

Toward a social responsibility theory for educational research (in lifelong learning)

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Toward a social responsibility theory for educational research (in lifelong learning)

Abstract

This article is about educational research (not) mastering the values for decision making and change. The main issue is the yawning gap between theory and practice in educational research exemplary in a professional field like lifelong learning. At the start of the article a variety of types of research is presented to show the differences of orientation, process, methodology and goal or focus. Next the issue of the existing gap between theory and practice is approached by contrasting exemplary the two extremist types of research: the traditional empirical-analytical and the action research paradigm. Workers within these two opposite paradigms are passionate researchers, lecturers or practitioners but do have different epistemological assumptions and beliefs and moreover feel committed to different professional and scientific or academic responsibilities. Following this reasoning subsequently the need for a social responsibility theory to bridge the yawning gap between theory and practice is discussed thoroughly. Does a theory transcend the affective separation between researchers from the two extreme paradigms. But is there a perspective for such a theory?

Introduction

For some years now I'm working together with colleagues devoted to action research (AR). And ever since now and then my academic belief system seems to suffer from stress. Why is it I ask myself, that I feel uncomfortable when these colleagues talk most of the times in a rhetorical manner about their own or others' scientific beliefs and assumptions?

To cope with and to learn from my concerns the focus in this article is on the origin of these feelings located in the yawning gap between theory and practice in social sciences in general and in educational sciences in particular. Most traditional academic educational scientists do prefer to embrace the natural science paradigms while more practice oriented scientists are like my colleagues devoted to more or less value and change directed research. Badley (2003) identified this as crisis in educational research and summarized the causes of it as false dualism, false primacy, false certainty and false expectation. The meaning of these four causes will be explained further on. At this point these observations led to the following two dominant questions to be answered in this article: 1. (how) can the gap between theory and practice in educational research and sciences be bridged for the benefit of useful and productive cooperation of the researchers, lecturers and practitioners dedicated to different scientific paradigms in particular the two extremist paradigms of traditional empirical-analytical research and action research respectively and 2. how does a social responsibility theory in educational sciences look like and contribute to this cooperation?

At the start of this article I will take my own present educational discipline, namely the professional work field of lifelong learning within pedagogical sciences as exemplary to illustrate these questions and answer them well-considered and moreover relevant for theoreticians as well as practitioners. The professional work field of lifelong learning concerns a pedagogical (sub)discipline that studies and supports the learning and development of adults to become on the one hand 'good' citizens of communities (societies) or on the other

hand ‘good’ workers in organisations (Jarvis, 2007). The idea behind the broad and in a sense rhetorical ‘lifelong learning’ concept is to take away societal, organizational and personal barriers against learning and development for change. The society changes continuously under the influence of economical, technological and social developments. Organizations are also developing permanently to stay contingent with their external and internal environment. This implies that adults in their role as citizens as well as in their role as (future) employees have to adapt their behavior all the time to keep up with the societal and organizational developments and constraints. So the learning and development of adults during the lifespan is not an isolated thing; to figure out and understand lifelong learning a contextual practice oriented scientific research approach seems therefore convenient or even a necessity (Jarvis, 2007; Illeris, 2007).

In the perspective of Europeanization lifelong learning is a challenging issue. Since 2000 the European Commission has made lifelong learning the core element of their policy strategy central to competitiveness and employability as well as to social inclusion, active citizenship and personal development. Nevertheless this strategy, both the practices of lifelong learning and the research approaches of lifelong learning show enormous dissimilarities across European countries. This makes European research-based policymaking extremely difficult. So the crisis in educational research (Badley, 2003) is very likely in the Europeanization processes of lifelong learning. To get insight in the crisis in educational research (in lifelong learning) in this article at first it is a basic necessity to understand well the general controversies in research methodology and approaches. Secondly, in this article the need for a social responsibility theory is discussed as a way to bridge the persistent gap between theory and practice, and the related epistemological oppositions. In the European perspective of lifelong learning these two central issues have been leading to seemingly

unresolved rhetoric debates among researchers, lectures and practitioners coming from different worlds of practice and research.

This article consists of four parts. In the first part four types of research (in lifelong learning) are differentiated and described. Next theory based and practice based research are separated by opposing two extremes, namely action research and the classical scientific and main stream (experimental) research. The second part of the article starts with the question whether the rhetoric debate about these extremes is not in essence about different incompatible epistemological theories. This part progresses by comparing the extremes of (educational) research in an epistemological theoretical way. The outcome is again a contrast, namely between measurement of knowledge and (social) construction of knowledge and the accompanying (un)certainly of knowledge in addition. In the third part of the article the focus is directed at the meaning of scientific (educational) research in the world, in particular at the worldviews that characterize the two extreme research approaches. At this very instance then the social responsibility of science in society enters the scene of the discussion. Is the responsibility of (educational) science horizontal or vertical (transcendental)? Finally, the article ends with part four in which the position is taken that motivational and emotional aspects (personality) of the researchers makes them sensitive to preferences in one or the other direction. Suggestions are done to recognize and overcome these preferences and to work together in research as well as practice by using the concept of 'closer to truth than' within a constructive realistic approach of science.

PART ONE

Types of research (in lifelong learning)

At a very general level the spectrum of academic or scientific research (in lifelong learning) can be differentiated in four types. These types of research differ with respect to the characteristics: orientation, process, dominant methodology and goal (or focus)(see table 1). Next the state of affairs of each type of research will be discussed shortly on the basis of experiences with lifelong learning research.

Insert Table 1

Hypothesis testing research

This type of research is theory driven. The empirical cycle is used meaning that hypothesis are formulated, empirical data are collected and the hypothesis are statistical tested. The results of this type of research are focussed on understanding the causality or relationships in reality and to produce knowledge in this sense. This type of research can hardly be found in the field of lifelong learning, however, there are examples of hypothesis testing research in the work domain of corporate education or Human Resource Development (HRD). For instance it may concern hypothesis testing research of psychological models that study the motivational processes around work(place) related learning of employees (Rowold, 2007).

Descriptive research

Descriptive research is almost always problem driven focussing on fact finding. Although descriptive research does not immediately contribute to theory building, it is still scientific

because the empirical-analytical rules of objectivity, verification and replication are followed. Literature reviews - a historical topic belongs to the options then - have a typical descriptive character but also research that identifies the participation rate of adults in different lifelong learning contexts is an example. For instance: in the Netherlands low educated men participate in lifelong learning to a lesser extent than high educated men (Fouarge, Schils & de Grip, 2010). Why this is the case is not a question that can be answered by descriptive research.

Design research

This type of research is by definition problem driven. It follows the regulative cycle in which the design problem is formulated and a solution (to use) is developed. The solution has the form of an instrument or a tool like a certain procedure, a test, a protocol, a guideline or a technique. Finally, the instrument or tool is tried out and the usefulness and effect of it is evaluated. Design research may use empirical-analytical methods (for instance psychometric tests) but also case studies (protocols and guidelines). Design research produces prescriptive knowledge (tool or solution) but most of the time does not answer the question why this knowledge produces the outcome to a problem (Aken, 2005 in Andriessen, 2008).

Intervention research

Finally, intervention research is problem driven and two-sided. First, on the one hand the object of much intervention research is evaluation meaning it shows the extent to which the goals of an intervention are reached (effect-evaluation). These effects concern the results as well as the process of the intervention. Sometimes effect-evaluation of an intervention is directed also on some kind of hypothesis-testing. Second, on the other hand the object of intervention research focuses on the actual implementation of some kind of (social,

educational or medical) intervention to change the situation. This kind of research is directed at change. Often it has the character of participative action-research. In this methodology of research the progress and outcomes are constantly forwarded to all participants. In educational, social (change) practices and health practice and systems this methodology is used a lot and also is well accepted and valued. So for instance Koch and Mann (2008) used storytelling to share chronic illness experience and to contribute to self care and self management of people suffering from diabetes.

Driven by theory or practice

The four different types of research make up an ordered continuum with at the beginning and the end types of research that are very different from each other in nature. These ends of the continuum represent the gap between theory and practice in educational research very well with at the extremes the methodology of classical experimentation within the hypothesis testing type of research and action research within the intervention type of research. These two methodologies for research therefore will be presented, compared and elaborated in this article extensively. But beforehand it is necessary to clarify the concepts of theory and practice in itself. Recently, Eikeland (2008) used Aristotelian concepts and ways of knowing fruitful to figure out the gap between theory and practice driven research.

Insert Table 2

With the table 2. above he summarized the relation between theory and practice pithily. It illustrates the difference between the theory based and practice based research. In theory

based research, with the affective addition of ‘speculation’ by Eikeland, techniques and methodology are used to come to practice respectively normal science. Practice based research on the contrary use careful and often lengthy consideration of subject(s) on the practice to come to theory by further dialogue, immanent critique and reflection. It is important to keep this difference in mind in the next paragraphs.

Finally, it should be mentioned also at this place already that Eikeland (2008) emphasized that in main stream ‘normal science’ subject and object are absolutely separated, while in practice based action research the inter-subjectivity is an important aspect of knowledge creation. In normal science the techniques and methodologies separate the subject from the object (the researchers from the researched). The reason for this is that in normal science the ethical (scientific) concepts of objectivity and universality are extremely important while in practice based (action) research a different kind of ethical concepts, like participatory democracy, empowerment and social justice, for knowledge production and not for scientific reasons play an important role (see in this respect extensively Boog, Preece, Slagter and Zeelen, 2008). The already mentioned Badley (2003) called this apartheid *false dualism* “that divides positivist and constructivist researchers with positivists believing in objective reality and constructivists arguing that reality is a social construction” (p. 296).

Comparing action research with main stream research

Reason and Bradbury (2001) give in their introduction of the *Handbook of Action Research: Participative Inquiry and Practice* right on the first page an extensive working definition of action research. “Action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment.see action research as a practice for systematic development of knowing and knowledge, but

based in a rather different form from traditional academic research – it has different purposes, is based in different relationships, and has different ways of conceiving knowledge and its relations to practice”. Within this definition Reason and Bradbury contrast action research, like Eikeland (2008), with the normal science tradition in social sciences. Moreover in the additional remarks on this definition they give input to three important differences between the academic research and the action research methodology within (educational) sciences.

The first difference concerns the interest of AR compared to the interest of general academic research in social sciences. In the cited work definition Reason and Bradbury formulate that AR develops practical knowledge in the pursuit of worthwhile human purposes. This in essence is of course not straightforward a difference with the main stream academic research approach because the latest develops (practical) knowledge for (worthwhile) human purposes too. There are, however, many action researchers that go further than Reason and Bradbury in their interpretation of this main interest of AR. Some of them even deny any form of epistemology because for instance to them AR: “..... is a political practice challenging not only the idea of oppression through control of material production but also domination resulting from control over means of knowledge production (including) the social power to determine what is valid or useful knowledge” (Rahman, 1993 in Lundy & McGovern, 2006, p. 51). Such a politically devoted perspective on the interest of AR can hardly be connected with the primarily truth seeking interest of let us call it the materialistic and rational scientism in general. Academic researchers within this scientism recognise that science in itself is not value-free but they will never hesitate or stop to stress the importance of well considered methodology and design at least to reach for a minimal but significant amount of objectivity and universality.

Secondly, the definition of knowledge or knowing differentiates AR from traditional academic research strongly too. The problems of normal science with *knowledge* are -

although in social sciences often hard to grasp - about methodology and measurement and the 'objectivity', 'validity', 'reliability', and 'universality' of results. In AR these problems seem not to be on the agenda that strongly because for action researchers *knowing* is in a sense always a process between the stakeholders. Knowledge is permanently under social construction. Knowledge is the outcome of a democratic and participative process; shared inter-subjective experiences make knowledge work. And as Eikeland (2006) suggests the major (ethical) problem for action researchers to cope with seems to be the not existing insider's investigations standards. This means that the problem with action research is the regulation of the subject-subject relationships between researchers and researched. Although action researchers mostly prefer the use of qualitative methods (case study and interview) they themselves do not emphasize the interpretative and objectivity problems of these techniques, because knowledge is constructed between the stakeholders and participation and democracy are the cornerstones of the solution of these problems. So they emphasize instead the ethic and (scientific) legitimisation of the quality of their research or in other words the social value base of their science approach (democratic and participative, and social practicality of outcomes). This value base lies in the inter-subjectivity of the research processes and the authenticity and learning of all participants (investigators included) within these processes. And so the outcome is knowledge for the sake of direct use not knowledge with the idea of some kind (universal) of truth.

Thirdly, the different main focus of both research approaches which is closely connected with the two previous described differences. "It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities" (Reason & Bradbury, 2001, p. 1). In this quote Reason and Bradbury are clear about their idea that AR is focussed on a particular kind of practicality of

the research results for individuals as well as groups of people in real social life. In contrast one can defend that empirical-analytical research for the sake of explaining reality directs to a large extent on discovering relationships between constructed concepts behind reality. In this respect ‘understanding of reality’ is the first and main focus of rational scientism. So, this kind of understanding does not only holds for physics or other so called natural sciences but also for the main academic stream of educational sciences. The understanding of individual and social reality based on some speculated (Eikeland, 2008) theory is the start of and input for further well-considered knowledge production (theory-driven) and sometimes application too. The content of the (presumably objective) knowledge from traditional academic research, however, is indeed in contrast to the knowledge from AR by definition not about how do we value and decide about change in the behaviour and reality of peoples and communities to solve all kinds of daily life practical problems.

The differences between the main stream empirical-analytical ‘normal’ educational sciences and action research in education and health are recently reformulated extensively at various places in *Towards quality improvement of Action Research: developing ethics and standards*. edited by Boog, Preece, Slagter and Zeelen (2008) and well reflected on with “..... However, action research should not only serve practice. At the same time action researchers have a responsibility to be transparent and accountable at all steps taken in the research process. Scientific legitimisation, embedded in a specific epistemological approach, is needed to secure the claim that action research is part of the landscape of social science research” (Zeelen, Slagter, Boog and Preece, 2008, p. 2). This reflection shows very well what Badley called *false primacy* the second cause of the crisis in educational sciences. “False primacy is the view that the positivist paradigm has come to dominate research to the detriment of more open, pluralistic and critical reflective approaches” (Badley, 2003, p.296).

PART TWO

Different epistemological theories?

The differences between mainstream social sciences research and action research described in the preceding paragraph illustrate the epistemological contrast between the two research paradigms. As noted already Eikeland (2008) emphasized that normal science is theory driven while action research is practice driven. An implication is that in action research the objects always are subjects. Zeelen et al. (2008) add in this respect that the subject-subject relationship between researcher and researched in action research stresses the ethical aspect of it meaning: “Interactions in the research process between researcher and researched are seen as dialogical and cooperative, since they are embedded in the ethical concept of fully democratic society acting for social justice and sustainability” (p. 3). The argumentation for this different epistemological position finds its basis in what are called ‘the linguistic turns’. Tromp (2008) described these turns in social sciences clearly by the following five steps:

1. In the orthodox consensus period (till the end of the 60’s) the naturalistic view on science in social reality dominated as a model. ”Consequently, the principles of objectivity and generalizability are considered to be the most important criteria” (Tromp, 2008, p. 10).
2. The first linguistic turn meant that in contrary to the orthodox consensus “Truth was no longer considered a feature of the research object itself, but seen as a characteristic that linguistic beings ascribe to things around them” (Tromp, 2008, p. 11). The philosophy of science then was concerned with the correctness (validity) of the interpretation of reality of scientists. Still the idea was that with perfection of language true claims about reality could be claimed in a rational manner.

3. The second linguistic turn, however, left such perfection of language as possibility behind and focuses on “.....concepts and notions that participants in a certain field themselves regard as meaningful. To find out how this works and what is ‘rational’ for them, we have to find out what language game they participate in” (Tromp, 2008; p. 11). This implies that rationality encompasses the practical level and depends on contexts, domains and time frames. Language and reality are extensions of each other.
4. The next hermeneutic turn considered the impossibility to separate language and reality. So expressing ‘truths’ about social life through descriptions of reality by social actors (researchers too) is part of the reality and not separated from it. “If we want to gain *insight* into the ground structure of human existence itself, understanding (‘Verstehen’) is supposed to be the *ultimate* method to reach this insight” (Tromp, 2008; p. 11, both italics mine).
5. The final turn was a pragmatic one. This turn “abandoned the determination of the objective relation between our language and reality as an aim of scientific knowledge creation altogether” (Tromp, 2008; p. 12). So: “.. there is no independent objective instance of authority that gives exclusive access to the real reality, all we can do is rely on our existing knowledge and the critical discussion surrounding the knowledge ‘data base’. Scientist can do no more, but no less either, than convince their fellow-scientist of the validity of the claims they bring forward about reality. For there is no other ground for their beliefs and practices than that these are generally accepted by the scientific community of which they are member” (Tromp, 2008; p. 12).

The extensiveness of these quotes from Tromp to describe these turns is necessary to show and understand the argumentation (rationality) behind these in the end social constructivism beliefs on research and social sciences. In essence the argumentation doesn’t bridge the gap between practice and theory but legitimizes a different scientific language game in a more or

less from mainstream social sciences separated community of scientists that prefer to engage with what they call their reality namely practice. Moreover the argumentation focuses on the creation of some kind of knowledge by all kind of actors in reality. In a way this argumentation is similar to Badley's third *false certainty* cause of the crisis in educational research. "False certainty is the argument that in an increasingly complex and uncertain world researchers have retreated to a reactionary position in order to shore up the dominant paradigm" (Badley, 2003, p. 296).

Following the argumentation of Tromp the traditional mainstream 'natural' paradigm and the action research within social sciences are indeed based on different epistemological theories. Hofer and Pintrich (1997) emphasize "the important issues of the definition and delineation of construct of epistemological beliefs and thinking" (p. 133) in education and learning. For the reason of the existing gap between theory and practice it is now time to discuss the epistemological beliefs and thinking in educational sciences.

Educational research in an epistemological theoretical perspective

Based on a number of research programs that have investigated students' thinking and beliefs about knowledge and knowing Hofer & Pintrich (1997) proposed the construction of an epistemological theory consisting of two general areas, namely nature of knowledge and nature of knowing. Within both areas there are two dimensions each. These four dimensions are: certainty of knowledge and simplicity of knowledge under nature of knowledge respectively, source of knowledge and justification for knowing under nature of knowing. The first area of the nature of knowledge "is viewed as a developing understanding that moves from the view of knowledge as absolute to a relativistic view and then to a contextual, constructive stance" (Hofer & Pintrich, 1997; p. 119). In this line *certainty of knowledge* is the degree to which knowledge is seen as fixed or as more fluid. The *simplicity of knowledge*

goes from (accumulating) discrete facts to highly interrelated contingent and contextual concepts. The second area concerns beliefs about the process by which one comes to know. The dimension *source of knowledge* starts with knowledge originating outside the self, transmitted by an authority and ends with active construction of knowledge by the knower self. The position in between concerns the construction of knowledge as an ability in interaction with others. The last dimension *justification for knowing* includes the way people evaluate knowledge claims. “They move through a continuum of dualistic beliefs to the acceptance of multiplicity of opinions to reasoned justification for beliefs” (Hofer & Pintrich, 1997; p. 120).

At this point it may be of help for understanding the theory and practice gap in educational sciences through comparing classical science with action research on the epistemological theory dimensions proposed by Hofer and Pintrich. The next table is the outcome of this comparison.

Starting with in my opinion the most important dimension certainty of knowledge the epistemological difference between both fundamental approaches is huge. Of course in natural science also truth is not any longer absolute; however, ‘truth’ is tested against chance or coincidence. This testing is actually separated from the claims of the researchers as well as the claims of the researched. In contrast in action research ‘truth’ is the democratic outcome of researchers and researched. Language and dialogue are in this way regulated by actors and the certainty of knowledge is connected with this process and the participants for the time being. Actual reality is the rationality of the knowledge claim of this type of research. The participants in this way claim knowledge by separated collective authority. There argumentation to do so is scientific philosophical based on the linguistic turns described by Tromp, however, within the separated collective authority discussions about ethics and standards seem endless (see at various places Boog, et al. 2008). This should not be

considered as critique but as a description of the actual reality. In normal reality of course all the time situations are not what they seem to be. The scientific question is whether there is some kind of 'scientific' truth behind social reality that really bothers.

Insert Table 3

In the above table 3. differences between normal research and action research on the other three theoretical epistemological dimensions are in a way logical consequences out of the preceding argumentation on certainty of knowledge. One important addition, however, should be made. In essence the idea behind natural but also normal social science is that 'the subjectivity' of all participants is left behind. Of course most if not all social scientist know that in a way this is an impossibility. Nevertheless, they use their methods, define concepts, theorise and work hard on not becoming subjects as researchers. This is the biggest epistemological contrast with action researchers. The topics of what 'rationality' is and whether rationality exists, lies behind this contrast. This topic will be discussed further later on. First it is time to put the role of social science in the world around.

PART THREE

Science in the world around

In line with the earlier described turns of Tromp, Reason and Bradbury (2001) strongly suggest that (social) sciences needs a new view on the world around. They conclude that after

the first modern society with a worldview of a 'real world', linear progress, truth and rational humans (after World War II) and next the post- or second modern society with its concern with 'text', discourse and deconstruction (from 1963 on), there is a need for 'a more creative and constructive worldview'. This worldview should be systemic, holistic, relational, feminine, experiential and participatory: "..... a participatory worldview competes with both the positivism of modern times and with the deconstructive post modern alternative – we would hold it to be a more adequate and creative paradigm for our times" (Reason & Bradbury, 2001; p. 7). It is not difficult in a general and plausible sense to agree with Reason & Bradbury that nowadays the world needs a perspective different from the past modern and post-modern worldviews. However, what makes them decide to chose their favourite: *participatory* worldview which is in line with their preferred action research approach?

In a somewhat different manner also Kunneman (2005) argues from a humanistic perspective that it is a historical moment to develop a new challenging scientific theoretical paradigm. In his vision such a paradigm should handle three conditions (p.103):

1. the idea of the independency of nature and the related notions of objectivity and experimental testing should belong to this paradigm;
2. both the factual scientific and technological developments embedded in the post industrial processes of (knowledge) production and the connected power arrangements should be under consideration in this paradigm;
3. the possibility of useful, democratic oriented interaction between the content directed scientific and technological developments on the one hand and value driven perspectives on the other hand should be taken into account also.

Kunneman's challenging scientific paradigm should connect, maybe even integrate traditional (nature) academic science with value driven perspectives. Kunneman recognizes the general problems with (knowledge) production in the (post)modern society and stresses

that the power role of the natural science within it should be marked as part of the problem. In his new paradigm the way out is useful and democratic interaction between traditional science and value driven perspectives. In this respect Badley introduces *false expectations* as the fourth and last cause for the crisis in educational research. “False expectations is the case that governments, especially, are demanding more evidence-based research in order to provide urgent solutions to educational problems” (Badley, 2003, p. 296). Evidence-based research belongs to the type of design research as well as that it can be used within intervention research (see table 1). However, the value and change driven third point of the paradigm Kunneman proposes, goes further than the evidence-based methodology. It is congruent with the action research idea of the need for a participatory worldview (Reason & Bradbury, 2001). However in Kunnemans view the content directed scientific and technological developments precede independently the interaction with the value driven perspectives while Reason and Bradbury (2001) are reasoning that science and in particular action research in itself is a value driven exercise. These different positions of Reason and Bradbury (2001) and Kunneman (2005) illustrate well the general need or even necessity for a social responsibility theory in (social) sciences.

The need for a Social Responsibility Theory?

Kunneman emphasized the necessity of a new scientific theoretical paradigm to solve the huge problems of our time. In social sciences studying individual humanity, social behaviour and communities in particular such a necessity seems to be the case in particular. A social responsibility theory is needed because social and educational sciences have a responsibility beyond making scientific or practical (valued) knowledge and being accountable not only to the researchers themselves and their consumers (costumers) of research, but to all kind of stakeholders, including communities, societies and the environment. At least such a theory

may recognize the problems action researchers experience with the traditional scientific academic approach and Kunnemans suggestion for a new scientific paradigm. On a general level there are three different kinds of theories (and conceptualizations) of the social responsibility of organizations or communities – as the entity of science can be seen – available. These theories are earlier described and used by Hatcher (2002) and Frederick (1999) in relation to corporate social responsibility.

The first one concerns *legitimacy theory*. The social network of universities historically embraced the rational scientific culture. This academic legitimacy implies that in particular traditional scientific behaviors within universities became valuable and ritualized over time (Latour, 1987). When it concerns questions of nature there is nothing wrong with the traditional scientific paradigm; this is in agreement with Kunneman's conditions for a new theoretical scientific paradigm. However, the classical scientific approach is - despite all kind of opposition during the sixties and seventies of the last century not only from the side of action research - still very dominant within the educational sciences (and other humanities). The classical scientific rituals persisted even when there is lose of pragmatic and practical value especially when it concerns topics of social science that are related with ethics, or values and change. From the perspective of legitimacy theory the probability that the rational scientific culture of the educational sciences will collapse is rather small. Not the least because in the educational (and social) sciences academic world a generally recognized or respected alternative for or accepted adaption of the traditional scientism is not visible or foreseen.

The second theory - the so-called *contingency theory* - suggests that social sciences or the leaders of science educational research institutions should develop strategies and structures to fit more with certain social and/or cultural issues of the society. Educational sciences should do or plan on doing what society expects them to do or plan on. But why

should they handle like this? Such a fit should be based on maximizing 'profitable' knowledge production or the survival of the educational sciences in the academic context and the society as a whole (Hatcher, 2002). These reasons for educational sciences contingency with societal issues are under stress in advance. Contingency theory indeed in a way could bridge the gap between the theory(building issues) and the practical and societal relevancy and validity of academic knowledge production. However the academic research tradition within universities has its own legitimacy and profitability of (theoretical) knowledge production. Moreover, the second contingency reason mentioned 'survival of the educational sciences is hardly an issue at all in the temporary times (like in the sixties and seventies of the last century).

The third and final responsibility theory is *transcendental theory*. Transcendental theory is concerned with human consciousness or the awareness of us in relation to our existence, our world and our 'believe of reality'. In the next paragraph the transcendental theory is described and discussed because this theory explains in some respect the opposition between traditional scientific research and action research and also may give input to a way out of the dilemma.

A portrayal of man(kind): development of consciousness

Human consciousness is an awareness of man(kind) in relation to existence; what we *believe* is our reality. The transcendental theory is a stage theory of human development. The origin of the theory lies in Maslow's hierarchy of needs. According to Beck and Cowan (1996) next Graves grounded an extensive theory of human consciousness. Akin to the hierarchy of Maslow the levels of consciousness start at a basic level of survival and progress finally to the levels of integration and holism. In recent years Beck and Cowan (1996), Wilber (2000) and Marrewijk (2011) elaborate the psychological work of Graves further. The transcendental

theory is concerned with thinking tiers or human levels of consciousness; these levels are described in the following table 4.

Insert Table 4

Csikszentmihalyi (1993) uses the word ‘memes’ to contrast with ‘genes’ in identifying the origins of human behaviour as opposed to physical characteristics (in Beck & Cowan, 1996). Memes are psycho-cultural ‘DNA’. In the *Evolving Self* (1993) Csikszentmihalyi notes that memes are developed, “when the human nervous system reacts *over and over again* (italic text added by the author) to an experience” (in Beck & Cowan, 1996). “A meme transposes itself into a world *view*, a value *system*, a level of psychological existence, a belief *structure*, organizing *principle*, a *way* of thinking, and a *mode* of living” (Beck & Cowan, 1996). In Graves conception each level (meme) represents the core intelligence that exists in individuals as well as in groups, organizations or society at-large (according to Beck & Cowan, 1996, p. 29-30). There is a sequence in time (individual and collective lives) with different worldviews and portrayals of man(kind) – with different answers to always the same questions: why are we here, what are we, what is our destination?

Is the responsibility of science horizontal or vertical?

In contrast to the legitimacy theory and the contingency theory transcendental theory gives sight on a meta understanding of human consciousness and behaviour. A simplistic view at the transcendental level theory learns us that in our developing modern and post-modern times in general science (of nature) grew out of the human consciousness level ‘spiritual

conformism' into the level of 'rational scientism'. So in social sciences starting in the seventies the action research paradigm opposed the rational scientism for different practical and pragmatic reasons to enter the level of 'human potential and community' and they oppose the rational scientism of traditional social sciences this way still nowadays.

The Dutch poet Komrij reminds us that a human being sometimes can ascend as much as he wants, but he will be as a bird with crude iron wings. Although every worldview starts with knowing and understanding the human condition in itself, what humans cannot do ever is to pass their own limitations in this respect. In 1972 already Bateson emphasizes that our self-awareness given by the brains limits our collective and individual understanding and interpretations of reality. This idea brings us to the irrefutable distinction between old 'explanation' of Nature (*Erklären*) paradigm and the new 'understanding' of Spirit (*Geist*) paradigm (Kristensson Ugglå, 2008). And indeed in a way the traditional empirical science only brings us coldness of facts, while action research at least also focusses on promising future improvement and development. This difference between horizontal thinking respectively vertical thinking is central to the two extreme scientific methodologies discussed. Fundamental to this difference is what Damasio (1999) calls *Descartes' error*. He shows us that thoughts and feelings (rationality and emotionality) are always interwoven in consciousness. That's why in our daily individual as well as social life pure rationality is far away in many behavioural instances. That's also why traditionally science explicitly copes with the issues of objectivity, validity and universality. Or as Dijkgraaf (2006) puts it: "Modern science should try hard to suppress fantasy and to break through self-suggestion". However of course social sciences in particular educational science is often confronted with human issues of belief and value. Then questions are raised that rational science can try to answer, but we intrinsically know that academic science in itself can't decide on belief and value questions (for this reason evidence-based research entered the scene). Nevertheless,

there are even authors, like the British theologian McGrath who goes further than belief and value questions. He raises bigger questions, like what purpose there is to life? In this way he is mixing science with religion. In the favour of Nature Theology his idea is to prove the existence of God through the study of nature (Groningen University Journal, 2009). Action research does not go that far but focuses in a participative and democratic way on belief and value questions indeed, by disregarding the natural aspects of life from their research. This illustrates well the different worlds (views) of both research extreme methodologies, the according paradigms and the epistemological grounding theories. It also illustrates again the difference between horizontal and vertical thinking. The discussed transcendental social responsibility meta-theory belongs to the vertical thinking .

PART FOUR

The never ending quest

At the beginning of this article two questions were highlighted. The first question was: (how) can the gap between theory and practice in educational research and sciences be bridged for the benefit of useful and productive cooperation of the researchers, lecturers and practitioners dedicated to different scientific paradigms in particular the two extremist paradigms of traditional empirical-analytical research and action research respectively? And the second: how does a social responsibility theory in educational sciences look like and contribute to this cooperation? At this moment in the discussion a point is reached to formulate tentative answers to these questions.

To start with bridging the gap between theory and practice in educational research. This gap can and will only be bridged conditionally if researchers from the measurement

knowledge paradigm and researchers from the construction knowledge paradigm are able and willing to overcome their rational as well as emotional preferences and do not fall into old mistakes through articulating their pro-occupations with *quantitative* respectively *qualitative* research. However, this is not enough. All kinds of researchers have to explain to educational practitioners the ins and outs of their preferred methodology and the accompanying (un)certainty of knowledge. Still this may not be enough. Both researchers and practitioners should, if they want to work together sustainably, be(come) aware of the well-known humanistic observation that 'facts are not able to take away somebodies believe' as the Dutch polemist Karel van het Reve expressed it once. And moreover also be aware that most people share the opinion that truth is something that you have to experience intrinsically (Giesen, 2011). Or as Knausgård (2011) formulates it somewhat differently: "there exist two approaches of consciousness; one is based on thoughts and reasoning, the other on feelings and experiences and both are deprived of the others insights despite their mutual closeness" (translated from Dutch; p. 212).

If educational and social scientists really have the intention that the gap between practice and theory should be bridged, the worlds of practice (constructing knowledge?) and classical scientific theory (measuring knowledge?) should be working together and should not be willing to oppose each other any longer. Educational research and science with the object of lifelong learning (individual human and social life and living together) - asks for working from both directions. It is not one way or the other; it is both ways. So at this point in social (educational) science history it is my belief that there is a necessity of the development of social sciences coping with the natural world of human beings (biology, brains etc.) as well as their world of motives and emotions responsible for the value driven decision making and change in practical reality of individuals, groups, communities and society as a whole.

What does this all mean in a practical way and how does social responsibility theory in this respect look like? This means firstly that the traditional (nature) science explicitly goes about truth and secondly that it is up to ethics or politics to understand the wants of people to decide what is good for the future or not (change)(Van der Waal in Groot. 2012). Only when this separation is taken consequently and for granted the crisis in educational scientific and professional research can and may end eventually. The gap between theory and practice is then bridged through respect and understanding the others position not by debates and discourses about their own or the others position with respect to truth.

The question of the responsibility of (educational) science

As stated before the described levels of consciousness in transcendental theory are an expression of “a world *view*, a value *system*, a level of psychological existence, a belief *structure*, organizing *principle*, a *way* of thinking, and a *mode* of living” (Beck & Cowan, 1996). Both Reason and Bradbury (2001) and Kunneman (2005) recognize that in our times with respect to the individual and collective human condition social sciences (in general and educational sciences in particular) need another scientific paradigm. However, their ideas how to approach this topic is somewhat different. Reason and Bradbury choose an intervention research methodology and accompanying worldview to overcome their dissatisfaction with traditional academic research. On the contrary, Kunneman puts together in a new scientific paradigm the traditional scientific approach of nature and adds to that useful democratic interaction between content directed development and value driven perspectives. Following the debate in the preceding paragraphs this is as mixing up science with politics. Science ends with truth and facts. The ownership and use of these truth and facts belong to the free space of the open society in which the scientist is not more and not less a participant. This means that the contingency theory of social responsibility is at hand. The legitimacy theory has been at

hand already within the academic and scientific community itself. Is there a possibility to transcend both these vertical thinking theories? Only at a meta level as has been shown, discussing the transcendental theory of social responsibility. But with such a meta theory another sort of discourse enters the scene; like Reason and Bradley as well as Kuhn already did in their own manner. This discourse is about the question what truthful and objective knowledge is and how that knowledge can be obtained. In the history of traditional Western intellectual culture in essence these foundations of traditional academic scientific knowledge has been challenged more than once, however, “about the factual idea that something like truth exists and that knowledge in this respect can be recognised, has not been discussed or denied” (translated from Dutch; Bolkestein, 2011; p. 205; see also Berlin, 1991). Against this idea the postmodern (Foucault, Derrida) philosophy of chaos (see also earlier citations of Tromp, 2008) and the Romantic counterculture of the sixties and seventies struggled, but, in the end this didn't really bring different views about the essence of scientific knowledge (Bolkestein, 2011).

Using rationality and emotionality for human well-being: constructive realism

Contrary to the extensively earlier cited Tromp, in this article the difference between ‘normal’ educational science and the action research approach within it is not interpreted as a matter of different ‘rationality’ between the two because of the linguistic turns. The linguistic turns nevertheless represent a kind of rationality (thinking) to legitimise action research to be part of reality even as a scientific activity. A kind of optimistic pragmatism and belief in human sociability and freedom of choice (Habermas, Dewey) are dominant in the consciousness of the researchers (and science philosophers too) who ‘like’ this type of research more than any other type. But at the same time extreme normal scientists in educational sciences legitimise the objectivity of their research approach in a ‘rational’ manner to understand the nature of

human condition in itself (Darwin, Freud) because they ‘like’ a somewhat pessimistic and deterministic human realism and to prove it with figures and data over and over again. This contrast in the extremes of educational science types of research seems consistent with a sort of prediction made by Horgan in his book *The End of Science*. In the final chapter of the book he connects the raise of natural scientific theology with the end of machine like science (Horgan, 1996, p. 249; see the earlier mentioned theologian McGrath as an example).

Is there a way out of the dilemma between the different approaches of truth finding in social sciences, and not leading to the linguistic chaos and crisis in educational (lifelong learning) science? The Dutch philosopher in science Kuipers (2010) shows us the direction. He introduces the notion “closer to the truth than” (p. 7). “A typical example of closer to truth is the following. It may be that the evolution theory of Darwin is not the truth in certain aspects, but there are many empirical reasons to assume that this theory is closer to truth, even much closer, than the so called Intelligent Design theory” (p. 8). According to Kuipers (2010) the notion closer to the truth than, is not only useful in the approach of theoretical truth finding but also in the approach of the truth of descriptions . In both instances theory (to explain) or descriptions (to know; see table 1) are closer to truth if more assertions are empirically right. In this manner practice enters science and research by *constructive realism*. This may in some instance lead to pessimistic meta-induction (Laudans, 1984, in Kuipers, 2010), but Kuipers replies to this objection that “this realism has a different orientation, namely comparative and constructive” (p. 16). In this way Kuipers agrees with the earlier mentioned Bolkestein and also Berlin that truth about reality does exist. To Kuipers this idea is based on three realistic beliefs: “Firstly, truth is the product of language and reality. When language constructs are made, reality shows what is the truth or not. Secondly, science uses empirical findings efficient to design more useful constructs and vocabularies to describe and understand reality. ... Thirdly, by searching for theories with more empirical success,

science approaches regularly practice” (p. 16). Kuipers constructive realism at least has the intention to bridge the gap between theory and practice; moreover his constructive realism is a clear example of horizontal thinking.

Also in science, the language enables us to communicate and to separate and understand the phenomenon of the reality we part of. Since Descartes in Western-society thoughts (cognition) and feelings (emotion) have been separated as though rationality is better than emotionality. Of course this is wrong in essence. And Damasio and others nowadays tell us that in the brain there is no such preference at all. Thoughts and feelings are interwoven all the time and both have value in themselves. Even stronger, all human behaviour starts with some kind of emotion or physical stamp as Damasio (1999) likes to call it. But, nevertheless, in daily life engagement between educational researchers and practitioners professionalism means that scientific ‘rationality’ should dominate communication and interaction. So, in particular educational (lifelong learning) science, which is of high (political) interest to all levels of society, cannot and should not exclude this aspect of the human condition itself by using action research legitimised as a different rationality (epistemology). The rationality behind the arguments is in itself indivisible. The emotionality behind it may of course lead to differentiations in the colours of the arguments (assertions). For this reason bridging the gap between different epistemological contrasts can only be a matter of inventing or renewing the responsibilities of educational sciences with respect to theory and practice and bringing them together again meaning understanding together the rationality and emotionality for human well-being behind it. In a way this is what Badley suggests to be the pragmatic approach. The pragmatic approach, which transcends natural science and value driven action research, “.... is a kind of useful if temporary equilibrium amongst the community of inquirers” (Badley, 2003, p. 296). The use of the expression ‘closer to the truth than’ may help to let such a pragmatic approach become a constructive realistic scientific one. This approach implies a

social responsibility for researchers as well as practitioners, namely to renew their rational and emotional divers engagement with science in the direction of open-mindedness to others' assertions, and at the same time an unconditional commitment to the existence of sustainable truth.

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Type of research	Hypothesis testing	Descriptive	Design	Intervention
Characteristic				
Orientation	Theory driven	Problem driven	Problem driven	Problem driven
Process	Empirical cycle	Non-cyclic	Regulative cycle	Regulative cycle
Methodology (dominant)	Experimentation, regression and correlation	Case study, (historical) description, interview and survey	Needs assessment and evaluation, evidence-based, case study	Evaluation, action research, evidence-based, case study
Goal	Explanation (to understand)	'Facts' (to know)	Tools (to use)	Development (to change)

Table 1. Characteristics of four different types of research.

Directedness 	C. Practice directed	D. Theory directed
Basis 	(change)	(speculation)
A. Theory based (speculation)	Techniques	Normal science
B. Practice based	Deliberation	Dialogue, immanent critique, reflection on practice

Table 2. Theory- and practice-driven reaserch according to Eikeland (2008).

Paradigm 	Normal natural research	Action research
Epistemological theoretical dimensions 	(explanation)	(change)
Certainty of knowledge	Statistical truth	Inter-subjective truth
Simplicity of knowledge	From simple to complex (conceptual defined)	Contextual valued concepts (change directed)
Source of knowledge	Measurement techniques	Experienced by actors
Justification of knowledge	Rational scientism	Social-rational research (constructivism)

Table 3. The epistemological theoretical differences between 'normal' and action research.

<i>Level of development of human consciousness</i>	<i>Human consciousness is based on</i>	<i>Time and the homo sapiens (hs)</i>
1. basic or instinctual survival	... instincts to seek food, water, warmth, sex, shelter and safety.	100,000 yrs ago hs <i>survivalus</i>
2. animism and mystic kinship	... tribal bonds, ancestral lineage, magic, ritual and superstition.	50,000 yrs ago hs <i>mysticus</i>
3. mythic egoism	... ego, hero image, mythical and powerful beings, gods, good and evil forces.	10,000 yrs ago hs <i>exploiticus</i>
4. spiritual conformism	... conforming to severe, righteous fundamentalist codes of right and wrong, paternalistic and hierarchical.	5000 yrs ago hs <i>absoluticus</i>
5. rational scientism	... logic, rational, and scientific thought. Individualistic, seeking truth and meaning through objective science, system approach.	1000 yrs ago hs <i>materialisticus</i>
6. human potential and community	... growth and potential, ecological sensitivity, and community development. Interdependence with the ecosystem, bio and cultural diversity.	150 yrs ago hs <i>humanisticus</i>
7. coalescence and knowledge flexibility, naturalness, practicality, knowledge, and competence	50 yrs ago hs <i>integratus</i>
8. unified theory and consilience holistic universal systems, single consciousness, new spirituality	30 yrs ago hs <i>holisticus</i>

Table 4 The first two columns are from Beck and Cowan (1996) (in Wilber (2000)), the third one from Beck and Cowan (p. 50).