squire, 2004; Kelly, 2003; Kelly, Lesh, & Baek, 2008; Sandoval & Bell, 2004).

Design-based research (DBR) is characterised as an inter-disciplinary mixedmethod research approach conducted 'in the field' that serves applied and theorybuilding purposes. Wang and Hannafin (2005) define DBR as

a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories. (p. 6)

They identify five characteristics: (a) pragmatic (i.e. design-oriented and intervention-oriented); (b) grounded in theory and research; (c) interactive, iterative and flexible; (d) integrative; and (e) contextual.

One of the main motivations behind DBR is to make learning research more relevant for classroom practices. It has often been argued that most learning research conducted by educational researchers, psychologists and cognitive scientists in university 'lab' settings is not known to educators, and does not, for the most part, affect teaching practices or educational policies. One reason for this is that teachers find it difficult to implement learning innovations, as the lab setting where the learning innovation has been established is too different from the demands and constraints of the classroom. This, for example, may concern the alignment with curriculum, standards and assessment requirements, teachers' and students' time, logistical and technical constraints (Fishman, Marx, Blumenfeld, Krajcik, & Soloway, 2004). This unsatisfactory state of affairs has led researchers such as Ann Brown (1992) to suggest a form of learning research

that does take place to a large extent within the authentic setting, involving close cooperation with teachers and students. The expectation is that research that yields its findings in close proximity to real schools will eventually be more easily and rapidly implemented in classrooms in general. The position that learning needs to be researched in authentic settings is supported by the conceptualisation of learning as situated (Greeno, 1998) and cognition as distributed (Salomon, 1993). Aligning research on school learning with doing research in schools and classrooms was further fostered by the rise of the learning sciences (Sawyer, 2006) that, differently from cognitive science and cognitive psychology, study the learning of realistic bodies of knowledge as taught in schools, rather than using artificial experimental tasks (Bransford, Brown, & Cocking, 2000). This chapter provides a short overview of DBR as a methodological paradigm. Initially, it describes characteristic aspects and the steps involved in conducting a design study. Then, the chapter critically discusses DBR as ‘research’ and as ‘design’. It focusses on the research process and the argumentative grammar behind it. Thereafter, it looks at design activities and the forms of knowledge they can yield.

4. Design-based Research: Characteristic Elements

Following The Design-Based Research Collective (2003), the term DBR encompasses a paradigm that has different names in the literature, including ‘design experiments’ (Brown, 1992; Collins, 1992), ‘design research’ (Edelson, 2002; Lesh, Kelly, & Yoon, 2008), and ‘development research’ (van den Akker, 1999). DBR is the methodological paradigm that specifies how to conduct design studies. A design study is an extended investigation of educational interactions provoked by a set of designed, usually innovative, curricular tasks and/or educational technologies (Confrey, 2006). Often, what gets designed is a whole ‘learning environment’ with tasks, materials, tools, notational systems, and other elements, including means for sequencing and scaffolding.

DBR was developed to address several key issues central to learning research, including the need: (a) to address theories of learning; (b) to study learning in the real world; (c) to go beyond narrow measures of learning; and (d) to derive research findings from formative evaluations (Collins, 1992). An essential aspect of a design study is the wide scope of processes and context that is considered relevant:

The study seeks to document what resources and prior knowledge the student brings to the task, how students and teachers interact, how records and inscriptions are created, how conceptions emerge and change, what resources are used, and how teaching is accomplished over the course of instruction, by

studying student work, video records, and classroom assessments. (Confrey, 2006, p. 135).

Where the design includes technological elements, such as software (e.g., a simulation) or hardware (e.g., an interactive whiteboard), the interactions with the technology are captured as well, often using computer log files and video records. These data can be captured on several levels (e.g., students, teachers, and researchers) yielding multi-tiered design experiments (Lesh, Kelly, & Yoon, 2008).

Common characteristics of design studies are their relatively extended duration – weeks and months – and the close involvement of the researchers and developers with the study participants. Data acquisition and analysis have to be (close to) continuous in order to drive forward multiple cycles of testing and design optimisation. It is often the case with DBR that both the students' understanding changes as a result of the pedagogical innovation, and also the researchers' conceptions change as a result of what they observe in the learning setting. There is no strict separation between theory development and theory testing; rather, the two are interwoven in a manner reminiscent of grounded theory (Glaser & Strauss, 1967).² In addition to the already mentioned multi-tiered design experiment, an important variant of DBR is teacher design research, where teachers 'drive' the research into the effects of design and where teachers' learning and professional development are integral elements (Bannan-Ritland, 2008).

Concerning its intellectual pedigree, DBR inherits many features from clinical interview studies, as developed by Piaget (1976), and teaching experiments, as developed in mathematics and science education (Steffe, 1991). While sharing similarities, DBR is different from curricular studies (DBR has more of a focus on the enacted curriculum), evaluation studies (focus on process, not only outcomes), pure discourse studies of classroom talk (multiple methods, including quantitative ones, are used), action research (aspiration to theory development), lesson studies (not confined to learning in classrooms and through teachers), and instructional design (learning theory development).

The notion of 'theory' plays an important role in DBR; and, differently from some variants of qualitative research, DBR aspires to produce explanatory accounts that are not solely descriptive. Theory in DBR is closely related to practice, and this link has its roots in the origins of the approach. Namely, Ann Brown (1992) introduced design research as a means to increase the relevance of theory (that at that time came from cognitive science laboratories performing experiments on learning) to practice (in classrooms). Allan Collins (1992) introduced design science as a means to increase the impact of best teaching practices on theories of learning. Both views of the theory–practice relationship are still relevant.

5. Action Research in Education and Social Work

This chapter is a dialogue about action research in education and social work. We commence with an assertion that action research is not a methodology but an orientation to inquiry with an obligation to action. As such it admits a number of methodological approaches but resists quasi-experimental ones on the grounds of the particularity of context and the specificity of purposes.

The major purpose of action research is practical, leading to the development and improvement of practice. It is participative and inclusive of practitioners and consequential stakeholders, such as students in schools and users of human and community services. It uses evidence forensically, that is to understand particular phenomena, rather than adversarially, where the pressure is to prove that one treatment may be better than another.

We argue that action research can make a powerful contribution to professional knowledge building. We see formal knowledge (episteme) as lying at one end of a continuum, where the intention is to seek knowledge for its own sake; action research is at the other end of the continuum and is concerned with practical knowledge informing the moral disposition to act wisely, truly and justly (phronesis). A task for the academy is to assist in the building and understanding of that continuum.

But what is the problem space in which action research occurs? Our first assertion, as stated above, is that action research is not a methodology (Carr, 2006, 2007), rather an orientation to inquiry with an obligation to action. For it can be argued that a methodology refers to the coherent theoretical selection of methods to be employed, not to the methods themselves. In action research the theoretical analyses are far more eclectic than the term 'methodology' suggests – they are driven by the nature of the problems being studied, which may be numerous. While methods are the tools employed to study a phenomenon, methodology applies to the principles underlying them. This assumes the possibility of an a priori standpoint against which the study can be judged to be efficacious or otherwise. As such, action research does not bear the hallmarks of the technical rational aspects of positivism and empiricism, where research is seen as mainly concerned with the prediction and control of practice. Instead it seeks to illuminate the local; to provide participants with insight and understanding through forms of systematic inquiry that address issues and questions that are of significance to those concerned with human enterprises, be they in education, social work or the like. At its most essential, it can be said to be transformational. Elliott (1991) defined it as 'the study of a social situation with

a view to improving the quality of the action within it' (p. 69). Griffiths (2009) takes us further in making the case for action research to enhance social justice in education through maximisation of participation and a conscious mindfulness of what is fair and right. Action research is contextual and collegial. Context is not merely a background to what is undertaken in the name of action research; it is a complex amalgam of social and material conditions within which action research takes place. When speaking of context it is essential to see it as a construct that is far more dynamic and problematic. In effect, it is what Schatzki (2002) refers to as 'the site of the social', that proposes that place and space, geographic, historical and cultural, all play their part in the construction of social practices, taking account of social order, agency and the impacts of the social present upon the social future. Saltmarsh (2009) asks us to consider context as 'practiced place', where place is understood as constructed and where the social is made by individuals and individuals are made by the social. While the intentions and principles of action research may be shared across many such practice settings, the enactment must necessarily vary in accordance with the material, socio-political and cultural formations within which they are constructed. In effect, action research is itself mediated by place and is transformative in nature. In this chapter we ask three fundamental questions: How can we see professional practice in education and social work anew, through the eyes of practice-based action researchers, community members and academics alike? What is the contribution that can be made to the development of professional knowledge and to social change? How and what can we as education and social work academics learn, given that we are also practitioners? As we answer them, we go through a series of more specific questions in the sections below.

6. Action Research as a Methodology for Reforming and Deepening Professional Knowledge

One of the most longstanding and contentious issues in social science research literature is how to define a research methodology, and how to decide when a certain set of inquiry practices should gain the status of a legitimate approach for creating knowledge (Creswell, 1998; Smith, 2002). A research methodology should be seen as an inter-related set of philosophical assumptions, rather than a technical process that must fit one set of particular conventions. These assumptions lead to principles that provide a framework to undertake research and to explore a particular research question or set of questions. These assumptions and principles have implications for every step of the research, from the questions identified as appropriate for the investigation, to the nature of the data needed, to the methods that are employed, to the analyses that are appropriate and, finally, to the claims that can be reasonably made or the conclusions that can be drawn.

Action research is a distinct approach based on a set of assumptions that differentiate it from positivistic, and other interpretative, methodologies. These assumptions include the investigation of professional practice in a specific context in order to enhance and reform this practice, often to improve equity or social justice. Carr and Kemmis' (1986) definition of action research is helpful here:

a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understandings of these practices, and the situation in which the practices are carried out. (p. 162)

While a number of other recognised research methodologies investigate specific contexts, the most important intention of action research is to improve, and, ultimately, transform the practitioners' practice in a specific context. Although ethnography, case study and some other interpretative approaches similarly investigate various practices in specific contexts, their main emphasis is on understanding this context through the development of rich or thick descriptions of these practices rather than reforming them. In contrast, action research investigates specific contexts using a set of interrelated principles, with the explicit intention of creating knowledge that improves practice. In schools and social welfare contexts, the expectation is that this knowledge will enhance professional practices and, ultimately, improve individuals' life chances.

7. Action Research: Individual or Collaborative?

The cultural and contextual practices investigated in any action-research program are, as Schatski (2002) suggests, grounded in place and space, having strong temporal, geographical, historical and cultural roots. All practices in any given context are/have been constructed by all those participating in them. Arguably, it is a more powerful inquiry if all participants can be explicitly involved in the research. While this is the ideal, maintaining such a 'strong' notion of collaboration is not always possible. Contrary to Kemmis' (2007) claim, this does not necessarily mean that the investigation is not valuable.

For example, it is possible, for an individual practitioner-researcher to use an action-research process to investigate her own practice; then, on the basis of information collected, analysed and reflected upon, advance her own understanding and make specific changes to this practice. A teacher can change one or more aspects of his or her professional practice using observational and reflective evidence. Without explicit peer or student input, changes of course may be more minimal although still worthwhile. In fact, Waters-Adams (1994) proposes that personal professional inquiry may at times need to precede

collaborative inquiry: practitioners may start with reflection and change of their own practices and then see the need for more collaboration with their colleagues. In addition, Andy Hargreaves (1994) notes that 'contrived collegiality' can be problematic if the participants feel they have been coerced or constrained by an imposed action-research project.

A number of contemporary teacher-education programs ask pre-service teachers to investigate an aspect or strategy of their teaching using an action-research cycle or cycles during the final internship phase of their teacher-education degree. It is usually a strategy that they or others have identified as needing more development (for example, questioning, collaborative group work, or management of the classroom learning community). While it is optimal that their mentor teachers and/or peers become critical friends, and that their students are involved in gathering information and/or providing evaluative/reflective feedback, this may not always be possible given the constraints of a busy school and the limited internship timeframe. Such action research is accomplished (predominantly) by an individual, but still has the potential to improve their professional knowledge and practice.

8. Ethnomethodological Research in Education and Social Work

The last four decades or so have been a period of intense activity in educational research. Over that time many significant aspects of education have changed. Policy formation, assessment, testing and accountability regimes, and the discourses of high-quality, equitable education have all been transformed. The claim can be made, with equal confidence, that much daily classroom practice has not changed much, and, in particular, has not changed along the lines recommended in much of the research. Here we provide an introduction to ethnomethodology and conversation analysis (EM/CA). Over the course of our description and illustration of this line of work in this chapter, we also advance one explanation for this dramatic anomaly.

Below are a brief introduction to EM/CA and discussion on some of its potential applications to research in education, illustrating our main points with interactions we have found taking place in educational activities in classrooms. First, an outline of the origins of EM/CA:

What kind of research program is it?

What are the preoccupations out of which its foundational theoretical features and analytic preferences arose?

By way of illustration, and to suggest a reason for the weight of educational research compared to the lightness of its impact, we focus on one particular affordance of ethnomethodological analysis: the distinction between rational properties and scenic features. We conclude with a summary of the opportunities that EM/CA offers social science researchers and the challenges it faces in communicating and extending these opportunities in interesting and valuable ways to classroom practitioners and educational policy-makers.

Harold Garfinkel coined the term ethnomethodology in the mid 1950s, developed much of the early foundational work, and continues to be a leading contributor. A starting point for understanding EM/CA's divergence from orthodox social science is found in Garfinkel's views on the relationships between social order, the observable regularities of social activities, and the role of social members in the production of those regularities. Garfinkel rejected the idea that social order exists because individuals, responding to either internalised rules and dispositions (Parsons, 1949), or to an external and constraining social structure, behave according to collectively endorsed rules or norms (Durkheim, 1937). A key question is, 'What do we assume to be relevant to accounting for human behaviour?' Foundational to an ethnomethodological approach is that

externality and constraint are member's accomplishments, and social structure and social interaction are reflexively related rather than standing in causal or formal definitional relations to one another. (Wilson, 1991, p. 27)

Garfinkel (1967, p. 4) proposed that the 'central topic' of ethnomethodological studies is 'the rational accountability of practical actions as an ongoing practical accomplishment', as found in 'studies of practical action and practical reasoning'. Here we explicate briefly aspects of this central topic, beginning with elaborations of key terms and expressions: practical action, practical accomplishment, practical reasoning, and rational accountability.

Practical reasoning is variously referred to as 'commonsense reasoning', 'practical sociological reasoning' (Garfinkel, 1967, p. 7), and 'practical theorising' (Sacks, 1963, p. 6). In Garfinkel's terms, practical common-sense reasoning practices allow members of a society to infer meaning from any situated action. Common-sense reasoning is taken to be essentially practical, and social members expect that they, and those with whom they interact, will be able to find, using practical reasoning, the meaning and the logic (the rationality) of any practical action. The reference points for practical reasoning, and the methods whereby the rationality of scenic features (the visible social and material characteristics of a 'scene') is assembled, consist of what Garfinkel termed 'dimensions of social organisation'; namely, sequential, topical, and categorical organisations. The rational properties, that is, the sequential, topical and categorical structures that

are selected and collaboratively used, organise relationships among and the various functions of the scenic features, provide a basis for decisions about what facts are relevant to the activity at hand, what those facts and other ideas mean, there and then, how things might and should proceed, and what causes what (Garfinkel, 1967, p. 78). The process of making sense involves looking for the organised rationality of some action.

9. Active Training

Active Training is based on the assumption that you are training a group of participants at one site in either a physical or virtual class-room setting. An active approach to training, however, is not limited to this delivery mode but can be incorporated into other modes. Since the instructional design principles are essentially the same regardless of how training is delivered, the ideas in Active Training can be easily applied to a wide range of training approaches.

The use of e-learning is revolutionizing the way people obtain learning. The advantage of computer technology is its ability to provide more training, delivered sooner, in more places, and potentially at a lower cost, than traditional classroom-based instruction. The value of e-learning is enhanced when it is designed for maximum interactivity. Straightforward presentation of information even if it is replete with visual graphics, limits the learning experience. The use of questions, case problems, and simulations and the inclusion of interactive exercises expand the quality of learning that will be obtained. Such activities can be built into individuals' interactions in e-learning instruction through user input options that enable them to "talk" to the material. To add the social side of learning, it is also possible to bring together, both face-to-face and virtually, people who have experienced the same instruction and give them group activities to reinforce what they learned individually.

What makes learning exciting today is that learners can make their own decisions about how they best learn the material. They can learn in a synchronous physical or virtual classroom or in an asynchronous setting. Classroom-based instruction is linear; participants learn point A before point B. Nonlinear learning in an asynchronous learning situation allows participants to repeat material, skip material, and, in fact, begin and end whenever they want. Simply creating a technological version of a linear lecture would be a waste of the learner's time.

The issue of ensuring that learners have a chance to practice interpersonal behaviors used in areas such as presentations, coaching sessions, and sales calls is still a concern. Such skill-based learning includes input of the knowledge necessary to perform the skill, demonstration, preparation, practice application,

feedback, and reapplication. The most critical of these steps are the quality and delivery of coaching and feedback and the reapplication. It is difficult for technology to deliver these steps as well as human beings can—at least for now. However, using blended learning or a flipped classroom for these topics is an excellent solution.

Using a blended learning solution is the best solution for many situations—not just those where practice is required. From an active training perspective, there are many exciting possibilities. Classroom instruction can be followed by e-learning activities or vice versa. Or the two can be mixed together so that periods of activity in both settings are alternated.

Classroom training can also be blended with other ways to foster learning, including mentoring, coaching, and informal learning.

Another delivery mode for active training is the use of “self-directed learning teams.” In this approach, small groups of learners meet face-to-face at their convenience and experience training that has been designed by an “absent” trainer. Guided by materials that do not require a “live” trainer or outside facilitator, teams learn by them-selves. The self-directed learning team has the following benefits:

- It promotes high levels of active learning.
- It develops a sense of “ownership” of training.
- It provides built-in social support for learning.
- It allows for different perspectives.
- It is based on a common language of understanding.
- It minimizes training costs and maximizes convenience. In order for learning teams to be self-directing, well-organized learning packages are needed. Learning team participants benefit from professionally designed training program materials that not only have clear, useful content but also contain directions for active learning activities that promote involvement, retention, and application.

Active training is a way to enliven classroom and virtual learning. Some of the techniques are fun and some are downright serious, but they are all intended to deepen understanding and retention. Active Training includes strategies to get participants active from the start through activities that encourage involvement and clarify participants’ expectations. It also has strategies for conducting full-group and small-group learning, stimulating discussion and debate, practicing skills, prompting questions, and even getting the participants to teach each other. Finally, Active Training has techniques to help you review what’s been learned,

assess how participants have changed, and consider the next steps to ensure that the training sticks.

10. Design of active training

An active training program is characterized by activity, variety, and participation. More specifically, eight qualities set it apart from other program designs. You will find that these eight qualities are required in all training events: ILT or self-directed, synchronous or asynchronous, in a webinar or classroom. The eight qualities that create successful active training include the following.

a) Moderate Level of Content

In designing training programs, too often the tendency is to cover the waterfront by throwing in everything possible about a given subject. After all, you only get one shot at these participants, so you'd better make sure you have covered it all. You may fail to realize, however, that participants will forget far more than they will ever learn. The best approach is to be selective, choosing the "need to know" before the "nice to know." Training programs that promote active learning have a lean curriculum. They concentrate on the critical learning areas—those elements of the subject that provide the essential basis for building later. When the content level is kept moderate, the trainer has the time to design activities that introduce, present, apply, and reflect upon what is being learned.

b) Balance between Affective, Behavioral, and Cognitive Learning

Active training involves a three-pronged approach: fostering attitudes, developing and practicing skills, and promoting understanding of the concepts and models behind the subject. Although some training programs tend to focus on one of these areas to the exclusion of the others, you want participants not only to know about something, but also to be able to do it. Furthermore, you want them to look at themselves in relation to what you are teaching and to consider how it works for them.

c) Variety of Learning Approaches

Active training employs a wide assortment of training methods. A variety of learning approaches keeps interest alive and can help to minimize the downtimes when energy levels are low. Another and even more important

argument for variety is that adults learn in different ways. Using different learning approaches is likely to be more effective than a single approach that may work for some but not for others. Time allocations, group formats, and the physical setting can also be varied to heighten the training experience.

d) Opportunities for Group Participation

Group participation has advantages in any training program. Involving the group moves training from the passive to the active. Group activity engages participants in the learning process and makes them working partners with the trainer. Lecturing is held to a minimum as highly participatory methods like role playing, simulated exercises, and case discussions are featured.

e) Utilization of Participants' Expertise

Each participant in a training program brings relevant experiences to the learning event. Some of these experiences will be directly applicable; others may involve analogies from previous jobs or situations. In either case, much of the active learning in a training program comes from one's peers. You can build into your design many opportunities for participants to learn from each other.

f) Recycling of Earlier Learned Concepts and Skills

Programs that feature active training have designs that are continually referring back to and incorporating earlier skills and concepts. In effect, the curriculum spirals. Participants get the chance to review what they have already learned and apply it to more challenging tasks. What has previously been taught is rarely passed over, never to appear again. Instead, key concepts and skills get reintroduced as the program becomes more advanced.

g) Real-Life Problem Solving

Active training designs emphasize the real world. Opportunities are set up for the participants to utilize course content to address and help solve actual problems they are currently experiencing. Application is not only something that happens after training; it is a major focus during training. Participants learn best when they get to work on their own material, cases, and examples. This gives the information immediacy and enables participants to assess its utility on the spot.

h) Allowance for Future Planning

At the conclusion of any training program, participants will naturally ask, “Now what?” The success of an active training program is really measured by how that question is answered—that is, how what has been learned in the course is transferred to the job. An active training design ends with consideration of the next steps participants will take and the obstacles they will face as they implement new ideas and skills.

11. Steps for designing an Active Training

When you go about the task of designing a training program that reflects these eight qualities, you face a creative challenge not unlike an artist's. Many decisions are ahead, and there is no right way to make them all. There are also different ways to create the same effect. Consequently, there is no orderly way to proceed. Many instructional designers, in fact, don't always function their best by proceeding in a step-by-step progression. The following sequence of steps, however, should serve as a general guide to designing an active training program.

a) Assess the Need for Training and the Participants

The first step in designing an active training program is to determine what, if any, training need exists and to find out as much as possible about the participants who will be affected. If this information cannot be collected prior to training, assessment activities should be incorporated into the beginning of the program. The more assessment data you can obtain, the better it is for planning, customizing, and modifying a design.

b) Set General Learning Goals

With the assessment data in mind, identify potential learning goals for participants. In general terms, describe their needs in the areas of affective awareness, cognitive understanding, behavioral skill building, real-life problem solving, and on-the-job application.

c) Specify Objectives

Get specific about the kinds of learning you want the participants to experience and the results you want to achieve. Each general learning goal will have one or

more objectives that, when met, will signal accomplishment of that goal. State these objectives in a form that will make them effective tools for managing, monitoring, and evaluating the training.

d) Design Training Activities

Now that the objectives have been clearly and explicitly stated, you design training activities to achieve them. At this stage, it's sufficient to generate the broad outline (method and format) of all the activities you think will be necessary for each objective in your program. List the possibilities in pencil, on index cards, on a personal computer, or in any other medium in which you can easily change, rearrange, or eliminate them.

e) Sequence Training Activities

Play with the order of activities until you obtain a sequence that has a good mixture. Consider which designs are needed for the beginning, middle, and end of your program. Adjust activities to improve the flow.

f) Start Detailed Planning

Now begin working on the details, specifying how to conduct each activity in your overall design. Decide on timing, introductory remarks, key points and instructions, materials, setting, and ways to end.

g) Revise Design Details

Mentally walk through the overall design, visualizing the participants' experience. Revise any details (particularly timing and instructions) so that each activity complements the ones that precede and/or follow it. Delete any designs that now seem unnecessary, impractical, or ill conceived. Develop contingency plans in case time runs short or the group is more or less skilled than you thought, as well as for any other turn of events you can imagine.

g) Evaluate the Total Result

Examine the program to see if it has the eight characteristics of an active training program. If you see flaws at this point, redesign to achieve a better result.

Designing is never static. It's an ongoing process in which you try things out, perhaps making revisions even as the program is being implemented; obtain feedback from participants; evaluate participant performance; and then modify the design for the next time around. The continuing challenges you'll face in designing an active training program are their own reward. The process is creative, exhilarating, and reinforcing, and the outcome is not only something in which you can take pride in but also a real benefit to the people you are training.

12. Conducting an Active Training

An Internet search on best practices for trainers might include the following responses:

- Involve participants in an activity in the first five minutes.
- Frequently check for understanding.
- Be prepared to modify plans based on participant feedback and technical difficulties.
- Use self-disclosure and humor to develop an open climate.
- Listen carefully and match what's happening to the needs of the participants.
- Use a wide variety of learning methods.
- Give participants the "what-why-how" for every training activity.
- Review where the group has been, give an overview of where it's going, and summarize periodically along the way.

Yes, you can build active learning into the design of your program, but it is in the delivery of that program that your efforts are truly tested. As we have already stressed, designing is not complete at the time of delivery. Instead, the delivery phase of a training program is a period of continually adjusting, refining, and redesigning.

Ensuring the successful delivery of a training program is a process that actually begins before the participants arrive. Preparation is one of the most important ingredients for success. Since much will happen during the actual program, you need to make sure that materials and equipment are ready and that the physical layout of the training room is suitable. As the trainer of this event, you need to be mentally prepared as well. Greeting participants, establishing early rapport, presenting your training agenda, and inviting feedback are also important beginning steps.

Once you have connected with your participants, you have the opportunity to lead them through the program. Your credibility as a leader depends on your ability to set group norms, eliminate training time wasters, get the group's attention, win over wary participants, and manage difficult behaviors. This can be a daunting task for many trainers. Fortunately, there are a wide range of techniques to help you gain control and establish yourself as an effective leader of the training group.

The challenge of delivering an active training program is most apparent during the middle section of the program, where the majority of your content is covered. Here, you have two different roles as a trainer: as a stimulator when you give presentations and lead discussions and as a facilitator as you guide participants through structured (and often team-based) activities. At this point, your success will depend upon how well you present information, lead discussions, direct participants through exercises, and make effective transitions from one event in the program to another.

Concluding a training program can be as difficult as beginning one. Among the key skills are how you review the program, handle remaining questions, guide back-on-the-job application, and end on a celebratory note.