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THE NATIONAL RESEARCH COUNCIL RECOMMENDATIONS: EDUCATION AS INTERVENTION

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The National Research Council's (NRC) recent report, *Scientific Research in Education*, issues an important call for increased scientific rigor within educational research. There is more at stake in the question of how to achieve good, scientific educational research than just science and how it can best be done in a community of educational researchers, however. The meaning and aims of education itself are at issue.

I set out here to delineate the implicit conception of education underlying the NRC report, namely education as intervention. I will show how the committee conceives education as an instrumental intervention for solving social problems and achieving specific predetermined goals. Importantly, this understanding of education allows certain approaches to scientific research to rise to the top as most trustworthy and valuable. Specific methodological approaches to studying education, particularly causal analysis by random experiment, logically follow as recommendations for examining education as intervention. Suggesting that educationists may not agree on this premise, I draw attention to one recently emphasized alternative, the postmodern notion of education as *bildung*. I will show how education as *bildung* is incompatible with NRC proposals for scientifically studying education. This alternative and the lack of consensus on the best conception of education calls into doubt the generalizability and legitimacy of NRC supported research.

EDUCATION AS INTERVENTION FOR THE NRC

For the NRC, "the advancement of scientific knowledge is facilitated when investigators work with the same set of variables and theoretical constructs."¹ Successful scientific study is best achieved when a strong scientific culture forms around a shared "set of norms and practices."² While not explicitly addressed by the NRC, cultures typically form around a common view of the good life, and here, good education. It seems fitting, then, to expect the NRC to delineate this educational vision prior to examining how best to study and promote it, let alone seek consensus on investigating it. Surprisingly, given that some chapter subtitles seem to point in precisely this direction, there is very little explicit examination of the NRC idea of education. The most decisive description offered is the brief statement midway through the report that "Education is a complex human endeavor, ultimately aimed at enhancing students' cognitive, civic, and social learning and development."³

As they leave their introductory comments and begin to make suggestions for good research, a specific guiding ideal of education becomes clear. The

words used to describe education and the best studies of education are especially revealing: plan, implementation, treatment, usefulness, program, goal attainment, efficiency, effectiveness, alleviation, predictability. Similarly, the comparisons made on the report's very first page to the endeavors of reaching the Moon and wiping out disease are suggestive of how education should be conceived.⁴ While the NRC says that intervention is "one important focus of study," I contend that it is *the* focus of study for the NRC.⁵ Education is held as an intervention. Indeed, we see the NRC slip easily from describing 'education' and 'educational programs' to 'interventions'.⁶ Closely tied to intervention is the notion of education as instrumental—as a useful tool for achieving a specified goal.

People tend to view social problems as having instrumental solutions: the status of the poor and unemployed can be ameliorated through welfare to work programs, illiteracy can be assuaged by America Reads, and the like. The NRC employs this assumption without question insofar as it believes social problems pose instrumental solutions which can be met through the intervention of education. Even in their first few pages, education, in terms of literacy and numeracy, is posed as necessary for achieving economic viability and job security, thereby implying education as an instrumental solution to alleviating the social ills of poverty and unemployment.⁷ Throughout the report, education is described as an applied field, like medicine, which is aimed at solving practical problems. The committee seems to lament that education, unlike medicine, has not produced a Salk vaccine which solves "the practical problems of prolonging life and reducing disease."⁸ They describe medicine as having clear goals, admit that education does not, and seem to wish that (and in fact operate as though) it did.⁹ While nearly all conceptions of education uphold some general goals, the preciseness and predetermined nature of the goals described here is emphasized in education conceived as intervention.

As intervention, the NRC is led to seek "what works". This is true both in terms of education, where it is an efficient process for achieving specified goals, and for education research, where methods are valued relative to their ability to answer questions about what schooling approaches work best.¹⁰ This demand has been reiterated by Grover Whitehurst, director of the Institute of Education Sciences, who asks "what works best, for whom, under what circumstances?"¹¹ A utilitarian view, education as 'what works' lends itself to a means-end rationality. Within this framework, education becomes a means for implementing plans geared at achieving specific goals and education research is tasked with understanding this process of translation, applying theoretical models, and testing which plans work best. The goals are not thought of as emerging through the practice of education.

It follows that education as instrumental for achieving predetermined goals must bestow specific stores of knowledge, patterns of socialization, and ways of

learning. Education must intervene into the lives of children to confer knowledge and behavior that would not otherwise develop for the purpose of alleviating problems or meeting goals. Educational research based on this notion strives to determine which knowledge sets and patterns are inculcated and to what extent. The NRC correctly notes that “Education interventions have costs—in money, time, and effort: making a judgment on the effectiveness of a treatment is complex and requires taking account of myriad factors.”¹² Notice here the use of ‘treatment’ and ‘intervention’ and how they lead to the logic of cost effectiveness and economic analysis. If educationists are trying to treat a specific problem, they are led to inquire about efficiency in ameliorating the problem and efficacy in targeting it.

SCIENTIFIC RESEARCH ON EDUCATION AS INTERVENTION

If we view education as a process of solving social problems through effecting instrumental treatments, certain types of research seem most fitting to assess the quality and accuracy of those interventions.

Education as intervention entails plans and treatments prespecified by teachers and educational scholars. Because the intervention is externally chosen, designed, and directed, it is more capable of being directly investigated than some other notions of education. This possibility of direct investigation allows the NRC to claim in their core principles that all scientific endeavors “use methods that permit direct investigation of the questions” and do so empirically.¹³ Moreover, empirical questions “must be posed in such a way that it is possible to test the adequacy of alternative answers through carefully designed and implemented observations.”¹⁴ Here, education as intervention is studied by altering one specific element of the instrument, a concretely identifiable aspect, and by observing this alternative intervention. The goals attained mark a precise end to the targeted intervention.

The NRC claims that these end points and, indeed the entire physical and social world, can be objectively observed and agreed upon by multiple observers.¹⁵ It makes sense that education as an externally conceived plan of intervention can be observed and agreed upon by many stakeholders, but it is not so clear that the successful achievement of predetermined ends is so objectively measurable, as I will argue later. Nonetheless, education as intervention with prespecified ends lends itself to pre- and post-test design. Intervention implies that the desired state is absent at a clear point before implementation and achieved at a precise moment following completion of the instrumental plan. This absence and achievement can be measured by such a design. Furthermore, education is treated as objectifiable, as a fixed object rather than a growing and changing process. Given science’s, especially the natural sciences’, past history with objectification, the NRC risks objectifying, and thereby reifying, education as intervention. Additionally, Whitehurst’s proposals

risk a cycle of reification: “customers” ask for research that works, the government applauds and funds this type of research, and it becomes the only type of research acceptable to customers.¹⁶ In this cycle, some valuable aspects of education may be lost. Admittedly, for the NRC, this is not a problem for they presume that education is so clearly understood in this way that it doesn’t even need to be described as such.

Additionally, if education is studied in terms of its ability to effect specific results, it makes sense for the NRC to describe good research as capable of having predictable results. Intervention entails seeking specific results and mass study of intervention would appropriately search for patterns in the ways that those results are achieved. Similarly, intervention as a performed plan lends itself to being replicated, as does the study of such intervention. As mentioned above, the intervention implemented and the ends sought can be agreed upon by multiple researchers. Replication, in one sense the NRC identifies, is the reliability and consistency of the assessments and measurements of the situation from the standpoint of various observers.¹⁷ At the more complex level NRC names, replication is the ability to achieve similar conclusions when repeating an investigation in multiple contexts.¹⁸ Replication is desired across studies of education because it gets at the cash value of education as intervention—the certainty that it will produce the same results when implemented multiple times in multiple places.

Education as objectively identifiable, as tested by altering the intervention, as having prespecified goals and end points, and as having predictable results all point to causal analysis by random experiment as the most fitting approach to education conceived as intervention. Whitehurst makes this explicit: “Questions of efficacy and effectiveness, or what works, are causal, and are addressed most rigorously with randomized field trials...The only sure method for determining the effectiveness of education programs and practices.”¹⁹ And it is with this random experiment that the NRC sides. While admitting that it may not always be a feasible or ethical approach, they hold experimentation “is still the best methodological route.”²⁰ Indeed it follows as such from the questions they pose, or, more accurately, the assumptions they hold, regarding the nature of education.

DISAGREEMENT

The NRC charges educational researchers with having failed to forge consensus on research quality and proposes a more robust scientific community geared toward consensus building.²¹ While consensus can be an admirable goal at times, the committee overlooks the fact that consensus regarding educational research is nearly impossible given the varying understanding of the object being investigated. Many people may agree that schooling, rather than education, should be instrumental. Nearly all would agree that schooling needs to install certain skills, like reading, in order to ameliorate social problems. But when it

comes to education, many scholars envision it as something far more deep and wide ranging than just intervention.

Some discussions of methodological approach are based on a similar dichotomy of education conceived as isolated and quantifiable and education as inseparable from the larger world and best depicted descriptively. Rather than method, the point of contention may actually be which underlying conception of education is upheld. So while debates in journals like *Educational Researcher* which have responded to the report may be couched in terms of methodological approach, something far more significant may be at stake. The issue may actually be which conception of education is the most appropriate object of study for these approaches (typically broken up into quantitative and qualitative), rather than which one more accurately and completely addresses one specific conception of education as intervention. As we have seen, the NRC notion of education leads to support for a quantitative, experimental research method. Qualitative researchers, like Elizabeth Adams St. Pierre, who detect this one-sided support, may actually be up in arms over the appropriate notion of education rather than the best approach to studying it.²² Their arguments on epistemology and perceived difficulty of study may actually be concerned with education-related visions of the good life and the corresponding complexity with which it is understood.

One alternative conception of education that is in stark contrast to that of the NRC's is education as *bildung*. I set myself here to describing this alternative and juxtaposing it to the NRC guidelines for examining education. I do not necessarily endorse education as *bildung*, but use it as a foil for revealing many problems with the NRC report. From the start, I should note that *bildung* has a long and complicated history, primarily arising out of the German neo-humanist tradition where it was conceived as self-development, building rational autonomy, and learning to mutually recognize the other. As an understanding of education, it has taken various forms and emphasized different things throughout the years. Interestingly, education as *bildung* was forcefully abandoned or narrowly maintained for the elements which could be empirically examined under the empirical drives of the 1960s, which display some resemblance to those of the NRC.²³

While there are many different conceptions of *bildung* that parallel its long and tumultuous history, I draw here on those most recently theorized in the context of a postmodern, globalizing world, rather than more modernist notions of *bildung* as the individual solely developing rational autonomy. Several educational scholars and philosophers have recently been theorizing *bildung* in the contemporary postmodern world. These current undertakings show that *bildung* continues to be a viable, though contested and changing, understanding of education.

EDUCATION AS BILDUNG

A postmodern understanding of *bildung*, informed by philosophical hermeneutics, entails a lifelong process of self-development through the cultivation of the student's mind and soul. The self is embedded in human tradition and education involves coming to terms with this tradition. The self being made, however, remains incomplete and constantly in the process of creative self-transformation. Insofar as it is a continual process, it lacks a predefined, specific goal or recognizable end point. In fact, it is not geared toward extrinsic goals; rather the ends-in-view which it does uphold always arise out of navigating a situation or interpretation. *Bildung* is the proper way of developing one's natural talents that are linked to the human tradition, not by mastering it, but by participating in it.

Bildung includes but surpasses just educating for knowledge, skills, or socialization. Rather than the measurable acquisition of knowledge sets, it is a process of learning how to seek, interpret, and produce knowledge, or more precisely, understanding. But, importantly, it is how we stand in relation to this knowledge, as ironic, as cognizant of its revisability and of its scope which exceeds our control and ourselves.²⁴ *Bildung* nurtures a more pragmatic knowledge that goes beyond this factual knowledge—an understanding, a “know-how” that successfully leads the student, though in undetermined ways, by cultivating the inner life informed by environmental conditions, conversations with others, and differences amongst individuals.²⁵ This involves a self who actively participates in transformation using knowledge of history, the successes and failures of past adaptations, and the current matrix of language.²⁶ Hence, *bildung* involves learning how to envision and recreate the world and one's self differently; it is constructing a future informed by the past and present. *Bildung* entails becoming rational, but not naively autonomous and disconnected from others as was the case with the more modernist sense of *bildung*. One becomes adept at rigorous ways of thinking and interpreting. Education is learning to see the world and its parts coherently and contextually through exercising complex rationality, especially, in partnership with other learners.

Education as *bildung* provides an experience for understanding how one's life is tied to others, others who are different from oneself. It entails actually encountering and engaging with what is other and, thereby, being social. Rather than seeing the other as strange and foreign, the role of education is to make the student's familiar world seem strange.²⁷ *Bildung* involves becoming alienated through encountering the other. This jarring experience can reveal the contingency of one's living, the uncertainty of the language one uses to understand oneself, the effect of the traditions which flow through one, and the hermeneutical ways in which meaning can be made between unique individuals demarcated by difference. Indeed one's self understanding and identity are at stake.

It is in the ‘fusing of horizons’ when engaging with others that understanding of human universals is revealed, though only partially and tentatively. The focus here is on openness to relationships and language. Bildung is learning in such a way that the student keeps herself open to something other than herself. This is best accomplished through dialogue premised on openness toward who we are and how we constitute ourselves through engaging with others. Through dialogue we may come to the truth of a matter, possibly even an understanding of universal aspects of being human.

Bildung is not something we use for ourselves or others. We participate in it, but do not direct or control it. While it may produce good people or laborers, bildung itself is intrinsically valuable. Describing the intrinsic value of Gadamer’s bildung, David Blacker notes,

This is not to say that economic well-being is unimportant, nor community nor democracy—nor even to diminish these goods. Not at all. It is merely to suggest that there is at least *some* part of education that has reasons of its own, some part that is worthwhile not because of the commodities it procures nor even the sorts of citizens it creates. It is also to suggest that we are dangerously close to losing that vision, even as our need for it grows ever more urgent.²⁸

Having been written before publication of the NRC report, we can only imagine that Blacker’s sense of urgency would only be strengthened now.

BILDUNG AS INCOMPATIBLE WITH NRC RESEARCH SUGGESTIONS

As I hope it is becoming clear, education as bildung differs substantially from education as intervention. Insofar as the research recommendations that the NRC suggests follow from education as intervention, these suggestions are incompatible with studying education as bildung. Not only are the NRC proposals nonsensical for helping educators better understand bildung, but they also risk erasing bildung and other viable alternative conceptions of education. Because the NRC report, No Child Left Behind, Education Sciences Reform Act, and the Castle bill together will determine the majority of research agendas and funding in the upcoming years, their shared, narrow conception of education may be enforced as the best or only notion.

Unlike intervention, bildung is not directed toward attaining specific extrinsic goals, such as solving particular social problems. Neither can it fully be portrayed using the logic of means to satisfy predetermined ends. Goals arise out of the experience of bildung and are fulfilled within the practice, but bildung continually pushes beyond them. Because of this, bildung is incompatible with randomized experiment and particularly with a pre- and post-test design. The goals sought to be measured in the post-test cannot be selected beforehand for

this presumes an impossible knowledge of how social situations will play out and unethical assumptions about the differences of others. The composition and extent of each child's self-development will also vary, making determinations of post-test status highly difficult.

Furthermore, *bildung* doesn't satisfy the NRC's aspiration to study one isolated factor of learning at a time, nor, from the perspective of *bildung*, is this a desirable way of understanding education. The NRC contends that good science requires precisely specified and adequately measured concepts and variables.²⁹ An accompanying belief, the NRC holds that the ambiguity of terms like 'development' and 'learning' can be removed through developing a complex measurement system which connects concepts. Such connections can only be made sensible when guided by the very notion of good education that may be problematically defining them. While I do not doubt that certain approaches to education can help us better understand the meaning of these terms, *bildung* scholars would argue that these terms always remain elusive in that they can never be completely captured, nor do they coalesce into a totally recognizable, and therefore empirically measurable, form. These terms themselves, as symbols as well as the objects they represent, are constantly changing and may simply be non-empirical in certain respects. This is not to say that *bildung* cannot be rigorously studied, rather that the variables worthy of closer attention may be difficult to specify, especially as objectively from outside the process, and measured in the way the NRC demands.

In a similar vein, it may be difficult for observers to agree upon what they see let alone for them to fully see development within an individual student. Meeting the NRC goal of objective consensus by researchers who primarily stand outside of the particular educational context is nonsensical when juxtaposed to *bildung*. The NRC has not paid enough attention to how the subject represents herself to the expert. This is often overlooked in controlled experiments which try to fit people's responses into pre-decided categories and don't allow for the expert and subject to be co-partners in arriving at these 'objective' categories. The objective consensus reached is imposed on the student and on the understanding of education. Some qualitative researchers who were repulsed by the NRC suggestion that difficult variables may be so measured and objectively agreed upon (read quantitative methodology), may actually have been expressing their understanding of education as more complex, dynamic, and elusive, rather than simply contesting method.

Within the research procedure of selecting the variables of interest, identifying, and measuring them within the student, the NRC takes an interesting stance on the role of teachers. From the view of *bildung*, it appears that teachers are intimately engaged with the developing student and may have the best insight into the student's self-understanding and relations with classmates and the human

tradition. These teachers have a unique view of the students' development as co-participants in the educational process. They are better able to interpret the situation and to make suggestions for how it can be improved. Teachers then should be at the fore of educational research and should be assigned more credibility than researchers from without who come to the classroom for relatively brief periods of time to (exam)ine the students. While the NRC admits that in some educational investigations, the observer may need to be engaged with, rather than distanced from, the student and activity of learning, the teacher should be second to the researcher.³⁰ In some instances where the teacher may have a stake in the research, teachers are permitted to work in partnership with the researchers.³¹ The authority and legitimacy of the research comes, however, from the outside, objective, methodologically rigorous, researcher.

Another conflict between *bildung* and NRC supported research is the unit of analysis. *Bildung*, and the study of *bildung*, are interested in the socially situated individual, though continually conscious of this individual's relation to the larger environment and other students. For the NRC, this sample, the individual, is too small and ungeneralizable; it would fail to "yield findings that replicate and generalize across studies."³² Because it fails to satisfy this basic principle, *bildung* risks efficiency and evades the logic of cost effectiveness for it is not concerned with producing general programs that can be employed en masse. The only type of generalization that *bildung* seeks is tentative interpretations which generalize to the human condition.

The incompleteness and complexity of *bildung* calls for diverse ways of studying it. *Bildung* cannot be explained or represented in simple, or even relatively complex, causal relations as the NRC desires.³³ The embedded self, coming to terms with and participating in the human tradition cannot be reduced to elementary causal structure. *Bildung* resides in and promotes habitation of the middle space between cause and effect, a space of interpretation and compromise. This is not to say that *bildung* is free from causal relations, but rather that *bildung* moves beyond cause and effect as polar ends and therefore cannot be mapped out under such terms.

It may be the case that education as *bildung* may not be an appropriate object of scientific study; perhaps it is more aligned with an interpretive, hermeneutical analysis. This possibility calls into question the very assumption that educational researchers and scholars should become more scientific in their approach to and understanding of education. For if education is understood differently than intervention, the call for a scientific approach may not be appropriate in the first place.

In sum, the lack of consensus on the best notion of education and my example of *bildung* as a viable alternative call into doubt the appropriateness, generalizability, and legitimacy of NRC supported research which adheres to a

narrowly interventionist and instrumental understanding of education. This paper suggests that the NRC call for good research may actually be narrowing the understanding of good education or education worthy studying, and therefore worth backing with policy and funding. This narrowing has been implemented by a non-elected committee and largely without public debate and deliberation. Not only researchers, but educational theorists, teachers, and parents should be alarmed and should strive to work out the proper relationship between viable conceptions of education and their corresponding research approaches.

NOTES

1. National Research Council, *Scientific Research in Education*. Committee on Scientific Principles for Education Research, ed. Richard J. Shavelson and Lisa Towne. Center for Education. Division of Behavioral and Social Sciences and Education. (Washington D.C.: National Academy Press, 2002), 151. This organizational report is hereafter referred to as NRC.
 2. Michael J. Feuer, Lisa Towne, & Richard J. Shavelson, “Scientific culture and educational research,” *Educational Researcher*, 31, no. 8 (2002): 4-14, 4.
 3. NRC, 84.
 4. NRC, 1.
 5. NRC, 17.
 6. NRC, 17, 95.
 7. NRC, 12.
 8. NRC, 85.
 9. Admittedly, within medicine there are heated debates over the meaning of some goals, like health or ability.
 10. NRC, 108.
 11. Grover J. Whitehurst, “The Institute of Education Sciences: New wine, new bottles,” American Educational Research Association annual meeting, April 22, 2003, 6.
 12. NRC, 17.
 13. NRC, 7.
 14. NRC, 54-55.
 15. NRC, 25.
 16. Whitehurst, “The Institute of Education Sciences,” 5.
 17. NRC, 70.
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18. NRC, 70.
 19. Whitehurst, "The Institution of Education Sciences," 6.
 20. Feuer et al, "Scientific culture," 8.
 21. Feuer et al, "Scientific culture," 9.
 22. Elizabeth Adams St. Pierre, "'Science' rejects postmodernism," *Educational Researcher* 31, no. 8 (2002): 25-27. David C. Berliner, "Educational research: The hardest science of all," *Educational Researcher* 31, no. 8 (2002): 18-20.
 23. Walter Bauer, "Introduction," *Educational Philosophy and Theory* 35, no. 2 (2003): 134.
 24. For more on irony, see Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton U P, 1979).
 25. Hans-Georg Gadamer, *Truth and Method* (New York: Continuum, 1993), 260.
 26. For more on the self as an active Deweyan self, see Lars Lovlie and Paul Standish, "Introduction: Bildung and the ideal of a liberal education," *Journal of Philosophy of Education* 36, no. 3 (2002): 317-341, 321.
 27. Gert Biesta, "*Bildung* and modernity: The future of *Bildung* in a world of difference," *Studies in Philosophy and Education* 21 (2002): 343-351, 349.
 28. David Blacker, "Education as the normative dimension of philosophical hermeneutics," *Philosophy of Education Society* (Urbana: U of Illinois P, 1996).
 29. NRC, 66.
 30. NRC, 82.
 31. NRC, 94.
 32. NRC, 7.
 33. NRC, 108.
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