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PRACTICE AS A THEORY OF CHANGE: RESEARCH ON TEACHERS AND TEACHER EDUCATION

La práctica como teoría del cambio investigación sobre profesores y su formación

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Abstract:
Teacher practice research and "practical"/useful knowledge are central to teacher and teacher education reforms concerned with school change. The article examines this research through exploring its social epistemology; that is, to make visible the rules and standards generated about the objects and the processes of change in the research. The analysis is discursive and focuses on teacher research. It argues (1)"practice" is an abstraction about the desired teacher and is not about something "real" that research merely describes. (2) Research is creates "data" as the facts to actualize the abstraction by making teacher into a kind of person. That kind of person is called "professional" whose tasks are to change others- the child, family, and community. (3) The idea of change in the research is ironically about stability that conserves that very structures required for change. This conservatism is bound to theoretically principle of the research that school is a "system", drawing on the biological analogy of an organism that develops and growth. (4) The paradox of the research is also embodied in its comparative system of reason and double gestures. The hope of making the professional teacher and cosmopolitan child inscribes simultaneously fears of the dangers and dangerous populations to that future.

Key words: reform, teacher practice and practical knowledge, social epistemology the politics of knowledge, and social exclusion.

Resumen:

La investigación de la práctica docente y el conocimiento "práctico" / útil son fundamentales para los profesores y la formación del profesorado que se ocupan del cambio escolar. El artículo examina esta investigación a través de la exploración de su epistemología social; es decir, para hacer visible las reglas y normas generadas sobre los objetos y los procesos de cambio en la investigación. El análisis es discursivo y se centra en la investigación docente, argumentando que (1) la "práctica" es una abstracción sobre lo que debería ser el profesor deseado y no se trata de algo "real" que la investigación meramente describe. (2) La investigación es crear "datos", como los hechos para actualizar la abstracción, haciendo del profesor una clase de persona. Ese tipo de persona es llamada "profesional", cuyas tareas se producen para cambiar los otros –el niño, la familia y la comunidad. (3) La idea de cambio en la investigación es irónicamente producida para desarrollar la estabilidad que conserva las estructuras necesarias para el cambio. Este conservadurismo está obligado teóricamente a apoyar el principio de la investigación que concibe la escuela como un "sistema", recurriendo a la analogía biológica de un organismo que se desarrolla y crece. (4) La paradoja de la investigación también se plasma en su sistema comparativo de razón y en dobles gestos. La esperanza de hacer el profesor profesional y al niño cosmopolita inscribe simultáneamente temores sobre los peligros y las poblaciones peligrosas para ese futuro.

Palabras clave: reforma, la práctica docente y el conocimiento práctico, epistemología social, política del conocimiento, la exclusión social.

Introducción

This paper is related to a broader book that I am tentatively entitling “The Impracticality of Practical Research”. The prior chapters relate to the historical idea that research is concerned with changing everyday life that can be initially found in the Enlightenment and its notion of the cosmopolitan. That idea was brought into the political theories of the modern republic and its schools. Today that mode of thinking is found in what is called “teacher practice” research in teacher education. Embodied in this idea of teacher practice as the subject of school change is the idea that (a) science is science as the planning to change social conditions; (b) that historically has planned to change social conditions that change people- making the citizen who has responsibility and civic obligations or making youth into particular kinds of adults who can participate as citizens of the nation; and (c) the sciences of education as providing useful and practical knowledge to effect change. I argue that system of reasoning about science and change through finding useful and practical knowledge is impractical. Impractical in that these sciences that promote practical knowledge and practice as the subject of change conserve the very principles that are important to rethink and change; inscribe inequality as its principle of equality; create hierarchies and differences that abject and exclude in the impulse to include; and work against the very principles of democracy that require a critical thoughtfulness that can challenge the causalities given as natural in the present. The argument about the limits of contemporary research is also a method to think of an alternative about the sciences of education, one that historicizes the present.

Teachers and teacher education have become a central concern of reform efforts. It focus has been on how to manage better the activities of teachers to produce more effective

instruction. The later typically is related to improving students' achievement and/or The Common Core Standards concerned student participation and understanding of the subject matter.1 The research about practice is to change what teachers do through identifying strategies of change through the utilization of research findings. The micro-processes of teaching are the site of change, such as the processes of communication for eliciting student ideas and focusing on what teachers do. This entails developing finer distinctions and categories to calculate and administrate the activities of classroom instruction. There is talk about identifying enactment tools for the teacher abstract conceptual tasks into specific and concrete steps and objectives in teaching mathematics and science, for example. A different approach is to take existing research and place in a rubric that orders the particular skills, scaling and developmental stages that different the novice from expert, professional teacher. The organizational processes are linked to "habits of mind" and the dispositions of the teacher who can enact instructional processes successfully. The different strands of practice oriented research express the desire for "all children" to learn and produce equitable educational outcomes.

The prior historical discussion becomes central in making visible the system of reason embodied in the contemporary research about teacher practice and its practicality as a strategy of change. That historical exploration was not to define the origin of practice as an object of reflection. It was to trace epistemological markers that change over time to connect and enable the idea of practice is being made into an object organizing change in the social and education sciences. That discussion was directed to grids of practice through which everyday life was made into an object of science, a theory about the origin of change, and the inscriptions of desired futures in governing the present. The making of everyday life as the object of science was to change social conditions that also changed people. The trilogy of child, family, and community became the object of reflection and planning. The making of the objects of change evolved ordering the processes of everyday experience through the assemblage and connection of different practices as a particular knowledge about change: the exceptional of the nation, the cosmopolitan hope of the citizen as a double gesture that inscribed fears of urban Others; the focus on processes that stabilized the subject of change to emphasis the temporal ordering of life.

The different historical trajectories embodied particular kinds of practices for theorizing and studying human relations in the sciences organized for reform in post World War Two governmental efforts. New institutions were created to engage in research that entailed new technologies for developing knowledge designed to change social relations but also to make kinds of people. These technologies, I argued, were designed through a particular set of abstractions related to thinking about social life "systems" that brought together biological metaphors of organism with machine logics of "input", networks, and outputs. The function of the system was to seek the equilibrium of its elements to achieve the harmony necessary for maximum efficiency and effectiveness. "Systems" is a fabrication that acts as a fiction whose abstraction provides ways to think and describe the phenomena of schooling. But the models of standardizing and codified to measure and administer "the system" for planning "acts" on the world of schooling. Its style of reasoning generates principles that order theories, distinctions, programs, assessments and planning to actualize

[1] Achievement is usually tied to standardized tests. The Common Core Standards is a state-led effort to develop consistent internationally normed benchmarks for learning goals of students in pre-tertiary education (http://www.corestandards.org).

the abstraction. This manufacturing is to make that world by making particular kinds of people.

The inscription of "systems" thought into the research as a mode of reasoning about change and reform combined what are analytically opposites: the organism as one of development and growth that embodies notions of uncertainty and the machine language of the computer that seeks to eliminate error and provide certainty. How uncertainty and certainty function in contemporary research will be discussed later in this paper.

This paper explores the double nuance of the education sciences concerned with teacher education research that focuses on "practice". It reassembles the organic metaphor of systems theories to identify the expert, ambitious and authentic teacher whose activities (practices) are to enable (system equilibrium) or limit (disequilibrium) the utility of its parts. The science is problem solving that has both similarities and differences from that of the middle of the 20th century. The practices of reform-oriented research embody salvation themes about cosmopolitan kind of citizen who is actualize by implementing the kind of person called "the effective teacher.

When "practice' is the object and origin of research about teachers, it appears not as one thing. Three different research programs are examined: practice-based teacher education research, teacher effectiveness research, and the alternative teacher education program of Teach for America that deploys models of practice- based research. Each argues its uniqueness and superiority in producing changes in teachers and the quality of schools. When heterogeneous reform research programs are examined as embodied system of research, the differences melt away. The purpose of this analysis is to think about what "holds" the differences together and makes them intelligible with the reform research movements.

To pursue the overlapping principles among the three research programs, the style of reasoning is explored. This methodological and theoretical strategy is to make visible the principles of ordering and classifying what is done, "the problems" to be tackled in research, the events and activities of "doing" counted as "practice", and the solutions deemed "reasonable" for calculating change, and the boundaries of what is possible as debate and conflict are made as "reasonable". The four sections entail a continual development of the "reason" of the research, expanding and giving greater nuance to principles that order the "reason" of practice as object of change. That argument is:

1. "Practice" is an abstraction that expresses theories about the desired cosmopolitan future "teacher" to be actualized through research that is to maximize the utility of school "system".
2. Science embodies the technological sublime to actualize that hope in making a new kind of person (the professional teacher) who changes children and society.
3. Change is the process to maximize the system utility that paradoxically stabilizes and conserves rather than serving as theories of change.
4. The research on "practice" is paradoxical; its hope to make cosmopolitan citizens embodies exclusions through fears of the dangers and dangerous populations to that future.

Before continuing, I am using the notion of practice in two ways. One is the particular object that a field of research studies as a conceptual apparatus for changing everyday

activities, thoughts, and dispositions. This notion of practice seeks to understand how teaching is organized, and how to change who teachers are in order to maximum the effects on children's performances. It is to change who teachers' are and, in that process, change children. The second notion of practice is to historicize what is done and thought about as research. It is to ask, what are the conditions that make it possible for researchers to talk, think, and act on the phenomena of schooling as they do. The practices of research are studied, then, to understand it as "an effect" of different historical conditions that make it possible to think about things and people as we do.

1.Practice as theories of desires to be actualized

Three research programs are explored as homologous in making "practice" as the origin of teacher education change that is directed to changing the teacher. At one level, the different programs link identifying and changing the interpersonal communication, collective relationship, and norms of participation of the teacher. The changes, however, are not only with social relations. Research is to provide the knowledge about the habits of the mind and dispositions that teacher need their effective and authentic instruction. This includes research direct to interventions that treat teaching as part of system, relating teachers' beliefs and activities to the school culture and student motivation, and to organizing novice teacher's biography and career to master the qualities and capabilities of what is given as the expertise of the expert, professional teacher.

One program is "core practice" research. In a review of "core practice research, Grossman & McDonald (2008) talk about the "approximations of practice" that "enable teacher education to address the gap between the practices we advocate in teacher education and those that novices are likely to see in the typical school setting (p. 190).

A second program that argues that it articulates research findings about teacher effectiveness into teacher education is Teach for America [TFA] (2013A/B). It is a national, governmentally sponsored, alternative teacher education program for urban and rural schools. While not directly a research program, TFA brings the codifications and standardizations of research about the expert/professional teacher into the organization and planning of teacher education; that is, the assembly of research into a program to plan for making a particular kind of teacher. Central to its program is Teaching as Leadership Comprehensive Rubric (TALCR). The Rubric is a management device identifies the qualities and characteristics of the teacher in development sequences and stages. The rubric, originally a liturgical tool, is an abstraction that is applied to manage changes in the teacher. The practices or actions are ordered in a hierarchy of behaviors that progresses as stages of development from the novice to the expert teacher. The "practices" (and "actions") are then placed in a developmental or stage theory that are used for self assessment and program assessment for the making of the teacher. The actions or behaviors in the TFA rubric and research programs directed to practice are to transform the individual. That transformation is about a mode of living and the moral dispositions and states of the mind of an imagined and desired teacher - planning purposefully, working relentlessly, and having the mindsets and optimism to fit into the model of the desired kind of teacher and to provide continuums of values for its assessment.

A third and seemingly different genre of reform-oriented research about practices signifies "the effective teacher". In an article in a leading educational research journal, the

methodological research problem is to create research designs to identify "the effective teacher" who enables successful achievement of "all children" (Day, Sammons & Gu, 2008). The research is to identify "value-added" factors of the teacher that account for children success beyond external measures, such as those of class and educational level of parents. The "value added" a dimension in teachers' practices was to identify "a more robust" relation between the capabilities of the teacher and the children's achievement results.

Further, the research embodies a double meaning to "practice".

Practice-based research is given as what is authentic and "real" and the subject of understanding. Practice is assigned an autonomous and authoritative status to describe what is "real" of the activities and events of ongoing schooling. This assignment of "real" about the actual world of teaching is usually coupled with the research on practice as designed to be "useful" and "practical" for teachers. Lampert (2010) has analyzed the different use of practice to understand the correlation of teachers work to "learning the work of teaching". Practice is its autonomous and authoritative status. It is taken as a real object to describe the activities and events of ongoing schooling. "[I]nitial teacher preparation must help novices learn how to do instruction, not just hear and talk about it… (Ball, Sleep, Boerst, and Bass, 2009, p. 459; italics in original). Professional Development Schools (PDS) where teacher education takes place in local schools are to foster "communities of practice" (Shiomoni, 2013).

This strategy of research takes practice as something naturally, real and the origin of research. This notion of real, however, is less about something naturally there in the world that research recoups. This brings into focus the second meaning of practice. The research inscribes practice as a determinant category from which to think about what is and what should be. The question about "practical" research is to historicize the grid of different ideas, activities, and narratives that are inscribed in "practice" as a way to think and act.

1.1.The Double Paradox of Practice as the Origin of Knowledge and the Philosophical Universal of Desire to Be Actualized

Practice is not something merely there in schooling to describe or as a transhistorical object that describes what people do and whose or warrant is purely of empirical "data" (see Biesta et al, 2011). Research on practice is a theory about what people do and should do. Practice is an abstraction whose categorization is made into the origin of educational. "Practice" is a way to talk and act on how the things that make for teaching hold together to be embodied in what is constituted as the teacher. That way of talking and acting functions as a determinant category that embodies a series of attributes and characteristics that connected to think about particular events and people. The attributes are no longer seen but assumed when researching the effects of teacher activities on children's achievement and participation in classroom. "

Practice is a theoretical statement about a desired kind of person that research conceptualizes, calculates, and measures to realize its characteristics and capabilities. Practice is not merely what teachers do but an abstraction and theory. The "core practice research" speaks about the desired teacher is spoken as seeking "to eliminate the gap between the practices that teachers do and what is being advocated" in the research program (Grossman & McDonald, 2008, p. 190). The "what is being advocated" is a theory and a desire. It is to change the teacher into a kind of person through interventions about what should be "enacted in particular practices, practices that embody theoretical principles of

instruction, learning, development, culture, practices that can be developed and refined" (Grossman, McDonald, Hammerness, & Ronfeldt, 2008, p. 247, italics added).

The processes and its ordering and classification devices are to transform the teacher. The TFA rubric and stages of the teacher development are a technology for self-monitoring and institutional assessment of process and progress. Core practice research engages in formative assessment tools that are used "in real time" by teacher and teacher educator. The tools are to develop the minute elements and processes of human interaction in order to maximize their utility in actualizing the desired teacher. "There is the development of "real time" evaluation techniques to evaluate how teachers implement the desired practices (Ball, Sleep, Boerst, and Bass, 2009, p. 468). These include "in-the-moment" assessment through video clips as well as still photographs.

There is the fixing of the teacher as the subject and the object of change that produces an ontological determinism. Practice is defined as having certain processes that if the teacher replicates, then its expertise is established. The process is given as seemingly existing as unfiltered, non-theorized elements of teaching. The expert, professional and/or ambitious teacher of the research on practice are treated as "social facts" to regulate actions, communications, and psychological characteristics that are inscribed in the distinctions given to "practice".

"Practice" instantiates a paradox of a theory/not a theory about the teacher. It is the origin of knowledge and the "practice" something classified as through theory to change everyday life of schooling is embodied in topoi of useful and practical knowledge.

At one layer of the research, practice is not a theory about the teacher except when describing practice. Practice is "the birthplace of new theories" (Shiomoni, 2013, p. 46). 'The Reflective Teacher', a phrase often used in contemporary reforms, places theory as important only when derived from practice. Teacher education research is spoken about as providing relevant, useful, and meaningful knowledge to 'link theory and practice more closely" (Loughran, 2013, p.17). Conceptualizing teaching is to explain "what it means to demonstrate and articulate expertise, of and in practice" (Loughran, 2013, p. 19; italics in origin). Theory is to clarify the intentionality of teachers and produce more productive outcome in the classroom practices.

The particular theoretical grid that forms "practice" as an object are elided under the guise of looking at what is real and done. What is described is actual, genuine, and authentic are connected with other conceptual and theoretical words about processes, such as languages about motivation, higher order learning, identity, interactive performance, feedback, beliefs, are evoked as what is actual rather than as conceptual and theoretical ways to order and think about school and teaching practice. Looked at more closely and traveling on the surface of the research are a number of phrases and words that direct attention to what is desired and not what is. To "articulate expertise of and in practice", "to provide useful and meaningful knowledge", to foster "communities of practice", and for novice to learn how to do" are not descriptive and empirical qualities. They are normative assertions about a particular kind of person that is desired as the good teacher.

The sciences of learning become the apotheoses of cultural and social wisdom. They provide the classifications, calculations and codifications that are to make possible social improvement and the broader social good. Concepts of learning and childhood that now

permeate classrooms are no longer historically produced ways to think about schools. The distinctions are about what is real and changeable about the child to govern the future.

The language of change, however, is given as providing useful, empirical and grounded knowledge around what is "real" and practical for teachers; and not as an abstraction about who the teacher should be and theoretical. The research is said to provide more concrete understanding of 'what teachers really need to know and be able to do" (Grossman, McDonald, Hammerness, & Ronfeldt, 2008, p.247, italics added). The normative and salvation themes that connect schooling to images and narratives of society and the future are made to seem as merely descriptive and serving "human improvement".

In this argument about theory is derides theories that are not directed to practice. Theory is good only if it is categories and distinctions seem to represent what is taken as real and authentic distinctions of school "practices". If theories (and research) do not do this, then they are exercises of the ivory tower that has no relevance to what people "really do", and what works for organizing school change.2

This positioning of certain theories as about what is "real" and important as against others of the ivory tower university researchers who don't follow the style of reasoning has little historically awareness of the social invention of the university from a place of cultural reproduction to that of production in the formation of the state in the 19th century which continues to the present. The prior historical discussion of the social sciences and universities should raise suspicion about whether there ever was or can be "an ivory tower" other than as political rhetoric to assert the superiority of one form of knowledge over another.3 And as important, the activities represented by "practice" are not merely descriptions but often produced through the social and educational research theories about the trilogy of child, family, and community.

Rhetorically positioned the theories of practice as in opposition to theory is , to position a style of reasoning as "telling" about what is real and its processes of change. The correct sensitivity to change is posited, it is argued later, as managements theories of the classroom (benchmarks and standards, for example), psychological theories of cognition and learning that provide order and classification to the objects of change - what is constituted as "practice".

There is odd coupling of practice and theory/not theory articulates distinctions about "what it means to demonstrate and articulate expertise, of and in practice, while also responding to issues around the oft-bemoaned theory-practice gap" (Loughran, 2013, p. 19; italics in origin). Practice, ironically, is a referent of a theory of what to notice and think about as the objects of reflection; and what should be.

Research on practice, then, embodies theories that inscribe philosophical claims about a universal teacher that research creates the distinctions, classifications and ordering through calculations and codifications. This observation is not to ask about bias or ideology that disturbs the objectivity of the research – a position that would assume positivism and "realist" philosophy in the search for certainty. It is to ask about the rules and standards of the "reason" that makes "practice" as an object of reflection and action. Further, it is locate the philosophical claims with a grid of different events that are connected in a manner to

[2] For the discussion of theory in education, see Biesta et al (2011).
[3] For discussion of illusion of theory/context division, in philosophy, Hacking (1998); psychology, Danziger (1997); science, Latour (1999); and in the social history of universities, see Reuben (1996).

give "practice" an intelligibility and "reasonableness". The self-referential and self-authorizing qualities of the ways in which theories are embedded in the notion of practice are not unique to the teacher education research but an albatross that lies within the characteristics of social research (see Hacking, 2002; Popkewitz, 2013, 2015). What is important and pursued are the particular kinds of teacher envisioned in the research and politics of the principles generated as change that is never merely about the solitary figure of the teacher.

Perhaps in observing "practice" as theory and desire is to reiterate the Sisyphus of social science and thus something to live with as a necessary but controllable. The human sciences embody cultural and social theories about human life that relate how things are known with what is known. This is a condition of modernity itself and not resolved through the "is/ought" distinction or the positivist distinctions between the subjective (bias) and objective. The observation about practice as theory to be actualized is not constructivist either. It is to think historically about the objects to be known about – the child, the teacher, the learner – as embodied sets of epistemological principles that form a style of reasoning to engage the ontic world. Things do exist! Yet the classifications are never merely descriptions but that can loop into programs and strategies of change that have limits. What counts as "data" and the empirical are encased in paradigms or style of reasoning whose principle generate how judgments are made, conclusions drawn, rectification proposed, and the fields of human life made manageable.4

Practice is ordered psychological theories. They provide the distinctions and guideposts to order what is "seen" as promising practices and allow targeting interventions that will change practices. Learning theories, for example, are evoked as "practical" theories for organizing teacher education practices and enabling change. In the effective teacher research, theories are embodied in the very psychological and organizational categories that classify "effectiveness". The core practice research more explicitly engages "theories" but as an instrumental element of change.

1. 2.Melting of Differences in the Heterogeneous Reform "Systems"

The research of practice embodies philosophical universals about the teacher as a kind of person that if properly executed through the inscription of the research embodies professional expertise. "Practice" articulates theories about who the teacher is and should be. Research is to actualize that desired kind of person.

The kind of person is ordered and classified within the difference "practice" research programs through principles of the school as a 'system' that serves as an abstraction to describe and organize cultural theses about teaching as a mode of live that contributes to the organism's growth and development. In certain ways the systems approach is related to the reform problem-solving research that emerged in the state welfare efforts of the 1950/1960s. Science as problem solving is to find the pathway to maximize its utility. When the seemingly heterogeneous research approaches about practice are viewed as enactments of "systems" theories, their differences melts.

The language of systemic change captures the enlightenment imperative of reason, science and progress. As with the turn of the 20th century, the sciences to change the child

[4] Numbers and statistics are never solely about themselves in the social sciences as they are brought into social realms and embody categories that have cultural and political principles in their "use". See, e.g., Desrosirères, 1993/1998; Hacking, 1990; Porter, 1995; in education, Popkewitz, 2012.

and teacher are given as the panacea for democracy and equity. That imperative is framed as complex practices in a system whose consensus and harmony is a theory of change. That theory is to maximize the managerial, organizational and psychological aspects of the system. The ideas of useable and useful knowledge are brought to bear to emphasis the consensus about the system's goals, purposes and outcomes that are generated in the research. Research is "to expose and analyze a set of core problems involved in building a useful and usable knowledge based in teacher education and to propose features of such a knowledge base crucial for addressing those problems of teacher education (Ball, Sleep, Boerst, and Bass, 2009, p. 459).

In its commonsense, all research has a sense of "system" to give coherence and a sense of the whole to the relations under discussion. The research on practice provides a particular set of principles to the "systems" thought. It is deployed to think about schooling as an organism and through a utilitarian theory in which abstractions are created to codify and administer how its elements are held together to promote its growth and development. The "purpose" of the systems thought is to maximize effectiveness and efficiency for organizational goals. It is this kind of notion joins the otherwise diverse research programs of "core practices", the TFA expert and the effective teacher, and value-added teacher education research. In a review of different conceptions of "practice" in teacher education reform research, the idea of teachers as embedded in a system of interrelated parts. The systems serves as the underlying theory to order the reasoning about schools and teacher improvement (Lampert (2010). Teacher's work is discussed as the productive relation between content, teachers and students. Professional education is learning how to do that work better that maximizes the utility of the system. The seeming natural quality of schooling as a system in which the work of teaching occurs is assumed and remains as unspoken principles that require no need for clarification.

The principles of systems can be assessed in the teacher education research in a variety of ways. The research speaks about capacity building across all levels of the school systems that are linked to ongoing professional development. The logic of research is to design the maximum utility of the system by building a unity between "the pedagogical expertise and organizational conditions posited" (Matsumura & Wang, 2014, p. 5). Quality and expert knowledge are linked to notions of learning theories and then working backward to identify how teacher's classroom communications and activities can be more efficiently ordered to achieve greater efficiency in performances.

Change in the systems is the sum of the parts that assumes each element stands as an independent and autonomous subject whose efficiency is maximized when in harmony with other system elements. Successful learning is the sum of the different elements of the system's model of processes that are functional for achieving outcomes which are among other things, maximizing posing problem, eliciting thinking, identify criteria for teachers to call on children in classroom, and select representations that serve to organize instructional activities.

Science is the problem-solving task to create finer distinctions that can be used to actualize the model through assessments and for the individual to internalize the criteria of the teacher. The codifying, calculating and measuring take the existing framework and commonsense of teaching as its origin of change. The ongoing activities of the teacher are divided into more specific elements that contribute to thinking about its whole. Specific distinctions to measure patterns of communication are created to think about the teacher "noticing", "rehearsals", procedures for eliciting student ideas, decision making process of

the teacher, and the levels and hierarchy of kinds of explanations and degree in which evidence is used in children's answers, and what constitutes sources of evidence. The subdividing and distinctions are to "decompose" (analyze) and "recompose" the system to install the core practice research. The commonsense language of schooling and teachers that inserts theory as what is natural to pedagogy and calls it "practice".

The research on "practice" is to organize intervention models that functions as a practical causality between system goals, processes and outcomes. Practical as they are not empirically derived but embodied in the abstraction of the systems model. Cohen et al (2003) instantiates the school as a system that has the uncertainty of an organism that develops and the ontological certainty embedded in the outlines the processes through which outcomes are obtained (Figure 1below. Teaching, it is argued, is the relation of the teachers to children and resources to produce effective system outcomes, called learning. The system principles link the abstractions about desired kinds of teacher to research for changing practice in the image of the desired kind of persons – teacher but also the trilogy of the child, family, and community.

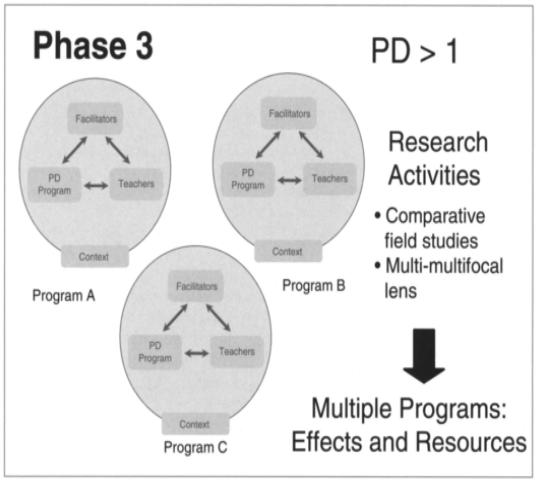

Figure 1

The epistemological principles of the school subjects and the teachers' acts are assumed as the starting point of getting greater efficiency. The creating of more distinctions are like the problem of puzzle solving; that is, filling in the pieces of the system to map the whole the optimization of the system. The core practice research calls this desired teacher as someone whose actions express process as "high leverage" or "high impact" qualities. These qualities are given as standardized rules, such as (1) identifying the representations of practice in teaching school subjects, (2) decomposing those representations through analytically parsing the elements of existing practice, and (3) engaging novices in the approximations of practice that "are more or less proximal" to the practices of a profession (Grossman et al, 2009, p. 2058).

The value added research provides a different entrance into the system mapping but still maintains theorizing to achieve the consensus and harmony of the inscribed system. The seemingly economic language of "value added" teaching is argued that if external variables are controlled, what is the impact of the individual teacher on children's achievement (see, e.g., Day, Sammons & Gu, 2008). The economic language, however, is not about economy. The language is the new public management in social (and military) programs that are connected with social, psychological and organizational qualities whose identification creates

a “wholist, nuanced understanding of teachers’ work and lives”. .Setting benchmarks as goals/expectations about performance standards that classifies the “value added” dimensions of the system are to bring its ideals into actuality. It is the point of stasis or equilibrium in the value-added research are embodied in the capacities of the teacher who enables “all” children’s success in school achievement (see, e.g., Day, Sammons & Gu, 2008). The "all" signifies the unity and harmony that is presupposed in defining achievement as the outcome of an integrated system.

Syntactically, there is little difference in the principles that order the rubric, the value-added research and the taxonomy of the core practices. While one focuses on ordering and processes of communication and learning theories and the other on stages of teaching linked to outcomes, the reforms are designs of the desired kind of person whose qualities and characteristics of ‘expertise’ are functional to the system. The different research on practice assumes a universal kind of person that is consummated through the different research and programmatic agendas. The models of the teacher (and teacher educator who instantiates the models) are formed as a system that brings functionality to the institution concerned with how teachers utilize and maximize the organizational elements of the system in the field based settings (see, e.g., Ball, Sleep, Boerst, and Bass, 2009, pp. 460-461). Instead of Rubric’s developmental stages, the core practices reforms establish a continuum of value and hierarchy expressed as providing the ‘opportunities for novices to engage in practices that are more or less proximal to the practices of a profession” (Grossman et al, 2009, p. 2058).

The different teacher education research programs are never about some naïve reality of “practice” or merely about what people do. Practice is like a recipe, embodying a grid of principles to act and think about how things hold together about what is inscribed as a universal about the idealized teacher. The theoretical qualities and characteristics of the desired effective, expert, and/or the ambitious teacher “act” in the research as the origin in the problem of school change.5 In this section, these principles were explored further as embodying the notion of system for organizing what is recognized, distinguished, and debated as the true and false objects of the practices to be changed.

The abstraction of the “system” is style of reasoning to translate complex phenomena into standardized and codified features that if properly managed will achieve the efficiency, perfection and equality of the school system. The different principles embody self-referential/self-authenticating principles. It is self-referential in that the system categories and distinctions act as boundary principles and problem solving as the task of science. The invention of the system is also self-authorizing through shaping and fashioning the problems of education, distinguishing the objects of schools to be scrutinize, and to make manageable the objects acted on as authentic to master change.

The self-referential/self-authentication is an inherent quality of science itself. The principles the style of reason about the “school system” are not empirically verifiable but constitute “the form” of what is to be known, how it is to be known, and what counts as reasonable knowledge and reasonable people. My concern with the self-referential and self-authorizing principles of the reports recognizes that all styles of reason operate in such a manner and thus not something that is empirically verified or disproved. But this quality of styles of reasoning and science is not at issue. It is to explore the style of reasoning to consider the boundaries and their limits to what is shaped and fashioned about what is known and how change is to occur.

[5] There is a field of science studies and philosophy that directs attention to this, see Isaac (2009); Hacking (1992).

2. Making kinds of people: the teacher, professionals, and the trilogy

I start with a simple proposition. Schools are about changing people. Otherwise why send a child to school for so many years. Its languages of learning, development and growth in childhood are about how to effect changes in people. This changing of people was explored in the early social sciences response to the Social Question. Whereas the Progressive reforms gave focus to changing the trilogy of the urban child, family and community to embody cosmopolitan modes of living, today's focus on "practice" is a strategy of change that articulates the cultural thesis of the cosmopolitan through making the teacher as "professional". 6 The research on teacher "practices" are tactics to design kinds of people. The language is one of transforming, about mindsets and dispositions that relate individuality with social norms and value. The core practice research, for example, argues that programs of teacher education are to inscribe the "goals, activities and historical traditions that reinforce collective meanings and the identity of the practioners" (Grossman et al, 2009, p. 2060). The strategy to change the teacher is, as I will argue, does not lose sight of changing the Social Question and changing the trilogy of child, family and community that was found in the American Progressive social sciences, as I argue below.

2. 1.Research and the Soul of the Teacher

En Teach for America se habla de las etapas de desarrollo del alma virgen del presente –el profesor novicio–. La enseñanza como Rúbrica Comprensiva del Liderazgo (TALCR) de TFA (2013A/B) identifica las etapas de desarrollo para crear la pericia del profesor profesional. Las cualidades y características del desarrollo del profesor son tesis culturales sobre modos de vida. Existen estadios psicológicos normativos y organizativos

Research about teacher practices is spoken about as transforming the teacher, a cultural thesis about modes of living. It is directed to the interior and "soul" of the teacher. The notion of the soul that is no longer attached to religious forms but to science as fabricating the inner qualities of the teacher. No longer finding the moral qualities that provide grace in the afterworld, the soul is today the kind of person who embodies dispositions, sensitivities and awarenesses. The language is one of transformation. The "transformation" of the novice and professional knowledge is not only about the skills and content of teaching. It enters the core practice research as governing the teacher's inner qualities. Learning is the "habits of mind and character" that "develop new ways of thinking" (Grossman et al, 2008, p. 2060). Practices are not merely about what is done. It is about ordering of conduct through governing emotions, motivation, and "mindsets" or habits of the mind. In critical research concerning urban teacher education, the "soul" is expressed as the individual who embodies "the professional virtues, qualities, and habits of mind and behavior" that should be intrinsic to the individual after their teacher education" (Boggess, 2010, p.73). The focus was dispositions are "intrinsic" to the individual and is a "more powerful concept than beliefs as it can be changed and assessed" (Boggess, 2010, p.73).

The unwashed soul of the present – the novice teacher – is spoken about in Teach for America as developmental stages. The Teach for America [TFA] (2013A/B) Teaching as Leadership Comprehensive Rubric (TALCR) identifies the stages of development to create the

[6] Hacking (1986, 1995) develops a way of thinking about how different historical trajectories come together to fabricate ways of thinking about and acting on certain kinds of people, such as multi-personality. I am using fabrication in its double nuance of 'fictions' to talk about things of the world and as manufacturing or making things. Fabrication is a way to think against the philosophical divisions of nominalism and realism that underlies "practice" as the autonomous subject of educational research.

expertise of the professional teacher. The qualities and characteristics of the development of the teacher are cultural theses about modes of living. There are normative and organizational psychological states that have a particular Protestant quality. The teacher to act intentionally through "setting goals", "investing in students", "planning purposefully", "executing effectively", "continuously increase effectiveness", and to "work relentlessly".7 The psychological qualities of being "purposeful", "effective", and "working relentlessly" are coupled with acting "faithfully" in following lesson content, being "poised" and "self-monitor[ed]". The qualities are further linked with "the mindsets" of the teacher's "beliefs", "relation with others", "gratitude and optimism", and "managing of time and attitudes" "body language", and to make providing "memorable" lessons.

The concern for habits and mindsets, dispositions and the interior of the teacher is to order the conduct of the soul. The dispositions and "mindsets" are assembled as cultural theses about modes of thinking and reflection as a teacher. The claims of transformation and the universality of the naming of the new teacher as "authentic", "ambitious", and "effective" historically instantiate particular cultural principles about progress and salvation.

The principles relate to the Calvinist reformism in American Progressivism in the dispositions of hard work, being purposeful, and effective. That new person in both reform agendas is historically analogous to Fredrick Jackson Turner's "Rugged Individualism" (the inventive teacher), William Whyte's Organization Man (1957) who works collaboratively, and political pluralist theories (Dahl, 1967) about associational groups (stakeholders). The desired teacher embodies the salvation theme that (re)visions Puritan themes into the nation and its citizen of "the city on the hill" and "the errand in the wilderness" into discourses about the transformative teachers having the revolutionary potential of producing "human improvement".

2. 2. The Professional Teacher: Fabrication of a Particular Kind of Person

Professionalization of the teacher is a redemption narrative. The notion of profession enters into current research as an ontological fact to obtain if the school system is to become effective. In the current research, the characteristics and capabilities of the professional is defined as a common language and common syllabus that can establish the qualifications and knowledge of the teaching profession. Research is to fill in the knowledge, with practice as the central signifier. The practice-based teacher education research is to identify core practices and common language for teachers to enact in the making the professional "ambitious" pre-service teacher education. It is understand "how professional knowledge of practice can be examined, developed, and refined, and the crucial nature of that process in terms of conceptualizing what it means to be a teacher educator…" (Loughran, 2013, p. 13).

The professional transformation of the teacher is not merely to fill the gaps between desired teacher education practices and what novices see in school setting (Grossman & McDonald, p. 2008). Nor does its instrumental language to address "core problems", "high leverage practices" and "to learn how to do" instruction rather than talk about it (Ball, Sleep, Boerst, & Bass, 2009, p. 459; italics in original) adequate as a mode of interpreting its governing principles. The practices of practice embodied a system of interrelated elements and principles that shape and fashion the teacher as a particular kind of person governed by particular cultural theses in the making of the soul. The theses are embedded and configured

[7] I have use quotation marks to more clearly identify the rubric's language as embodying not merely actions but a mode of living and a kind of person.

in relation to evoking the teacher as having a professional expertise whose mission is "to improve society".

One can think that these phrases about professional and improving society are merely topoi, general sentiments that give legitimacy to the terrain of the making of the expertise necessary for improving the quality of schooling and its teachers. The professional principles, however, are not merely an accounting of about what teachers do, should do or what is assumed as the matching of theories best suited or useful to conceptualize what teachers do. The abstraction of the teacher as a professional is a fabrication of a particular kind of person, having the double nuances discussed earlier.

The language of profession and its expertise is connected and inscribes particular principles connected in forming the relation of "the system" of school as a theory of reform and change. The professional teacher embodies that the philosophical claim about universal qualities of the teacher. There are political and social salvation themes of profession that rearticulate enlightenment ideals into a general and unspecified universal mission of "human improvement" (see, Cohen, 2005; Grossman et al, 2009). The mission of contemporary reform research is given historical specificity in the calling for teacher to act on the "soul". The professionalization of the teacher is "like psychotherapists, social workers pastors, and organization developers" who work directly on other humans "to transform minds, enrich human capacities and change behavior" (Cohen, 2005; p. 280).

The professional mission (re)visions the technological sublime. The learning sciences perform the "transformation" of the teacher as the commitment for changing society. The desired society, as was the turn of the 20th century sciences, to change the trilogy of the "urban" child, family and community. The influential National Council for Research, for example, has begun to think about changing practices as the standard of relevance and rigor in education research (Gutiérrez & Penuel, 2014). It is argued that the research on practice can "open up new pathways and social Futures for youth, particularly youth from non-dominate communities" (Gutiérrez & Penuel, 2014, p.20). The focus on practice to produce a more equitable society by identifying and mastering variations teachers can make productive adaptations (Gutiérrez & Penuel, 2014, p. 22). Research is to provide the knowledge that can erase, for example, inequality, provide more effective learning, foster better (ambitious) teaching, create the corps of professionals necessary for these tasks, and enable children to master their own future.

The inscription of the profession is not merely about a desired future that research on practice will bring. The future functions as a circularity that discloses a set of relation between past, present and future and self-authenticate those relations. Practices that give content to specific futures are made present in affects, epistemic objects and materialities. The programmatic way of formalizing, justifying and deploying action in the here and now. (Anderson, 2010, pp. 778-9).

The principles of the teacher as professional do not exist as singular "fact". They connect with other images and narratives in which the category of "practice" is to serve as the origin of "human improvement".

Its distinctions about the desired "professional" teacher are assembled and connected with particular psychologies and sociologies. While the syntax in the research is about "real setting of practice with actual clients" (Grossman et al, 2009, p. 2093; italics added), what is made visible as the objects of reflect are ordered through social, psychological and

communication theories. The words of communities, learners, instruction, and meaningful experiences, among other distinctions to talk about practice, are abstractions that instantiate theories that, if I return to the first section, produce cultural thesis about "human nature", change, and the moral individual (see, Tröhler, 2011; Biesta et al, 2011). The grid of different principles produces a particular mode of living and kind of person that is called the "expert" or "ambitious" teacher. Research is, for example, to "conceptualize expertise as holistic, meaningful, and applicable in the work of teacher education" and the conceptualization for it to "inevitably impacts on a teacher educator's identity" (Loughran, 2013, p.19).

The assertions about professions are less about what is historically or sociological substantiated about professions than it is what is desired and imagined.8 The sciences (re)vision embody the technological sublime that transform the social conditions and people. The exercise of research to make the distinctions and processes imagined as that of the profession clearer and administrable in teacher education. While there is assertion that professions have a particular form of expertise articulated through a common language and course of study, the abstraction of this kind of person is a chimera. The category of the professional emerged in the 20th century as a particular category cultural and social authority of certain social occupations in Anglo-American contexts. One only need to read current discussion of law in the US or the rise of medical education in the US to recognize what seems as consensus and "commonality" is formed to recognize social and cultural authority that are continually matters of debate and change.

The notion of profession "acting" on and transforming the soul brings the promise of the future as the mission of schooling. The idea of mission in the contemporary discourses of professionalization brings to bear the intersection of two different discourses that circulate within the pedagogical distinctions, processes and procedures in the system that fabricates the professional teacher.

One are the commitments of the Enlightenment cosmopolitanism in which human "reason" and science provide for the pursuit of happiness and social progress. Profession is given as a mission that reinvents earlier religious themes found in the early 20th century pedagogical 'creeds' of the Russian educator Anton Makarenko and the American John Dewey. The idea of mission, as do the creeds, give moral significance to education and provide the "tools" that carry the charge of making the righteous of the nation through schooling. This paradox of the enactments of such commitment about democracy and freedom are the residues with a particular elitism of Enlightenment thought that separated the knowledge of the philosophers (and later social sciences) to find the pathways to progress from the populations who knowledge is needed about in order to secure social progress.

Second is the movement of religious discourses about saving the soul that are brought into social and political theories of the republic and the citizen (Popkewitz, 2008; Tröhler, Popkewitz & Labaree, 2011). American Progressivism and the pragmatism of John Dewey were deeply rooted in Protestant reformism of the 20th century to undue what was perceived as the moral disorder of the city through changing urban conditions and populations. The research on practice inscribes this mission and the actualization of the desired kind of teacher who embodies "core practices" or the stages of the rubric.

3. Stability as change.

[8] There is a large body of literature in history, historical sociology and sociology that expresses the complexities of what are called professions in Anglo-American contexts; see, e.g., Larson, 1979; Burrage & Torstendahl, 1990; Torstendahl & Burrage, 1990.

The irony is the research creating finer distinctions and ordering in the system model is the inscription of the commonsense of schooling and its organization of knowledge and people. What is given as having a revolutionary potential, "practice" is a theory that conserves and stabilizes rather than as principles about change.

The conservatism is not obvious at first glance as the language is about change, transformation, and reform. But "systemic" change applies the logic in the research is that the system's optimal state is where all the parts of the organism are in harmony or equilibrium with each other. The principle of equilibrium assumes the system reaches its most efficient state when there is equilibrium in the functioning of its parts. The theoretical integration of systems analysis gives institutional practices their comprehensibility, stability, and functionality (Popkewitz, 2011c). Harmony is organizational, to consider where the disparate human and organizational elements and relations achieve a functional balance that achieve maximization utility of the system to achieve its goals.

The principle of equilibrium is ordered as the consensus and harmony among the different elements that enables utility maximization.9 "The standardization and codification of institutional structures through the system models inscribes a consensus and stability for holding things together. The school" and "the teacher" are treated as elements of an organism that can be designed and experimentally intervened in through management technologies. The equilibrium is often stated through talking about success as what is measured in achievement scores and inscribed as the models of authentic and expert teaching.

Conceptualizing practices is bound to the utility embodied in the systems analysis. Cohen et al (2003), for example, explore the systematic qualities of schools as a way to think its functional parts as the origin of change. Change is the more effective use and relations of elements to system existing structures, such as planning carefully, using appropriate materials, making goals clear, teaching as a brisk pace, and checking regularly on student work (p.121). The teacher activities to ensure this consensus are developing collective responsibilities and shared commitments that serve system goals of producing academic performance (p. 121). That consensus is articulated in the very measurements of achievement that become performance measures of the school system. The achievement measures assume statistically comparative equivalences about the school curriculum – what is tested is literacy, scientific knowledge, mathematical understanding, historical and civic education.10

The principles are about system utility that intersects with the learning psychologies to enable harmony. That harmony through teachers "feelings of connection to school" and motivation to attain the system's "learning outcomes" (Ball, Sleep, Boerst, and Bass, 2009). The "hard-won consensus" of being professional discussed earlier inscribes the framework of the contemporarily of schooling. Change is given great coherence and administrability through seeking unity by establishing common instruments, common research agenda, a shared language and more precise methodological theoretical tools in the preparation of teachers (Grossman at al, 2008, pp. 198 and Grossman and McDonald, 2008, p. 188).

[9] The function of systems and change were debated in the 1970s. One element of the discussion focused on whether to see systems as in state of equilibrium or disequilibrium. The debates, however, did not solve the limits of systems as a theory of change, as it had no criteria of difference other than activity and motion (see, e.g., Popkewitz, 1984/2012)

[10] This is a questionable assumption once the internal statistical criteria of test construction are left. I have discussed as the school alchemy (Popkewitz, 2004).

The performance measures assume that there is a consensus about the goals of the "school system". Research is to find the correct processes, communication patterns and developmental stages that optimize achievement through bringing system equilibrium. The different components and elements of teaching and schooling are to "fit" into a comprehensive and organic "whole", a word that continually appears. Debate and differences are internal to the assumption of systems. There are about the concepts to apply and the generalizability of finding across disciplines and contexts about identifying what constitutes "high leverage practices", the search across the research field is to find the right balances of things and qualities teachers "need in any setting, regardless of variations" in curricula or teaching styles (Ball et al, 2009, p. 461).

Change, ironically, are the activities and motion that are performed for utility maximization. The paradox of change and its envisioned future is the inscription of consensus, harmony and standardization of the system of learning/teaching. The task of reform is to increase proficiency and complexity that is bound to the present order of things. The tasks for making the new teacher is identifying the representations of the curriculum, building capacity, maximizing problem-solving, and analytically parsing what is done in classroom, for example, assume system consensus and harmony. Research is to identify the" framework of parsing teaching" into its discrete acts so enable and instrumentalized the "planning, choosing and using representations, conducting discussion of mathematics problems- and then analyze and 'decompose' theses domains into teachable components" (Ball, Sleep, Boerst, and Bass, 2009, p. 460). The categories of change are more accurately those of activity and motion within the existing system where clinical practice is to locate reflection and action.

The search for harmony and its inscription of consensus as the ideal "system" produces research that is in search of the points of disequilibrium or the pathologies that produce non-functionality and which have to be normalized. The task of bringing utility to university education and correcting social wrongs is to bring harmony and system equilibrium through culturally relevant instruction that can "predict [affective and learning] outcomes" (Grossman & McDonald, 2008, p. 185).

While there is talk of multiple interpretations and fuzziness, the search for commonalty is to resolve the fuzziness and tame uncertainty and lead to the desired kind of teacher. The relation of certainty and uncertainty expresses the indeterminacy in the risk but that indeterminacy in research on practice is bound by a determinacy given in its ontological objects that serve as the desired kinds of people. There is thus a productive/destructive relation with uncertainty – life must be constantly secured in relation to the dangers that lurk within it and loom over it. It entails how to act in a way that protects and enhances some form of valued life and to ensure that there are no bad surprises to happen.

The given-ness of who the teacher should be – its ontological determinism –in which the research is designed to tame uncertainty in order to reach the desired kind of person. The ontological determinism conserves the order of things rather than provide options in processes of change. The certainty is in the research model that is said to be expressed in The Teaching As Leadership Comprehensive Rubric (TALCR) defines its stages of development as "commandments" that form a system that is said to guarantee children's high achievement if the teachers (1)" Sets big goals, (2) "Invest in students" to influence them "to achieve big goals", (3) "Plan purposefully", (4) "Execute effectively", (5) "Continuously increase effectiveness", and (6) "Work relentlessly" (TFA 2013, p. 1). +

The core practice research brings in certainty through its focus on science as reducing error. The high-stakes practices "via approximation is one way for professional education to reduce the risk of error in the field" (Grossman et al., 2009, p. 2091). At one level, the reducing of error would seem as recognizing uncertainty and the inability of science in finding absolute knowledge. But the inscription of "error" is related to the codification and standardization of the universal teacher. The learning of the core practices is to help "novices to experience and learn from errors. These opportunities for failure, which allow novices to contend with their own feelings of disappointment or discouragement and learn to respond in professionally appropriate ways" (Grossman et a., 2009, p. 2091). The learning from error with teacher training is about the certainty of being able to approximate what are "the real" professional practices as, to use the earlier quote, 'what teachers really need to know and be able to do" (Grossman, McDonald, Hammerness, & Ronfeldt (2008, p.247, italics added).

The contemporaneous rules and standards of the present as the boundaries in the formation of the "new", with change as activity and motion (see, e.g., Popkewitz, 1984/2012). The ontological determinism entangles the transformation in teacher education in the existing principles of the utilization of the norms and values of the system's "practices" that are presupposed. Professionalism as the search for common language embodies a particular positivist search for certainty whose objectivism eliminates private opinions, subjectivity and emotionalism in the search for progress. The abstraction of the "professional", for example, serves as the ideal kind of person to create rubrics of developmental stages and points to intervene through the sciences, as I discussed earlier, of "problem-solving". The harmony to be achieved through research is to "develop a common language to unite community, to develop common instruments for generating knowledge, a common research agenda, a shared language and more precise methodological theoretical tools to address critical question about how to prepare teachers" (see, e.g., Grossman & McDonald, 2008, p. 198). Where disequilibrium enters as the discussion, it is about how the practices of university education do not connect with school practices, or the problem of closing the achievement gap of low achieving students.

The reason that binds the new teacher to the old is connected with the psychological research connected to practice as an object to change. The "expansive" social psychology quoted in the research on teacher education, for example, is built on Hegelian notions of dialectics. That dialectics of the psychology begins with the objects of schooling as the starting point to generate thinking about difference and changes in that object (Engeström & Sannino, 2010; Engeström, Engeström & Suntio, 2002). While there is talk of transformation of the objects through the psychology, the child, teacher, and family – the trilogy – are given ontologically determined.

The assertions of authentic disciplinary practices, transformative or revolutionary potential of reform, social improvement, and "democratization" as "the building off students reasoning about science" are reclassifications and finer distinction of orders what has existed. The distinctions or the rubric, the focusing on the teacher "noticing of object", and the value-added give greater specificity to what is that are already inherent in the system. The classifications and distinctions that order pedagogy and the school organization are enclosed as part of a self-referential system that is defined through its stability or state of equilibrium.

4.Practices, useful knowledge and its limits in change

I have argued that the practicality of "practice" as a theory and science of the teacher and school change is impractical. The impracticality has multiple "practical" historical and social-cultural layers. Impractical as the research inscribes certainty when the problem is uncertainty; impractical in the models of translation and transportation into school subjects that seek more viable curriculum models; and Impractical for engaging in a theory of change. And as a model of research it is impractical for addressing social complexities.

Practice embodies theoretical distinctions that are made into fact to bring about the desired world and kinds of people embodied in the theory into actuality. These principles of differentiation and classification are inscribed in the selection of what constitutes the practices of everyday life and in the social and psychological theories that are applied as technologies of change. The kinds of people inscribed in the theories of "practice" are not only about changing the teacher but to transform the trilogy of child, family and community. This desire (and its incipient utopianism) entails normative and political elements that are obscured through the naturalizing of how things are, should be, and acted on.

The naturalizing of "practice" as a concept of everyday life stabilizes that life. What is taken as a theory of change, ironically, conserves the existing frameworks and encloses the possibilities of alternatives to what already exists. Ironically and drawing on a discussion of social science research that resembles what is discussed here, "It leads you nowhere except in the equally spurious question of its 'resemblance' with the original model – that is created by the representation itself" (November, Comacho-Huber, Accent & Latour, 2010).

The stabilization and conservation occurs in the inscription of systems analysis that instantiates the desired states in a continuum towards its actualization. The comparative style of reasoning recognizes difference from principles of sameness. Correcting of social wrongs is inserting unity, consensus and harmony from which difference is established. The topoi of "all children learn" are from which difference is produced from the presumed unity. "Practice" in the reform research examined is a theory about unities and not one of difference. The principles of difference are instantiated in a hierarchy of values whose norms originate as the consensus given as "practice". If one purpose of the research is to correct social wrongs, the representing difference from unity that homogenizes difference is impractical.

Making this argument recognizes that efforts of the past few decades have provided new points of access and representation through schooling. Yet to say that is to also recognize that the recognition of difference is necessary but not sufficient. As explored above, research embodies social and cultural technologies that produce difference. The grid of different principles that intersect in determining what is "seen" as practice was to consider how the very strategies of change conserve rather than open up the possibilities of alternatives for correcting social wrong.

At this point, the discussion has challenged the commonsense that research identifies the practical knowledge for changing the educational system. With that commonsense is the question that is historically embedded in that "reason" that asks the question of this article. That question would go something like this. "We understand the limits that you pose but if this is so, then your obligation is to now tell us what to do as its alternatives." This organizing of the present as planning people is strongly ingrained as the obligation of science since, at least, the late 19th century. Not to provide solutions is believed to negate the moral obligation of science itself. As Kuhn (1970) argued about change in science, this doxa of science becomes what is believed as the nature of people and knowledge. While there was

strong debate and this outcome of the social sciences was not assured, today it is almost impossible to think of research as other than providing the problem solving that prescribes the future, even though there is no empirical evidence that it works.

The proceeding arguments should help to recognize that such a question about telling what to do is to inscribe the future as an epistemic principle that is the effect of power. It re-inscribes the very principles discussed about change as stability and conservation. The question assumes that wisdom comes from giving a new life to a particular historical paradigm of science, its technological sublime, and the hierarchy presumed, paradoxically, as the democratic planning change. The ontological determinism conserves and produces change becomes activities and motion as there is no theory of change.

The inscription of science in the research on practice is an effect of power, not merely about social improvement. The early discussion on the formation of the republic gave attention to its founders as simultaneously engaging enlightenment hopes with fears that the masses could not reason and need to be guided by dispositions and sensitivities. Only elites could reason! Rancière (1983/2004) is embodied in the notions of practical and useful research that establishes hierarchies of expertism in transforming people. That hierarchy asserts that the object of change in research is the teacher (child or family). The constituting of practice separates the researcher from the objects to be planned. Further, and important to this strategy of change is inequality rather than equality. The paradox is embedded in the hierarchy of designing people. The ontological determinism in the research, the school subjects as monuments to learn, and the emphasis on the dispositions and attitudes of the teacher and the trilogy speaks about agency and teacher autonomy. The agency is bound to the system in which it is placed and the boundaries shaped and fashioned through what is naturalized as "practice".

The search for practice in school reform research is built assertions whose assurances are impractical for the conditions of their realization. Even in turning to economics, the current nobility of the human sciences, the assumptions of harmony, consensus and certainty are inadequate and impractical as a theory of change. If I turn to Krugman (2009, 2010) argues that economists, the current nobility of educational research at the turn of 21st century Depression believed that they had the real world under control and had solved the problems that would prevent the reoccurrence of the failures of the 1930s. The economists “mistook beauty, clad in impressive-looking mathematics, for truth” (Krugman, 2009). The reigning theories of the rational individual who interacted with perfect markets and ‘gussied up’ with fancy equations” turned a blind eye to the limitations of human rationality, the imperfections of institutions and markets, the irrational and often unpredictable behavior, and the idiosyncratic imperfections of markets.

If there is impracticality of practical research, maybe it is time to think of something else as principles of the sciences in processes of change. Stephen Toulmin (1990) raised this issue when arguing that the sciences have been dominated by Newtonian mechanics and determinism for the past century. He then commented, look where it got us, and perhaps it is time to think of other ways of engaging in the study of humanity.

I recognize that to disturb the claim of practice and useful knowledge is also to disturb the mesmerizing image of the claim that science can find future. The claim is told that research identifies what works, or will find useful knowledge, and that maximizing of the utility is a device for change that finds the desired life of the future. It is a chimera of the Alchemists’ Philosopher’ Stone reinvented hundreds of years later. It is important to reiterate

that the sciences in-use elide their well-recited assertion of uncertainty through inserting certainty in the objects of study and a comparative style of reasoning that excludes in its impulses to include. It is then necessary to ask if it is time to think about different modes of inquiry whose sciences recognize the difficulties of finding causality, and the need to find an adequate theory of change bound to the complexities of modern life and schooling?[11]

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[11] The discussion often focuses on the control of 'bias' and reducing subjectivity; the assumption that objectivity (without subjectivity) is possible to strive for, even if unattainable. Certainty returns through the backdoor as a theoretical possibility that is to govern the present and guarantee the future.

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