

The Paradox of Evidence-based Education: From the Decline of Education to Abandonment of the Theories of Education*

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In the field of education, evidence means an objective ground for setting or judging an educational policy, plan or method, as an effective means to attain a given political end or educational objective. Evidence-based education has been regarded as a decisive device to pursue the accountability and improve the quality of education by connecting educational researches to educational practices and policies.

Evidence-based education in the UK and the USA, however, has been criticized for distorting the essence of education and the nature of educational practices through its use of evidence-based medicine as a model, and for dismissing the hermeneutical or holistic traditions in educational methodology and the autonomy of the professionals engaged in research or practice. But these criticisms do not seem to be accepted by those who believe in the possibilities of education and believe that its possibilities can be realized by operating evidence-based education rationally. It may be quite difficult to overcome evidence-based education under these circumstances.

In this article I consider the above explanation accounting for espousal of evidence-based education to be not so much a variety of truth as the story, which is provided, with some political interests, for those who intend to acquire the competencies or skills to survive in an era of uncertainty. I pay attention to the consequences brought about recursively by the execution of evidence-based education in the historical-social context which has called for evidence-based education itself. In other words, I take notice of the unintended political or ideological functions that the story as an organized system of meaning performs as the result of repeated and reflexive retelling in that context.

It is important to notice that the notion of evidence-based education has emerged in association with changing views on education. As the education that I call Education II(modern education) is separated from education I

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(traditional and fundamental education as an ongoing process of call-and-response with the world) in accordance with the rising of commodity exchange and merchandization, the former turns to education to satisfy learners' needs or desires, which is a prerequisite for evidence-based education. Furthermore, the execution of evidence-based education, under the present conditions of commodification, merchandization and the transformation of scientific research, has gradually reversed the relation between education and evidence. When education is seen as what can be evaluated with evidence, a new type of education emerges, which I call Education III. Education III, which reduces teaching and learning to visible operations, is very adaptable to interdisciplinary research, hybrid business and the globalized society. But when evidence for accountability turns from the grounds for judging the level of achievement into the proofs of having attained the objectives, the purpose of education tends to become the constructing or disguising of evidence necessary therefore, impoverishing education and leaving it vacuous.

In conclusion, evidence-based education has changed the nature of education, making the acts of teaching and learning superficial and moving toward depriving education of its substance. Moreover, some branches of educational studies may be absorbed into interdisciplinary ones, and in turn the theories of education may be abandoned.

Keywords: evidence; commodity exchange; accountability; medicine; science

Defining the Problem

Evidence in the area of education refers to the objective grounds for setting and evaluating policy (from master plan to individual methods) to realize educational objectives. It is generally used as the grounds for accountability concerning educational policy. In order to use limited resources and finances effectively and efficiently, investment must be determined in accordance with rational evaluations based on objective reasoning regarding effective achievement of policy goals, not on ideologies, dogmas or traditions. At the same time, those receiving the investments, that is, the research/practice side, must be able to show “visibly” to what extent the expected effects have been achieved, that is through the use of evidence. If competition is encouraged while requiring this kind of accountability to stakeholders such as taxpayers and clients, greater effects will bring in greater investments, and educational policy will be integrated with practice and research, efficiently and appropriately improving the quality of education. This is the general reasoning behind the introduction of evidence into the world of education (Iwasaki 2010; OECD 2007). Here evidence is positioned as the essential node in this story complete unto itself. Therefore, as long as we remain *within the story*, the debate will be concerned with suitable content and quality (reliability, adequacy, objectivity) of evidence, focusing entirely on theories of the methodology and technique of evidence production, dissemination, and use (for example, the feasibility of randomized con-

trolled trials) and on the introduction and analysis of specific evidence-based educational case studies.

However, the view changes notably when we step outside this story. Education's dependence on evidence began in the UK with the Labour Party's 1997 Manifesto, focusing on the effectiveness of policy as a way to move away from ideological parties, and in the USA with the No Child Left Behind Act of 2001 (NCLB) which demanded "scientifically-based research" (Oancea and Pring 2008). Further, the use of evidence in OECD educational policy is based on the "human resources" theory of the 1960s (Iwasaki 2010). A look at these social contexts in which the story has been created allows us to see from an entirely different viewpoint. The introduction of evidence in an attempt to eliminate ideology and pursue thoroughgoing effectiveness now appears to have taken on a dense ideology (oppressiveness/falsity reflecting special interests) of its own. This paper proposes to clarify this ideology.

And yet, it will not attempt a Gordian knot approach to pointing out that the dependency on evidence conceals ideologies such as neo-liberalism, global capitalism and technicism and the special interests of certain groups. This demonstration may be important, but it is all too likely to lead to an endless and barren opposition with no fruitful results. Here the issue of evidence will be considered as a problem specific to the area of education, admitting that it is broadly related to social, in particular to political and economic practices.

The paper will thus focus on the *political* role and function of the story which, considering evidence an essential element of education, performs as *a whole system of meaning* in a *particular historical/social context*. Through the reflexive effect on the story itself of its constant retelling, this system of meaning brings various *unintended results*, and holds the potential to eat away at the very basis of education and education studies. What mazes have we entered into through the introduction of evidence into educational research, and in what ways are education and education studies being transformed? This is the question I will discuss in this paper.

1. Criticisms of Evidence-based Education and its Limits

1.1 Overview of Existing Criticism

When we look on from outside the self-contained story world surrounding evidence, what kinds of limitations and problems are to be found in evidence-based education (research/practice/policy)? With reference to Western discussion by Gert Biesta et al (Biesta 2007; Biesta 2010a; Biesta 2014; Bridges, Smeyers, and Smith eds. 2009), and with some personal views included, in the form of a paraphrase, let us first organize the main points of existing criticisms of evidence-based education.

(1) *Distortion of the authentic nature of education*

In the background of evidence-based education are interests in improving the system of "diagnosis, inference, treatment" which it is supposed to share with medicine, based on the existing example of evidence-based medicine, aiming at producing good results like the case of evidence-based medicine (Hargreaves 1996/2007; Hargreaves 2000; Iwasaki 2011; Mashino et al. 2009). However, there is no guarantee that an approach successful in medicine will produce the same results in education, nor is it appropriate to consider education less ad-

vanced than medicine. While medicine pursues the clear and unambiguous goals of treatment and recovery, education's goals are polysemic and diverse in interpretation, including the cultivation of diverse capabilities and attitudes which may at times be in mutual conflict, as well as human growth or development. Therefore, while medicine depends above all on scientific judgment and technology, education is continually called upon for value judgments and requires practical wisdom (phronesis) full of art. The value judgment of "what is desirable in education" sometimes requires broad-based democratic debate as well. Further still, medicine is a temporary requirement of the ill, while education is a constant experience of everyone, not children alone. Unlike patients, those receiving education are not necessarily "clients." For this reason, education as its essence frequently calls on reflection and criticism of its frameworks of understanding of "what is education?" and "what is humanity?" Education cannot get away with simply pursuing "what works" in order to achieve its goals. Thus these special qualities of education are severely damaged when only the effectiveness of the methods used to achieve educational objectives is considered, based on evidence, with no attention to the nature of education itself.

(2) *Trivialization of educational practice*

The idea of treating education as if it were medicine considers the relation of its goals and methods to be a linear one of cause and effect. However, the goals and methods of education are mutually regulating in a way: if anything, they are not in a causal relation. The success or otherwise of practice is determined in medicine by fixed physical factors to a great extent; in education it is much more difficult to define, with diverse factors mediated in multiple layers by meaning and interpretation. For example, the success or otherwise of education is greatly affected not so much by the individual ability of the teacher, but by the relationship of the teacher and the learner—including the mutual relationships of learners and those of learners as a group and the teacher (or teachers as a group)—and by "why" and "what" each is trying to teach and learn. Moreover, these diverse relationships change recursively through education, and reorganization of them in turn often deeply influences the mode of education and learning. Further, the success or failure of education is also significantly influenced by household and regional environments as well as resources invested as a whole. Education is an attempt to handle various constantly fluctuating situations caused by various unknown factors in an individual way, and there is no guarantee that what worked in the past will automatically work if applied to different places and people. In this sense, education is a moral and political practice, meaning that no matter how effective a method for achieving its goals may be, it may not be used if it lacks morality. Education *cannot* and *should not* be controlled rationally through the technical manipulation of means.

(3) *Elimination of essential educational aims and issues*

Evidence-based education can be founded only on certain limited goals and issues. Devotion to these must therefore eliminate education which does not fit neatly into the treatment model, that is, education whose purposes require diverse interpretations and multi-angled discussion, or education which requires painstaking consideration and approaches not covered by procedures and strategy. Education which disposes of its principles and ideas as pointless ideologies succeeds only with particular goals and issues which do not require principles and ideas; education which does not trust what cannot be expressed quantitatively or

visually becomes education which does not consider *unknown* others or *unforeseeable* futures. Specifically, evidence-based education tends to fail to consider abilities other than the relatively easily measurable ones such as “mathematical literacy” or “reading literacy,” even within academic ability overall. Therefore, it makes no attempt to pass on the rich heritage historically accumulated by schools and education, and fails to consider the maintenance and development of “democracy.” Democracy contains not only the aspect of going along with the thoughts of the majority, but also those of accepting the differing ideas of newcomers and minorities, critically reconsidering social practices and ways of life, and exploring different possibilities. In this sense, education which bears responsibility for the democratic society must accept its “ontological weakness” and become a “pedagogy of interruption” which attempts to respond to different and unique individuals, not to comply with the normal order (Biesta 2010b; Sugita 2014). However, as evidence-based education stands on a restricted view of democracy and takes cost-performance as gospel, it ignores various essential aims and issues concerning the relation between education and society/ways of life.

(4) *Disregard of the other research tradition/methodology*

The clash between the promoters and the critics of evidence-based education can also be said to reflect the clash of academic traditions, from research methodology on. That is, it originates in the classic conflict of *theoria*, which pursues something which will be appropriate at any time or place, and *praxis*, which handles individual situations case-by-case according to differing specific realities: the conflicts of positivism vs. hermeneutics or reductionism vs. holism typically represented by science versus the humanities. Derived from this we have the conflicts of explanation vs. understanding, control vs. coexistence (both issues concerning the purpose of research), observer vs. participant (concerning the stance of the researcher), method vs. dialogue (concerning the process of achieving knowledge), rule vs. context (concerning the basis for judgment), truth vs. community, content vs. framework (both concerning the basis of knowledge) and so on. Of course, it is never the case that just one side of each conflict is entirely in the right. Arbitration between the two must also take numerous forms, requiring delicate handling from each research field and topic. However, when evidence-based education is promoted as policy, the accumulation of academic debate supported by a long history of discussion is disregarded, and these conflicts are violently resolved by political authority in the form of victories for positivism and reductionism, originating in the modern West. This leads to the loss of another major research tradition and methodology, due to political arbitrariness and dogma.

(5) *Revocation of specialists' autonomy*

When evidence-based education integrates research and practice in order to make itself useful to policy, it supports top-down and externalist positions, shunts aside the professional nature of teachers and educational researchers, and revokes the autonomy of specialists. (4) above is also an example of this, but not the only one. This is because this system denies, from the standpoints outside of education, the visions of good or excellent education built up historically by the community of teachers and researchers, and instead tries to control and dominate education through standards set politically and methods said to be effective in achieving these standards. This education, in trying to be free of the ideology and dogma on the specialist side (teachers and researchers), ironically enough finds itself at the mercy of

the arbitrary ideologies and dogmas of layman politicians and bureaucrats. Therefore, teachers and researchers tend to see it as an inappropriate and violent intervention in their proper practice. As a result, educational practice and research come to be motivated not intrinsically but by penalties and “incentives,” losing creativity and dynamism. That is, practitioners and researchers only loyally carry out the duties and roles assigned to them, so that they come to hesitate over going beyond their duties and initial expectations to stride boldly along new paths.

(6) *Fabrication and falsification of data*

As the competition to avoid penalties, stimulated by incentives, grows ever fiercer, intrinsic motivation toward education fades, and as the professional ethic of self-regulation is lost, the fabrication and falsification of evidence take center stage. Test scores are a typical example; for instance, in American schools this has included not only cheating but clever data manipulation like “skimming/cream-skimming” of advantageous data, refusing to admit students who might lower test averages, encouraging them to transfer out or “scrubbing” (removing test scores of students with spotty attendance), as well as lowering levels to be reached or manipulating test score calculation methods (Ravitch 2010, pp.156f). Simpler examples frequently found even in Japan are the reinforcement of teaching to the test (especially the National Assessment of Academic Ability) and the concealment of inconvenient data. As more and more importance is placed on evidence, such as the overreliance on test scores, as grounds for judging the success or failure of education, these fabrications and falsifications grow ever more devious and more serious, further reinforcing the trends indicated in (1) to (5) above.

1.2 Why are the Voices of Criticism Not Heard?

As indicated above, there is already a large body of diverse criticism of evidence-based education. However, returning to the actual world in Japan, these critiques seem barely to reach the supporters of this kind of education. There are many reasons why this could be true, but I feel that the situations below are among the most significant.

(A) *Desperate striving for “social competencies for survival”*

As the labor environment and labor market change drastically, education is what enhances the potential for employment; as well, recent activation and workshare policies have reduced the unconditional guarantee of life and tried to make education and labor the conditions for guaranteeing the right to live. At this time, ordinary people are more aware than ever of the effort to become a person useful to society through education. Parents tend to expect more of education the more they feel a sense of crisis or unease about their child’s future, and the more that, due to changes in the labor environment, they themselves struggle with daily life or find success through their own education inconceivable, they tend not to resist early-stage education or cramming-style education for their child (Hirota and Miyadera eds. 2014).¹

In this way, opinions like the ones in (1) and (3) above, even if they can be easy to understand and clearly explained, remain unlikely to reach people like these who are struggling to survive. As clients or customers of education services, they direct their expectations to policy goals which will be sure to realize the cultivation, in a diverse and rapidly changing

society, of “*ikiru chikara*” (zest for living: the overall name given to the capacities children should acquire according to the policies of Japan’s Ministry of Education, Culture, Sports, Science and Technology [MEXT]) or “*ikinuku chikara*” (social competencies for survival: MEXT’s *The Second Basic Plan for the Promotion of Education*, 2013-2017). For this reason, public education tends to pursue “*gakuryoku*” (academic ability), competency, and skills which are likely to prepare directly for the future, rather than the ideals of education such as the study of democracy and the development of cultivated and educated personalities. Some people may find it irritating to engage in democratic debates in order to make their wishes come true, or may be satisfied as long as the results they want can be obtained in “visible” form, even if the autonomy of teachers and educational researchers is stripped away and their sanctions and competition strengthened.

In Japan, where democracy and public education began as borrowings or imports from the West and have not been ideologically seasoned as much as in the West, these trends may be especially strong. Moreover, ironically, these trends may be furthered by the Internet society/consumer society-style *democracy*, in which individuals’ straightforward desire is affirmed, that affirmation leads to resonance, and the aggregated results are taken seriously. In the West, we often find cases in which evidence-based education is criticized with the silken flag of the principles of “democracy” held high. However, as correct as these criticisms may be, they are unlikely to be accepted in the current situation of the dominance of “aggregate democracy” with its basis in the aggregation of the desires of the populace.

(B) *The limits of therapeutic education*

The criticisms in (1) through (4) above can be avoided, given the stance that public education, particularly compulsory education, *bears responsibility for the causally explicable results of education only*. First, while education and medicine are basically different, they also demonstrate common aspects. Medicine also requires considerable practical thinking and holistic understanding, in its curing and incurable aspects; education as well allows causal explanations and the generalization of useful knowledge and practice to some extent. Superb teachers, teaching materials, and instruction methods producing excellent results do exist and can be shared. Given this much, if we limit the role of public education to the *therapeutic role* which can be shared with medicine as the *basic role*, and do not deny the complex and ambiguous personalities of education or the diverse methodologies of educational research outside of the role, the effectiveness of the criticisms in (1) through (4) becomes limited. More than that, these criticisms, in particular the “pedagogy of interruption,” can be regarded as those which do not accurately evaluate—rather, cast doubt upon—the educational potential of excellent teachers, teaching materials, and instruction methods, and can be considered theories of giving up or irresponsibility which do not boldly take on the environmental restrictions such as households or regions. Finally, even the criticisms in (5) and (6) may be received as the flip side of teachers’ and educational researchers’ self-protection.

As the globalization of human resources proceeds, economic growth stagnates, and national issues of education transform significantly, the issues and interests surrounding public education grow more diverse, and it becomes more difficult to come to agreement. In this context, the more government is tasked with accountability for education, the more support is given to policies which limit the tasks of public education to the guarantee of academic ability and competency, eliminating issues which call for discussion. Influenced by the libertarian

standpoint with its calls for limited government, the post-modern standpoint which avoids discussion of the essence of education or humanity, and the legacy of Japan's theory of the "gakuryoku hoshō" (guarantee of academic ability) which is inclined to confine what to teach to the measurable, educational studies may find itself contributing to this trend as well.

If the criticisms (1) to (6) above are facing their limit due to reasons such as the above, we must move forward based on the issues of (A) and (B) in order to criticize evidence-based education. Below, I show that while many people uneasy about the future are being presented with an attractive narrative focusing on evidence-based education, and many of them are placing their hopes for the future in this narrative, it is no more than fiction, and the more they believe in it the greater the tragedy that will ensue.

2. From Transforming Views of Education to Transforming Education

2.1 Pushing aside Fundamental Education

In the first portion of the following section, here in Part 2, in order to build a base for clarifying that the glories promised by evidence-based education are no more than illusions, I attempt to point out that the transformations of views of education are behind the realization of evidence-based education, and that it is enforcing the transformation of education itself.

The first step in the process by which evidence-based education came to be accepted as natural is that the primordial education which incorporates the fundamental essence of education, what we might even call the educational base of humankind has been withdrawn further and further into the background, through the introduction and acceptance of "education," born in 16th-century Europe, into school education, and further its expansion outside schools. The fundamental education carried out by humankind throughout the very long pre-modern period has become lost to sight as modern "education" comes to the fore and traditional societies are disassembled. This process has gone on for centuries in Europe, so that for a long time the majority of people have been unable even to grasp the existence of this fundamental education. However, in Japan, which introduced the school education system from the West along with the creation of a modern nation-state (the Meiji Restoration) in the late 19th century, and brought the "education" along with it, this primordial education remained in considerable force until the 1960s (the high economic growth period). It was called *oshie* (teaching/coaching), and was closely bound up, as a background support system for learners, with *manabi* (learning). It is essentially inconsistent to call the fundamental education, embedded in this primordial education and based in a different system from the Western "education," by the same name, but since there is no suitable English word, I will refer to it here as *education I*.

In education I, while participating in set practices of living or working carried out by the community, people imitate practical models to master knowledge and skills, and go beyond the model to deepen these and to create new knowledge and skills. The fundamental principle of education here is that the learner uses their whole body in a dialogue with the situation. Attempting to respond to the calling of the world, namely other people, events, and objects, the learner uses tools (objects, knowledge, etc.) as media between oneself and the world, working on the situation, and is then called again by the world to repeat the process (Matsushita 2014). Therefore, unlike the modern conception of "education," education I is

free of the goal/method structure, and does not try to calculate its current teaching and learning activities based on an image of the future (the status of the educated which is the aim of education). It simply sees the overall process—the autopoietic transformation of human knowledge, wisdom, skills, abilities, attitudes, and personality through the encounter with others, events, objects, and signs such as words—and its individual aspects *after the fact* as education, in an analogy with modern education. Education independent of encounters in this sense, that is separated from the *process of living* overall, does not exist of itself. Learning and teaching are both essentially embedded in the process of living.

Thus, the process of education I as a process of call-and-response with the world, accompanied by the practice of living, is certainly non-causal. The process of education I, involving a complex of invisible and unpredictable factors, cannot be rationally controlled, nor can its results be predicted. The teacher evaluates the learner from multiple aspects, looking at the whole of their behavior and ways of life from a long-term perspective, and simply readying for the learner the opportunities for practice and encounters with the world thought to be best suited to the individual. After that, the teacher must simply *wait* for the learner to grow up, *hoping* all the while for fruitful results.

This does not, however, mean that the teacher is powerless. Rather the reverse: in the world of education I, the master (teacher) often holds a decisive influence over their apprentices (learners). Where there are no educational objectives, the master's way of use of tools and interaction with the world become the model, and the master's individual practice, even the personification of good living that they display, gives direction to the learning process as a whole. Paradoxically, in the world of education I which does not try to control the educational process rationally, deeper relations between master and disciple become possible, and the master deeply influences the learner, or again conflict with the master can lead the learner to the creation of something new and different (Steiner 2003).

On the other hand, the “education” familiar to modern people—let us call it *Education II*—is different in principle from education I. Through specific areas and activities (suitable to “education”) independent from the process of living, Education II's purpose is “to bring into existence the knowledge, abilities, and attitudes called for because they do not exist or are not sufficient,” intentionally. By the use of appropriate methods, it attempts to accomplish its goals or objectives rationally. Compared to education I, wherein education existed as the result of the accumulation of the present, Education II offers a present composed of calculation backward from the future image to be achieved. Thus, it is only with Education II that education can be analogized with medicine. Both use rational methods to fill needs or compensate for insufficiency.

Even so, for a long time Japan's modern schools involved a close relationship of Education II with education I. The scientific knowledge taught and learned in Education II tended to be seen as a means for achieving personal success, but this school knowledge did not stand alone as a special knowledge with exchange-value; it had also the use-value of developing in new directions the knowledge and skills acquired through education I. For this reason, schoolteachers also endeavored to blend education I and Education II. They understood that education would not allow them to control children's knowledge and abilities as they planned, and tried to encourage the encounters with the unknown world and participation in good practice called for by education I, while furthering the rational teaching and learning of scientific knowledge called for by Education II. Thus, as Education II exercised a great influ-

ence and children's independent and autonomous "learning" (*manabi*) was damaged and lost, reactions arose involving attempts at formulation of a new style of education with an eye to education I. Various discussions and practices such as "New Education," "*seikatsu tsuzurikata kyōiku*" (education through writing for life), and "*seikatsu shidō*" (education as life guidance) can be positioned among the diverse variations on these attempts.²

Elsewhere, there were certain minority attempts in the West as well to promote Education II on a basis of education I, the results of which significantly influenced educational circles in Japan. These involved attempts to explore through pedagogical arbitration the basic principles and formats of education which could combine two different systems: the fundamental education embedded in primordial education pervading the traditional society, and the modern education which pursued the goals of the nation-state and modern citizen society (personality, culture, autonomy, freedom). John Dewey's theory of education is typical of these attempts (Dewey 1899, esp. Ch. 1).³ As well, insofar as Education II was supported on a basis of education I, schoolteachers were called on to be "reflective practitioners" (Schon 1983), supported by advanced specialist knowledge as well as proper practical knowledge and connoisseurship.

In this way, while Education II and medicine are similar in structure, insofar as Education II is supported by education I, it cannot be discussed easily in the same breath with medicine. Medicine has the clear and unambiguous goals of relieving symptoms and eliminating the causes of disease; results can be gained in the short term, and the achievement of goals can be objectively evaluated, allowing standardized treatment methods. Education, on the other hand, must approach both short-term goals and long-term ones, the latter often showing results only after decades; thus, it is difficult or impossible to judge the success or failure of education objectively, and issues of how to teach/guide are forced to rely heavily on the individual learner and their surroundings. These differences appear here.

The criticisms of evidence-based education (1.1) above reflect these differences between education and medicine as well. However, they lack sufficient awareness of the significance and inherent logic of education I. Comparing education to medicine is not only limiting it to its basic role, but also ignoring its fundamental base in education I, pushing aside education for "bringing up a human" or "cultivating humanity," and yet there is no awareness of this fact. The discussion in 1.2 (B) above may stem from this confusion of the basic role with the fundamentals of education.

2.2 Commodity Exchange and the Dominance of Zoe

The second and decisive step toward evidence-based education was first taken when Education II tried to take off and become independent from education I. It can be said that this was just the situation Ivan Illich was speaking out against by criticizing the "schooled society" (Illich 1971) with an eye to the richness of "vernacular values and areas full of conviviality" (Illich 1981). This situation can be said to have been brought about by the increasing commercialization of education or the penetration of the logic of the market into education.

The commercialization of education inevitably demands "education in order to satisfy individual needs and desires" and "education which brings you the things you want." Education is taken for granted as a product with exchange-value and use-value, without ever considering to what extent this view is realistic. Thus, the more the commercialization of education advances, Education II expands in its role as the correct education, and at the same time ed-

ucation I is rejected. The commercialization of education pushes ahead the transformation of views on education which had previously proceeded gradually. This is the transformation from education based on *gift exchange*, that is, “education as a limitless relay of teaching from the previous generation to the young, from the old hands to the rookies,” to education based on *commodity exchange*, that is, “education as a method of gaining the things ‘I’ need or my own profit.” Using the categories of life passed on from the ancient Greeks through Hannah Arendt and Michel Foucault to Giorgio Agamben (Agamben 1995), it is a transformation from education with aspects of *bios* (a good life or a particular form of life) to one rooted in the pursuit entirely of *zoe* (mere life or survival).

Along with this transformation, educational perspectives such as “anybody can learn if individual learners are educated with the ideal methods for each” (the “mastery learning” theory etc.) and “carrying out this kind of education will realize both efficiency and equity,” considered “correct arguments on education,” are created (Matsushita 2013). In order to realize these “correct arguments,” the accountability of educational administrators and teachers as well as market competition and the use of “citizen power” come to be regarded as necessary. Once within this framework of understanding, in order to carry out accountability and pursue efficiency and equity, it comes to seem natural to demand evidence as an objective and scientific basis of education.

However, as the influence of evidence-based education expands, further transformations arise in views on education. To begin with, in a society walled in with monotone stage properties such as commodity exchange (profit, competition, accountability) and *zoe* (life and survival through crises and uncertainty), there are mutual reactions between the thought that the duty of public education is the solid guarantee of a certain amount of academic ability or competency and the theories that learning is reducible to data, that is, the workings of the brain or computer processing. These mutual reactions have a synergistic effect, and then the relations of education and evidence sometimes invert themselves. The concept of “evaluating education based on evidence” transforms, by placing out of sight education in which evidence is not easily obtainable, into the idea of “considering education that which can be evaluated by evidence.” Rather than accommodating methods to reality, reality is to be accommodated to the method. As a result, the question of “how to enhance academic ability” is trivialized to the question of “how to get higher scores on achievement tests.” As the results of education are judged by evidence, and evidence can be mutually compared, the substances of Education II are significantly curtailed. This is the appearance of hypermodern education, *Education III*.

Because its range of accountability is plainly limited, Education III is convenient for politicians, educational administrators, and the teachers to receive approval and promote themselves, and its burden is far lighter when compared to bearing the responsibility for children’s overall growth. Because its contents are clear and can be quantitatively processed, it is open to interdisciplinary research by educational scholars as well as others in fields such as neuroscience, information engineering, and economics. As it tries to remove the particularities of history and culture, it is well suited to globalization, and also suits competition with its requirements for objectivity and equity. For these reasons, the education information industry also finds it easy to enter this “industry,” and hybrid businesses thrive. In this way, Education III brings great “benefits” to many.

However, the more Education II is transformed to Education III, the straiter becomes the

path returning to education I: the world of “bringing up a human” or “cultivating humanity.” This world of fundamental education is not simply *eliminated* but *forgotten*. More than that, as specific educational results within a given period are called for, Education III becomes more and more superficial and ostensible, namely the manipulation of things easily visible and understandable, and then even Education II comes to be considered difficult to accept. The criticisms in (1.1) are more applicable than ever here, and yet the more people become used to Education III, the harder they find it to understand these criticisms.

Still, what I want to focus on here is that, while Education III can be regarded as a variation on Education II, its restriction by stage properties like commodity exchange, zoe, and evidence creates situations that did not exist in the world of Education II. What situations appear as a consequence of changes in the relationship of evidence and education due to the appearance of Education III? What is lost there? Below, I want to consider the future of education and educational studies, as it is already transpiring and as I foresee it from here.

3 The Inverted Future of Education and Educational Studies

3.1 Evidence and Scientific Data

An important hint when considering the problems brought by Education III is the concept of evidence. Evidence is often considered a “scientific” basis. However, the premise of this science is not the “science” which held sway up through the end of the 20th century. Evidence is different from the data on which conventional science depended in many ways.

Data in conventional science (hereafter “scientific data”) was used to examine theories for scientific explanations and create truth and knowledge. With regard to “scientific explanations,” distinguished from explanations dependent on ideology, myths, or pseudoscience, the scientific method has long been considered the touchstone of science. For example, the hypothetico-deductive method of Karl Popper (Popper 1959; Trusted 1979) considered the limits of induction and so positioned falsifiability as the criterion for identifying science. If data falsifying a theory was obtained, the theory was refuted, and theories which stood up to falsifiability tests were confirmed as hypotheses. Thus, the work of science followed the interior logic of the scientific community from defining problems through to evaluation, but the truth and knowledge which resulted therefrom were directed widely toward humanity as a whole, and scientists who worked for the profits of a given organization or country were severely criticized. Scientists were called on to serve as the servants of truth even when achieving authority, fame, and profit.

In contrast, *evidence* is not data intended to prove or falsify a theory as a scientific hypothesis, but material for judging the suitability of a means to an end. It is not the basis of a scientific theory which explains causal relationships, but that of a prescriptive judgment of the suitability of a given method. Naturally, when limiting the suitability of a method to its *effectiveness*, and depending on empirical/verifiable/statistical methods, judgment based on evidence takes on the guise of a scientific judgment in its attempt to discover decisive factors and causal relationships. However, its research called “science” depends on induction and probability theory, and unlike conventional science, it takes little account of the distinction of science from non-science (Itoh 2002). Thus research requiring evidence adheres not to the research community but to the organization which has set the goals, as the servant of stake-

holders such as clients or customers. The researcher then pursues profit in exchange for this evidence, constituting a win-win situation.

This science positioned within the system of commodity exchange/zoe/evidence is not, in the words of Michael Gibbons' theory of modes of knowledge production (Gibbons et al. 1994), "Mode 1" with its focus on the investigator-initiated and discipline-based supply side, but has an affinity with "Mode 2," with its focus on the interdisciplinary/transdisciplinary and heterogeneous application-oriented demand side. It is also linked, in a society where uncertainty has increased as diverse factors interact in complex ways and the myth of scientific objectivity has collapsed, to the "post-normal science" (Ravetz 2006) in which scientists consider the suitability (prescriptive judgment) of scientific policy along with citizens, considering the profits of all of society. When science becomes borderless with technology and policy in this way, accepting diverse citizens and non-experts, it also connects deeply with "academic capitalism" (Slaughter and Rhoades 2004), and is manipulated by economic policy, the knowledge industry, and the logic of the financial markets. The data which takes center stage at this point is what we call "evidence."⁴

These days, scientific transformations have rendered the distinction between scientific data and evidence vague. With evidence considered a "scientific" basis, the objectivity and certainty of classical scientific data waver, and scientific data takes on a ready-for-anything flexibility and situational specificity (a characteristic relative to the experimenter or experimental facilities/equipment) (Tsukahara and Mima 2014). Here a major turning point appears. In the world of the story surrounded with the science/commodity exchange/zoe/evidence system, when science focuses more on *usefulness* than on *truth*, as the status quo of life science in Japan, with its potential for everyday "data stroking" (cutting and pasting or reuse of images) shows (Noe 2014, p.32), evidence sometimes comes to stand on the *borderline between truth and falsity*.⁵ As research based on this kind of science proceeds, as if giving up on the status quo in which randomized controlled trials and systematic reviews are not easy,⁶ educational research, which may well turn *any* "visible" data into evidence, has a far higher potential to depend on false evidence. What happens to education then?

3.2 From Shallow Education to Hollow Education

In the world of Education III, with the stage properties of the science/commodity exchange/zoe system newly thrust into the foreground, evidence, once only a minor prop as a material for judging the success or failure of education, now comes to influence the success or failure of the entire play; in tandem, the transformation/deterioration of thought on education develops as well. In the Japan of today, as the competition for survival grows fiercer at the levels of individual, organization, municipality, and nation, with sometimes severe penalties for the loss of competitiveness, one must continue to produce the performance demanded, and insist on the recognition of success. In this kind of society thought is inverted, and at all levels from teachers and schools through researchers and universities to learners, the creation of the evidence demanded becomes its own purpose. Evidence is no more than a material for judgment. Good evidence obtained may mean that excellent education took place, but then again it may not (see 1.1 (6)). Excellent education may not lead to immediately visible results. Although good evidence is not even a necessary condition for good education, it comes to be viewed as a sufficient condition.

What is happening here is a transformation of the meaning of evidence. No longer is

evidence a *basis for evaluating* the suitability of a means to an end; what becomes evidence is *testimony for proving* the suitability of the means. Thus the questions around education are inverted. The question of “how can we enhance competency in class” inverts to the question of “what kind of evidence do we need to say that the class enhanced competency,” and that of “how do we cultivate a zest for living,” to “what kind of evidence is *suitable* (objective/not slanted/has an impact/easy to understand etc.) to be able to say that education for the “zest for living” has succeeded”.

As a result, much of the work of education comes to be directed at achieving the required figures, “creating evidence.” Even if education changes in its nature entirely, if presented with its essential problems—“can that evidence be said to prove that education has succeeded?” “is that good education to begin with?” and so on—it is no longer thinking at all. Therefore, in Japan, the trivial evidence obtained based on an arbitrary definition of academic ability and a narrow view of classes ends up changing the entire national scope of class formats. The results of the National Assessment of Academic Ability form the basis for the stylized class format called “foreseeing/reviewing learning activity” which has been thrust on the entire country by the educational authorities on the pretext that it was effective for improving academic ability; the basis for this was the evidence that “when it was ‘well done,’ it produced results 1% higher on the ‘Japanese Set B’ academic ability test than when not well done, in junior high schools.”⁷

At the terminus of this kind of change is the development and introduction of an educational system intended to create the evidence required more dependably and efficiently. In order to prevent educational failures as far as possible, and keep even incapable teachers more or less successful, after having made the evidence aimed at simpler and easier to understand, it develops and introduces standardized/manualized instruction, small-steps learning, templates for expression and thought, rote learning, computer learning software which cleverly combines them and so on. That is, in order for slips between cup and lip during the process from educational intervention as input to evidence as output to be minimized, various adjustments are made, and the causal relationship is *simulated*. However, this can no longer really be called education according to the conventional usage supported by long tradition, and the teacher as a professional is no longer required either. Further, here the act of teaching does not bring the joy of learning or knowing to students, nor does it cultivate humanity, and thus it is joyless and must motivate teachers with personal profit (rewards and punishments) as with the learning of students (see 1.1 (5)). Its gaze is focused on nothing but the children/humans used for the purpose of the profit of the “educators.”

Thus, diverse falsification other than the numerical manipulation enumerated in 1.1 (6) is born. It is not intentional fabrication or falsification, but falsification in the sense of creating *what can neither be called false or true*—for instance, the state of “maybe not understanding, but we might as well call it understanding.” The simulation of causal relationships discussed just above is one example of this; the method of “fabricating” learning results on the learner’s part as the teacher demands, according to an unofficially standardized template, for instance a *sakubun* (essay, or “creating a text”) carried out so as to please the evaluator, continues to “evolve” today. The creation of “original” essays and novels is now possible using small-steps queries through computer support software, cleverly designed templates, database search functions, and editing functions etc. In order to demonstrate one’s own academic motivation, communication ability, or employability, it is necessary to construct/simulate proac-

tively some evidence to prove these, but this proactive construction of evidence sometimes means “learning (at times active learning)” as well. Naturally, this form of evidence construction must have certain short-term “advantages” for both the learner and the teacher. However, according to the basic meaning or usage of learning supported by long tradition, the substance of the “learning” can be no other than hollow.

Education III scoops out the substance of Education II to make education shallow, but the more the construction of evidence becomes its own end, the hollower education becomes. If this kind of education is widely accepted in schools and the education industry, the “zest for living” or the “social competencies for survival” in an unstable, uncertain society is highly unlikely to be acquired. The required competencies for “independence, collaboration, creation” (*The Second Basic Plan for the Promotion of Education*) will rather become even less attainable. The *execution* of evidence-based education inverts the relation of evidence and education as a self-referential effect, and brings change to education. Therefore, the goals expected of education (1.2 (A)) ironically enough become the more unachievable the more this education is furthered.

3.3 From the Abasement to the Dismissal of Educational Studies

As Education II becomes independent from education I and comes to aim entirely at what is “useful” in accomplishing objectives, and further as Education III, pursuing self-referentially the proof of its own “usefulness,” becomes dominant, educational studies too will undergo tremendous changes.

First, when the issues of public education are limited to a *solid guarantee of measurable* academic ability/competency, it becomes more and more difficult for the educational studies, including but not limited to the study of the principles and theories of education, which have found their *raison d’être* in school education and its footing in teacher education, to find a place accountable to the taxpayers. Because they are forced not only to take limited roles, but also to compete for limited resources with the education information industry, which does not require investment funds, rather producing them itself. For educational studies to survive in this situation, it must take on the difficult issue of finding its own *different accountable place*, or else go under contract to the educational authorities or become a parasite on the education information industry. However, if it attempts the latter contractor/parasite route, educational research will end up supporting the justification and expansion of Education III. When researchers integrated with the education industry and authorities claim their own superiority and correctness by plastering academic journals with clearly written yet stylistically identical papers covered in figures, diagrams and charts, where can we find educational studies as an autonomous discipline?

Second, when the role of educational studies is limited to the exploration of useful (effective/efficient) means or methods for achieving objectives, educational studies as noted above soon will become unnecessary. That is, these days, the exploration of the ideal methods for achieving objectives can be *automated*. Let us apply the concepts of “design science” and “learning science” (Oshima and Oshima 2009), which endlessly repeat the trial and improvement of artificial objects or learning environments designed suitably for objectives based on evidence. Then the idea can be established that methods useful for achieving objectives will be discovered automatically in classrooms through applying the diverse and varied teaching materials and instruction methods created by the complex of interdisciplinary learn-

ing science and the education information industry, making use of the Web environment and trial and error. That is, the “interaction of practice and data,” instead of the “interaction of theory and practice” which MEXT seeks in professional vocational education, allows discovery of useful methods or means via statistics. When the use of Big Data becomes serious, the thought surely emerges that it is enough to statistically dig out useful methods and factors for achieving objectives from a vast amount of randomly assembled data (that this will lead to unexpected results and diamonds out of trash heaps). After a while, the idea may even bring about the perversion that the discovery of the “causal relationship” between method and result naturally leads to setting solidly achievable educational objectives. In any case, this may require “data scientists” (Daikoku 2014, pp.133f) but not educational researchers. Educational studies will either be swallowed up by the interdisciplinary sciences supporting the education information industry, or above all theories of education will be discarded.

Conclusion: Toward a Revival of Educational Studies Which Reflects on Education

It is not easy to clarify specifically to what extent the shallowing and hollowing out of education as described above has spread, and what effect it is having on children and young people. Recent theories of “situated learning” and “authentic learning” have the potential to lead to a reevaluation of education I. Further, in Japan, education I as the remains of tradition continues to make a certain amount of effect felt at the *margins, exteriors, and gaps* of public education. In any case, even today no one can be completely unrelated to education I. Everyone learns a great deal through channels other than intentional teaching and official curricula. For this reason the situation is complex, and thus while education may be continuing its decline, it is not yet beyond hope. Therefore, we can obtain only fragmentary data at best about the situation of its decline, and for that reason it must be considered impossible to arrive at an *evidence-based* conclusion regarding the suitability of evidence-based education. This education is unassailable, as it avoids criticism simply by pointing out something unsatisfactory about the evidence presented by opponents.

If so, in order to evaluate evidence-based education, we must rely on a holistic and hermeneutic approach (1.1 (4)). We evaluate this education as a whole of its functions and consequences, by placing it amid complicated semantic networks and context. In this approach statistical and demonstrative data is also referred to as convincing proof, but this cannot settle the problem entirely. Rather, the data gives us important hints for discovering problems. While this approach pursues a balance of significance between diverse concerns and facts, its statements cannot be fully confirmed. Therefore, it is always open to criticism and disagreement as a hypothesis supported by a given narrative, just as with the case of evidence-based education. However, without relying on this kind of methodology, evidence-based education cannot be criticized at all.

It goes without saying that this kind of criticism is what I have attempted in this paper. That is, to clarify the limits of evidence-based education in relation to changes in views of education, modes of life, modes of exchange, and views on science, and as a result to deconstruct the myths surrounding evidence-based education. According to these myths, this education will provide great advantages on the spot to anybody at all. However, the historical and social context which has called for this education shows that, considering its recursive consequences in the long term, they seem to construct a mountain of desolation.

And yet, this desolation can be “effectively used” for the vitalization of the education

information industry and the creation of new industries, or used as a new social issue on which politicians, political authorities or mass media make their presence felt. In actuality, education in Japan today faces expectations for the resolution of all kinds of social problems. The complex and involved problems appearing in a society facing great changes are mostly converted into the problems of individual capacity and motivation, and the required “chikara/-ryoku” (abilities/capacities/competencies) to be cultivated by education keep on and on expanding. However, education cannot fulfill these expectations, because education itself is in a decline, regardless of what reasonable-seeming evidence it manages to present, as well as the obvious fact that many problems cannot be solved by education alone. Thus, as we see from, for example, the word “ningen-ryoku” (human abilities), the individual ability to be handled by education comes to cover all aspects of human “shishitsu/nōryoku” (quality and capacity); each are continuously subdivided and numerated, and the required skills expand endlessly, although intended to be “generic,” or applicable across a wide range of situations. What is compatible in this situation is no other than the Education III described above. While losing substance and being reduced to a simple method for calculating figures, education multiplies promiscuously: this is Education III.

Therefore, education and educational studies cannot break out of the negative spiral they are caught in simply by trying to reject the shallow and hollow forms of education. However earnestly it is taken to task, Education III will inevitably revive, supported by certain “demands” and “needs.” So what should we do? First, we need to look at the fundamental education which is education I, on which a few teachers and instructors still rely, although it is entirely ignored by educational authorities and almost forgotten by educational researchers as well. Reconstructing education based on education I (Matsushita 2010a; Matsushita 2010b; Matsushita 2012) and rendering Education III useless should be a way to bring hope to the futures of both children and society. Why? Because this newly reconstructed education is thought to lead to not only “zest for living” in an unstable society, but also to the ability to construct the basis of the democracy to come. At that time, theories of education which reflect on and criticize the status quo of education at a metalevel will take up the duty of *making education itself richer and more generative*.

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Notes

- 1 For education and the right to live, see in particular the reports by Takashi Yamaguchi and Norihiro Nihei in Hirota and Miyadera (2014).
- 2 A hint to the understanding of this is found in Tanaka and Hashimoto (2012). However, attempts to revive education I are often trivialized by the framework of Education II (Matsushita 2010c).
- 3 Biesta also relies on Dewey’s “practical epistemology” to criticize “evidence-based education” (Biesta 2007; Biesta 2010b; Biesta 2014).
- 4 If so, a reconsideration of 1.1 (4) is required. This is because evidence-based education not only disparages the tradition of hermeneutics and holism, but also alters the tradition of positivism. Evidence-based education can be said to rely not on positivism with its premise of a fixed truth and epistemology, but on a new kind of positivism compatible with the post-modern situation of knowledge which replaces truth and epistemology with finely differentiated authority struggles. If so, the criticism of evidence-based education to the effect that it has the “deficit” of seeking “certainties” rather than “possibilities,” because it relies on “representational epistemology” (Bies-

ta 2010a, p.500) is off the mark.

- 5 In a conversation between Tsukahara and Mima (2014), the medical scientist Tatsuya Mima says “Among most professional scientists, the sense is perhaps that papers in *Nature* or *Science* tend to be disproved or fail to repeat their results after a few years, and in the end they’re papers close to the world of journalism, where the test is whether you managed to express your ideas interestingly, getting a lot of readers’ interest—that’s the common awareness.” (p.55)
- 6 For example, see the “Status and Issues of the Use of Evidence” in the US and the UK, in Appendix A of National Institute for Educational Policy Research (2012).
- 7 National Institute for Educational Policy Research, Hesei25-nendo Zenkoku-gakuryoku/gakushū-jōkyō-chōsa kurosushūkei-kekka: Shidō to Gakuyoku no kankei-tō no bunseki [2013 National Assessment of Academic Ability Cross-Tabulation Results: Analysis of the Relations of Instruction and Academic Ability], found on 31 January 2015, at http://www.nier.go.jp/13chousakekkahoukou/data/research-report/crosstab_report_summary.pdf.

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