ACCLAIM's mission is the cultivation of indigenous leadership capacity for the improvement of school mathematics in rural places. The project aims to (1) understand the rural context as it pertains to learning and teaching mathematics; (2) articulate in scholarly works, including empirical research, the meaning and utility of that learning and teaching among, for, and by rural people; and (3) improve the professional development of mathematics teachers and leaders in and for rural communities.
Copyright © 2006 by the Appalachian Collaborative Center for Learning, Assessment, and Instruction in Mathematics (ACCLAIM). All rights reserved. The Working Paper Series is published at Ohio University, Athens, Ohio by the ACCLAIM Research Initiative.

ACCLAIM Research Initiative
Address: 314F McCracken Hall
Ohio University
Athens, OH 45701-2979

Office: 740-593-9869
Fax: 740-593-0477
E-mail: howleyc@ohio.edu, johanson@ohio.edu
Web: http://www.acclaim-math.org/researchPublications.aspx

All rights reserved.

Funded by the National Science Foundation as a Center for Learning and Teaching, ACCLAIM is a partnership of the University of Tennessee (Knoxville, TN), University of Kentucky (Lexington, KY), West Virginia University (Morgantown, WV), Marshall University (Huntington, WV), University of Louisville (Louisville, KY), and Ohio University (Athens, OH).

This material is based upon the work supported by the National Science Foundation Under Grant No. 0119679. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.
Resistance, Reinhabitation, Regime Change

Resistance

Please linger with me and consider the suggestive power of Walt Whitman’s poem, “When I Heard the Learn’d Astronomer”:

When I heard the leam'd astronomer,
When the proofs, the figures, were ranged in columns before me,
When I was shown the charts and diagrams, to add, divide and measure them,
When I sitting heard the astronomer where he lectured with much applause in the lecture-room,
How soon unaccountable I became tired and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars. (Whitman, 1955, p. 226)

Reciting poetry at a mathematics research symposium is a form of resistance, similar to Whitman’s response to the astronomy lecture, which is to rise and glide and wander off. He was a New Yorker, raised in Brooklyn, wrote for and edited several newspapers, went to the opera weekly. Whitman was an experiencer; he sought the thing itself—direct experience—rather than its second-hand representation. I think we can therefore interpret anyone’s walking out of this or any lecture as an act or resistance worthy of careful study. We might ask: I wonder where that guy is going?

W. S. Merwin, one of America’s greatest living poets, said of poetry, “Any work of art makes one very simple demand on anyone who genuinely wants to get in touch with it. And that is to stop. You've got to stop what you're doing, what you're thinking, and what you're expecting and just be there… however long it takes” (Merwin cited in Moyers, 1995, p. 2).
I’ve been working in public schools and universities for two decades now. My observation is that nobody in the system, myself included, seems capable of stopping what they are doing long enough to think deeply about it, to feel deeply about it, to really reflect on the total experience.

The work of schooling, whether you teach kindergarten, high school math, or philosophy of education, is a treadmill. As soon as you step on it, you’re moving. As soon as you step on it, you are pulled by the belt of bureaucracy, by specialization or by research findings, to move, faster, in a predetermined direction. How can we stop, feel, and think? There’s too much to do.

William Carlos Williams (1944), another great American poet, wrote,

It's difficult
to get the news from poems
yet men die miserably every day
for the lack
of what is found there.
    (from “Asphodel, That Greeny Flower”)

What I get from Whitman’s poem, what I so desperately need, is the strength of conviction to listen to myself, to trust myself enough to stop, feel, think, and act confidently in my best interest.

I read “When I Heard the Learn’d Astronomer” as a poem about resistance, resistance to the current reductionism of education to fragmented proofs, figures, charts, diagrams, standards, test scores, best practices, and all the unseen gears of the treadmill:

How soon unaccountable I became tired and sick,
    Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars.
Resistance and Math Education

How do we know when, and what, to resist? Alan Schoenfeld, in the March 2006 issue of *Educational Researcher*, tells a story of resistance that all math educators, and all curriculum specialists, need to consider.


Schoenfeld is a UC—Berkeley professor of education who worked as a “senior content advisor” for the What Works Clearinghouse for its studies of mathematics curricula. An arm of the U.S. Department of Education, the What Works Clearinghouse “collects, screens, and identifies studies of the effectiveness of educational interventions” (italics added, [http://www.whatworks.ed.gov](http://www.whatworks.ed.gov)).

Educational interventions. It’s curious phrase for what used to be called teaching.

The What Works Clearinghouse is part of the larger attempt by some educational researchers, at the direction of some policy makers to describe—with scientific and mathematical precision—“best practices” in teaching and learning. In order to qualify for review by the Clearinghouse, a study of educational interventions must be deemed adequately scientific by falling into one of the following three types: randomized experiments, quasi-experiments that use equating procedures, or studies that use the regression discontinuity design.

Resistance is a typical, even an expected, response to domination. In this case, domination was the Clearinghouse’s decision to censor from its publications two essays
that it had hired Schoenfeld to write. In these essays, Schoenfeld was critical of the research methodology used to establish “educational effectiveness,” or “what works” in middle-level math. Schoenfeld’s assessment after studying this methodology was straightforward: He simply warned that research reports calling programs “effective” or “ineffective” are potentially misleading, and he cited specific examples of how such a report might be misinterpreted.

Welcome to research 101. The same could be said of virtually any research, anywhere.

Why would the staff at the U.S. Department of Education’s What Works Clearinghouse choose to censor this incredibly commonplace caution about educational research? Welcome to politics 101.

What seems to have happened is that Schoenfeld told the government something it didn’t want to hear: that educational effectiveness is more complicated, and more elusive, than the What Works Clearinghouse has been letting on. After twice refusing to print his critiques, Schoenfeld withdrew as a helper of the Clearinghouse and sent his story to *Educational Researcher*. Here, Schoenfeld (2006) acknowledges that he had some misgivings about working for the Clearinghouse “because the agenda is very narrow; I believe that many factors other than those on the [What Works] agenda should be taken into account when examining curricular effectiveness” (p. 13).

After reading Schoenfeld’s article, the invited response by the directors of the What Works, and Schoenfeld’s rejoinder, I believe that it is fundamentally these explicit misgivings about the *narrowness* of the What Works agenda that led to Schoenfeld’s silencing, disqualification, and resignation. In his rejoinder, Schoenfeld (2006b) notes:
“Let me be clear about the stakes involved in this case. The issue here is the suppression of a report that challenges the scientific underpinnings of the current federal policy agenda” (p. 23).

I’m reminded here of the Borg in the television series Star Trek: The Next Generation. The Borg is a technologically advanced learning society that functions through a single collective will. In an eerie parody of globalization, the technologized Borg travel through space in these huge, indestructible cubes, assimilating individuals, communities, and cultures into “the collective” and destroying all who try to resist. Before they assimilate their victims, they make a show of undeniable force, and they warn, “Resistance is futile.” The Borg truly do appear unstoppable. Through the show of force, they are able to coerce potential resisters into believing that resistance really is futile. We need not wait for science fiction: the numbers of actual resisters to the machine of assimilation are precariously few right now, and dwindling.

I sympathize with Schoenfeld’s experience of being disqualified and admire his small act of academic courage. But as a philosopher and sociologist of education, I’m not at all surprised by what happened, and I’m also disappointed by the narrowness of Schoenfeld’s critique of What Works.

Part of me wants to say, Welcome to my world, Alan, where what I care about most doesn’t qualify for review, not to mention funding. Where what I care about most is disqualified because it doesn’t fit the ruling regime of scientific effectiveness. Where people are constantly telling me that resisting the regime is futile.

Scientific research of the kind embraced by What Works is high status currency in the field of educational interventions. What remains unknown is how much it is possible
to resist, or to intervene with, the policy environment that led to Schoenfeld’s resignation. Is it possible, for example, to deepen and expand the educational conversation? What impact might such resistance have on the future of education? Or put another way, toward what Borg-like future might the lack of resistance be leading us?

Schoenfeld is rightly indignant that his critiques of What Works were censored and suppressed, yet a political sociology of education reform would unveil the suppression of challenges to the reform agenda as everyday acts, taking place everywhere. Suppressing, silencing, and disqualifying challenges to an agenda is, in fact, exactly how a dominant agenda gets built.

Let me give an example of how this plays out in educational research. A couple years back, the prestigious Review of Educational Research published an article titled, “Comprehensive School Reform and Achievement: A Meta-Analysis” (Borman, Hewes, Overman & Brown, 2003). This ambitious study sought to describe the effects on achievement of the most widely implemented school reform models in the U.S. Initially, researchers identified 33 reform models for inclusion in their analysis. In their introduction, however, the authors noted that four models were disqualified from the study in its early stages. The authors decided to explain the reason for the disqualifications, and to name the programs rejected, not in the main text, but in the endnotes to their article.

I was curious, so I squinted at the fine print in the endnotes and here is what I found: the four models were disqualified because “[they] had no quantitative data on their achievement effects from which [the authors] could measure effect size estimates” (Borman, Hewes, Overman & Brown, 2003, p. 210). Again, this kind of disqualification
shouldn’t really surprise anyone. It is an everyday act everywhere. Disqualifications based on statistical (i.e., mathematical) reasoning are what give the Clearinghouse the authority to claim “what works.”

But what was significant to me about this particular study, what caught my eye in the fine print, was that one of the disqualified reform models was the Foxfire Fund, perhaps the oldest and most widely-implemented example of place-conscious, or community-focused, education in the U.S. The point is that in this case, the place-based reform model could not even be included in a comprehensive study of education reform because the study was not calibrated to measure the outcomes of a place-based program like Foxfire.\(^1\) Schoenfeld critiques the way researchers draw their conclusions from the data. What he doesn’t question is the way that entire bodies of data—and entire realms of possibility—are disqualified when they don’t fit the model, that is, when researchers lack the tools for dealing with them.

Ivan Illich wrote, “People who have been schooled down to size let unmeasured experience slip out of their hands.” This is what I think is happening in education—we’re being assimilated, we’re being schooled down to size. Unmeasured experience is slipping out of our hands as a result, and this slippage is what needs to be resisted. Education should never be thought of as an “intervention,” though resistance to it must be. To resist is to intervene.

---

\(^1\) For a history of Foxfire, see Puckett (1989).
Reinhabitation: Mind, Body, Bioregion

What Works. The very name assumes agreement about the nature of the task.

What task? What are we supposed to be doing?

What Whitman performs in “When I heard the learn’d astronomer” is the reinhabitation of his own experience. The proofs, the figures, were ranged in columns before him; he was shown the charts and diagrams; the lecturer demonstrated his expertise—but Whitman listened to his body, his intuition, his soul, his heart, his whole being… and rising and gliding he wandered off by himself.

We might try reinhabiting ourselves, but we’ve been so assimilated, so schooled with method and discourse, that it’s hard to return to our senses, to our sense of being alive in the world, to experience ourselves and each other in this moment, and in the places where we rush around together like ants.

“How are you doing?”

“How are you doing?”

Stop. What is it that we really believe in? What is it that we really want from our work and from our lives?

In their focus on relatively trivial matters, many educational researches—especially curriculum specialists—tend to neglect such questions in favor of various kinds of proof. Increasingly I believe that these proofs are cover-ups, distractions from the nagging unspoken feeling that we don’t know what the hell we are doing or why.

In my teaching and research on education and place, I’m constantly coming back to questions of purpose. What am I trying to get at, really? What happened here in this place? What’s happening here in this place? What should happen here in this place? We
need to understand where we are and what it is we are trying to accomplish before we can
gauge “what works.” This principle seems obvious to me, and there is a certain logic to it. But questioning our purposes, deliberating in earnest about our aims? Most educators are just too hell-bent on achievement.

Poetry makes me stop.

Time for another poem. Like Whitman’s, this poem is about math, resistance, and reinhabiting the space you are in. "Zimmer's Head Thudding Against the Blackboard" by Paul Zimmer (1999):

At the blackboard I had missed
Five number problems in a row,
And was about to foul a sixth,
When the old exasperated nun
Began to pound my head against
My six mistakes. When I cried,
She threw me back into my seat,
Where I hid my head and swore
That very day I'd be a poet,
And curse her yellow teeth with this.

The Clock of the Long Now

Stopping is hard. Our experience of time—what we have time for and what we don’t—pretty much defines who we are and what we believe in. Here is how Stewart Brand (1999), author of The Clock of the Long Now, describes our situation:

Civilization is revving itself into a pathologically short attention span. The trend might be coming from the acceleration of technology, the short-horizon perspective of market-driven economics, the next-election perspective of democracies, or the distraction of personal multitasking. Some sort of balancing
corrective to the short-sightedness is needed—some mechanism or myth that encourages the long view and the taking of long-term responsibility, where “the long term” is measured at least in centuries. (p. 2)

Brand’s book is a collection of essays on the speeded up nature of time and experience, and on the need to teach ourselves and practice long-term thinking and long-term responsibility. At the heart of the book is a description of a project to build the world’s slowest clock, one that will keep perfect time for the next 10,000 years. Computer designer Daniel Hillis wrote of this project in 1993,

I think it is time for us to start a long-term project that gets people thinking past the mental barrier of the Millennium. I would like to propose a large (think Stonehenge) mechanical clock, powered by seasonal temperate changes. It ticks once a year, bongs once a century, and the cuckoo comes out every millennium.

(Hillis cited in Brand, 1993, p. 3)

The idea behind “the clock of the long now” is to create an actual working artifact that represents a new way of thinking about time and responsibility. It is an image for a new myth, a reinhabitation of experience and of civilization. Instead of long-term thinking meaning next quarter’s profits, or next semester’s teaching load, or when I retire, or when my kids or their kids’ kids inherit whatever is left, it means the next 1,000 years or 10,000 years. The cuckoo won’t come out until then.

The field of education daily contributes to the pathological rush that Brand and Hillis and many others believe defines our ever more dangerous and destructive civilization. Let’s pay attention: We live in a time of fire and dust.
One need only pick up a newspaper to see that the world is in flames. Meanwhile, high-stakes testing and annual yearly progress put the long term about nine months out from the start of every school year. Curriculum reforms, teachers, and principals are deemed effective if they produce results quickly. Longitudinal studies are considered long-term if they span a mere ten years, and even this time frame is exceedingly rare in research. The only research methodology with an arguably long-term perspective is historical or philosophical research, yet such work is marginalized as impractical and it is effectively banished from most colleges of education, Ph.D. programs, professional journals, and conferences.

What “the clock of the long now” and the Long Now Foundation (www.longnow.org) represents to me is a way of re-inhabiting the time frames that keep us from talking together about our most sacred aims as educators and as human beings. It is a symbol of resistance to the push to produce results in the short term. Resistance to the short-term press is needed in order to create the time and space to re-consider our aims and to reassess “what works.”

Regime Change

Do we need a regime change? Here’s a relevant passage from the preamble of the Earth Charter, a multicultural, international people’s treaty available in over forty languages at www.earthcharter.org:

The Global Situation: The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of
development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems. The foundations of global security are threatened. These trends are perilous—but not inevitable.

I sense an out-of-touch elitism in what is called educational research when I reflect on the enormous injustices and atrocities of recent times.

What works? According to a 2003 UNESCO report titled “Learning to Live Together: Have We Failed?” over 180 million people were killed intentionally during the twentieth century. “The initiators and perpetrators of these crimes,” the report states, “are usually people who have spent a great deal of their lives in the education systems of both rich and poor countries.”

The report also says that on September 11, 2001 some 3,000 people were killed in a series of terrorist attacks. But also, on the same day and every day since, some 35,000 children died of hunger and poverty in the world, 7,500 people died of HIV/AIDS, and about 14,000 became infected. The authors of this UNESCO report write: “The possibility of learning and teaching [how we might go on] living together depends on the recognition of every one of these problems, the ability of presenting them side by side and on making headway in understanding their specificities and also their interconnectedness.”

If you want to experience some creative dissonance, juxtapose these observations about living and learning in the Twenty-First Century with the latest educational regulations from No Child Left Behind, or the latest boasts of the What Works
Clearinghouse. Here is something else to chew on: a recent World Watch report states, “Providing adequate food, clean water, and basic education for the world's poorest could all be achieved for less than people spend annually on makeup, ice cream, and pet food” (www.worldwatch.org/press/news/2004/01/07). What, in this very surreal context, is the meaning of educational effectiveness? What works?

To identify as an educational researcher in a world full of violence, injustice, and ecological ruin is, first of all, a privilege. It strikes me as somewhat bizarre to say it, but it is a privilege to have the economic and social capital needed, and the distance from suffering required, to be able to reflect in relative comfort on the world’s problems, to be an interpreter of major crises instead of a victim. An elitist trap that has marked the researcher with pretension and even irrelevance is the tendency not to recognize the privileges that make professional research possible. This is not to say that research doesn’t require sacrifices, it does, but to acknowledge more particularly that academe has been and remains an enclave of privilege, and further, to suggest that with privilege comes a responsibility to examine and work to transform the structures that maintain interconnected webs of privilege, oppression, violence, and multiple forms of domination and control.

Regime change: The Earth Charter aims at the following cultural transformations, among many others:

1. Promote the equitable distribution of wealth within nations and among nations.
2. Eliminate discrimination in all its forms, such as that based on race, color, sex, sexual orientation, religion, language, and national, ethnic or social origin.
3. Demilitarize national security systems to the level of a non-provocative defense posture, and convert military resources to peaceful purposes, including ecological restoration.

4. Transmit to future generations values, traditions, and institutions that support the long-term flourishing of Earth's human and ecological communities.

5. Recognize the ignored, protect the vulnerable, serve those who suffer, and enable them to develop their capacities and to pursue their aspirations.

These are the kind of principles that ought to guide our thinking about effectiveness, accountability, or rather, responsibility.

An essential part of the work of the researcher, then, at least in the broad cultural sphere of education, is to situate her inquiry, whatever it is, against the background of a larger analysis of culture, identity, difference, conflict, and the possibilities for learning to live together in diverse, unequal communities. This constitutes a regime change in a field that too often refuses to analyze its own assumptions. This is what it means to me to be critical: to develop a deep cultural analysis that might provide the foundation for meaningful action in the work of education. And to do this, I believe we need to resist current trends toward further professionalization and specialization in the field.

We need to resist “what works” long enough to reflect on what matters.

In his provocative book, *Representations of the Intellectual*, the late Edward Said described the pressure of specialization as the greatest threat to the development of the intellectual. Said (1994) wrote,

Specialization means losing sight of the raw effort of constructing either art or knowledge; as a result you cannot view knowledge and art as choices and
decisions, commitments and alignments, but only in terms of impersonal theories or methodologies…. In the end as a fully specialized… intellectual you become tame and accepting of whatever the so-called leaders in the field will allow. Specialization also kills your sense of excitement and discovery, both of which are irreducibly present in the intellectual’s make-up. In the final analysis, giving up to specialization is, I have always felt, laziness, so you end up doing what others tell you, because that is your specialty after all. (p. 77)

Said reminds me that intellectual work is deeply personal and political. That it cannot be about following the rules of a system that rewards intellectual conformity, but that it must be a spirited struggle, a raw effort to question, reflect, stand up, speak, create, and act, and to do all of these things in the presence of those credentialed experts who may very well look on you and your work disapprovingly. Said cites the existentialist philosopher Sartre, who said that “the intellectual is never more an intellectual than when surrounded, cajoled, hemmed in, hectored by society to be one thing or another, because only then and on that basis can intellectual work be constructed” (p. 76).

Intellectual work, according to this view, is an act of creative resistance to the pressures of specialization, pressures that are endemic to school and university work. When we can resist what works long enough to reflect on what matters, we will experience a regime change.

How does one negotiate the pressures of professionalization so as not to become absorbed and assimilated by them? I have argued that to be a researcher is first a privilege and second a responsibility, the responsibility to acknowledge privilege and to be critical of those structures that maintain privileges at great costs to other individuals,
communities, and ecosystems. Third, I believe that to embrace the work of education, to
undertake the struggle to create against the pressure to please and achieve, is to respond
to an inner call. We need to re-learn how to pay attention to our innermost thoughts and
feelings. Resistance is not futile. We need to acknowledge when we are tired and sick,
and to rise and glide confidently when we need to be replenished.

It saddens and angers me to reflect on the many ways that schools and universities
fail to encourage us to listen to the deep places inside of us where creative people have
always found their inspiration. Instead, we are classified, tracked, programmed, and
coerced to obey the self-important voices of external authority or peer review—voices
that chant “accountability, achievement, best practice, what works, standardization, rigor,
resistance is futile.”

I quote from the U.S. government’s No Child Left Behind website:
The new law redefines the federal government's role in kindergarten-through-
grade-12 education…the new law will change the culture of America's schools so
that they define their success in terms of student achievement…. The first
principle of accountability for results involves the creation of standards in each
state for what a child should know and learn in reading and math in grades three
through eight. With those standards in place, student progress and achievement
will be measured according to state tests designed to match those state standards
and given to every child, every year.

(http://www.ed.gov/nclb/accountability/ayp/testingforresults.html)
“Student progress and achievement will be measured according to state tests designed to
match those state standards and given to every child, every year”: Resistance is futile.
The great contemporary poet Mary Oliver asks in her poem “The Summer Day,” “Tell me, what is it you plan to do/ with your one wild and precious life?” I cannot stress too much how difficult it is to insert such a question into contemporary discourse about schooling. The corporate takeover of public life is narrowing the possibilities of all our institutions. We are now training teachers, administrators, children and youth to compete and succeed in a global economy that privileges a few at great costs to land and people, to human and non-human communities. We are now training teachers, administrators, children and youth to produce better results for a leadership that has lost millions of jobs, accumulated record debts, eroded environmental protection and civil liberties, exacerbated inequities in wealth and power, waged regular war, abandoned the mission of the United Nations, sold out to the corporate media, and that is increasingly out of favor among citizens of every nation.

Resistance is by no means futile.

To be a researcher capable of resistance, of identifying the need for resistance, is, therefore, to develop an analysis, a critique. The agitating French philosopher Michel Foucault (1988) explains,

A critique is not a matter of saying that things are not right as they are. It is a matter of pointing out on what kinds of assumptions, what kinds of familiar, unchallenged, unconsidered modes of thought the practices that we accept rest…. I think the work of deep transformation can only be carried out in a free atmosphere, one constantly agitated by permanent criticism. (pp. 154, 155)

Obviously, though, analysis and critique are not enough to ensure action. As Paulo Freire (1995) insists in Pedagogy of the Oppressed,
When a word is deprived of its dimension of action, reflection automatically suffers as well; and the work is changed into idle chatter, into *verbalism*, into an alienated and alienating “blah.” It becomes an empty word, one which cannot denounce the world, for denunciation is impossible without a commitment to transform, and there is no transformation without action. (p. 68)

So I ask myself again, “What is it I plan to *do* with my one wild and precious life?” And as a teacher I ask, “What is it you plan to do with *yours*?”

Finally, to be a researcher is not to isolate oneself, but to find, create, or open to a community of others with whom you will share it, the journey to acknowledge privilege, work for justice, condemn oppression, and respond to the call that is your one chance to make life wild and precious. bell hooks (1990) calls this community “a space of radical openness…a margin—a profound edge.” Locating oneself there,” she writes, “is difficult yet necessary. It is not a ‘safe’ place. One is always at risk. One needs a community of resistance” (p. 149).
References


