The School as a Community of Engaged Learners

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This essay is the result of many discussions at IRL about school restructuring. Our research on the social nature of learning has led us to a very particular perspective on the principles that must dictate the structure of a learning community. The school must provide not only the very best intellectual resources; it must also provide the social affordances that best support a meaningful community for its participants—both teachers and students.

Learning in School

Learning is a basic and ubiquitous human activity. Society is based on learning, communities are held together by learning, and people construct identities through learning. Yet learning becomes problematic in school, where it is assumed that some people will learn and others will not, and where it is assumed that learning is something that kids will only do under coercion. Kids' engagement in non-school activities is viewed as a distraction from learning, but the depth of learning that takes place among kids involved in age-specific social activities is unequalled in the classroom. Unlike much of what is taught in school, the knowledge gained in collecting and trading baseball cards, stamps, or records, becoming a "Deadhead;" playing double dutch, Dungeons and Dragons, video games, high performance Monopoly; playing in a garage band, or working on cars, tends to stay with people for the rest of their lives. Adults tend to view friendships, games, romance, collections, popular music, as attractive nuisances that prevent learning. But if the learning energy that goes into these activities went into math or social studies, we would have a nation of academic geniuses. In fact, learning becomes problematic in school to the extent that the school focuses on learning as an endeavor in itself, rather than as a means to building social relations and engaging in meaningful activity. No amount of change in schools will produce significant results unless the nature of school as a social entity is taken seriously. No amount of clever delivery of subject matter will capture the imaginations and energies of students who feel that their opportunities for social development lie elsewhere.

While many teachers know better, the organization of our schools currently embodies the belief that kids' social ties and activities are incompatible with learning. But individuals learn in the interests of participation in communities that matter to them. They learn in order to know how to be productive in the community, and to gain access to valued forms of community participation. Their reward is in seeing their contribution, knowing that others recognize their contribution, and forging an ever changing sense of themselves. We take this as given among adults, whose work is commonly integrated with their social lives. Scientists mix social and scientific interaction, and forge their identities and connections around their work, their knowledge and their contributions to the scientific community. Yet kids in school are currently expected to function differently—to learn in isolation from the social

ties that bind them. In adult scientific communities, as in kids' jump rope groups and garage bands, activity and social relations are closely intertwined. It is in this sense that we speak of communities of practice. United by a common enterprise, people come to develop and share ways of doing things, ways of talking, beliefs, values - in short, practices - as a function of their joint involvement in mutual activity. Social relations form around the activities, the activities form around relationships, and particular kinds of knowledge and expertise become part of individuals' identities and places in the community. Most important, learning becomes the means by which people gain membership, and participate in, these communities.

To benefit from the tremendous learning energy that comes with social membership, schools need to provide the opportunity for students to form communities of practice around subject matter. This does not mean that schools should build their curriculum around rock 'n roll or video games. It most decidedly does not mean that students need to be cajolled or entertained into learning. These activities come into conflict with school precisely because for many students, school offers no alternative—no opportunity to build meaningful lives around school work—no opportunity to express themselves through participation in school learning.

If kids are to have opportunities for full participation in school, the school must offer communities of practice with the same drawing power as the students' other communities—the same potential for participation that is offered in families, neighborhoods, communities, workplaces, clubs and so on. This drawing power depends, among other things, on possibilities for meaningful participation, and on compatibility with participation in communities of practice outside of school. If students are to take what they learn in school into the rest of their lives, they must be able to bring what they learn elsewhere into school. Thus the communities that students form in school cannot be isolated from the many other communities in which they participate; the school is a viable community for students only to the extent that it supports their participation in other communities as well.

A school must offer learning as a key to the world—as a key to an infinite number of ways of being and participating in the world. It must build on diversity, and create diversity. We do not want our students to come out of school with uniform knowledge; we want students leaving school to be not only knowledgeable, but self-directed, creative, and adaptable. Nor do students come into school with uniform knowledge; they come to school with different

experience, different knowledge, different tastes, different ways of speaking, doing, and thinking. And they seek, in school and out, the means to expand, explore and express who they are and how they fit into the world. For each student, the process must be different, and that difference will be part of who the student is and part of the student's unique contribution to his or her various communities.

Currently, the only legitimate opportunity for developing identities around learning in the classroom is along a linear scale of "better" or "worse" student, based on the standardized performance of standardized tasks. This guarantees that the major social dynamics motivating learning will be competition among peers and the eagerness to please one's elders. Kids, like their elders, seek participation in communities that afford complex forms of membership and creative identities. In our traditional schools, the greatest opportunity for creative social activity is in resistence or "subversive" behavior: disruption, cheating, tardiness, apathy, violence, drugs, self-destruction.

IRL's principles for school design are based on a vision of a school that provides opportunities for multiple forms of participation—that nurtures communities of practice in which students jointly develop their learning potential to its fullest. The vision is of a school in which learning is fostered as shared enterprise, participation, engagement, contribution, connection, experimentation, inquiry, reflection, identity. We list below some basic qualities that such a school must have:

- Shared vision. Individual responsibility is the sense of connectedness that grows out of membership and participation in a community. In our learning community, all members—administrators, teachers, aides and students alike—are mutually engaged in reflection about their shared mission. All participants, not just a privileged few, have time for reflection. Vision can thus be a practice—an ongoing debate, rather than something handed down. And leadership can be something that is shared and that spreads through learning.
- Supporting Common Purposes. Rewards within any community are an inherent part of, and reflection of, community practice. A community that rewards solo bravado will be a community in which personal success is sought at the expense of, and in competition with, others. The reward systems of our learning community will

support individual achievement, but within the context of community and community-oriented efforts.

- Fostering diversity. A school that emphasizes standardized learning and activity prevents its students from creating meaningful roles and identities through participation in school. In our ideal learning community, students are valued for their diverse backgrounds, experience, abilities, concerns, knowledge, interests and accomplishments. And activities are conceived in such a way as to encourage diversity in forms of participation, contribution, and knowledge.
- Internal Openness. A learning community invites participation by striving to make itself transparent to its members. Members find easy access to the resources they need in order to be full participants: information, connections, opportunities. And with direct access to people, places, and activities, members' participation brings a sense of what the community is about, what possibilities it holds, what their own futures can be.
- Openness to the world. It is part of the school's purpose to help students forge connections between school, their home communities, and the global community—and to develop strong identities as members of all of these communities. To do this, the school must be open to the world at large, enabling connections between participation in school and participation in surrounding communities.
- Freedom to experiment. Active and engaged learning involves the risk of error. Schools must encourage students to take risks, and provide support for interpreting and building on error. It is the quality of the risk taken—the potential that the risk offers for learning—that should be rewarded, rather than the glossiness or ease of the success.

Principles of School Design

If we are to be a nation of lifelong learners, school has to become a place where students take charge of their learning for life—where they become eager constructors of knowledge, and view the entire world around them as a rich and welcome resource. For this to happen, schools must undergo a transformation at the most fundamental level, based on a completely different understanding of learning and of the nature of schools as social entities.

The principles of school design that we discuss here are based on a fundamentally different view of how people learn than is currently embodied in general school practice. There are many teachers, schools, districts and communities that embrace many or all of these principles: there are exciting model schools, model programs, and grass roots innovations in all aspects of practice. But the view of learning and schooling as an enterprise in "knowledge delivery" continues to dominate our society, and straightjackets many visionary practitioners. The educational system is commonly treated as a neutral repository into which new methods can be unproblematically deposited; or as a tired system just waiting for the right injection of innovative pedagogy or technology. document, we will not discuss pedagogy, facilities, materials or technology. Innovation in each of these, in its time, has been considered a panacea for the problems of education. But while each is important, none of them will bring about significant change alone, and their value will depend on the extent to which they are developed in the service of the needs of a learning community. It is for this reason that we set out below some principles of school design that are essential for the construction of such communities.

1. Students Are Engaged Learners

Engaged learning occurs when people appropriate the learning process in the service of their goals as individuals and as members of society. Engagement is not just the involvement of the sole individual in learning; rather, learning is the vehicle for the individual's engagement with a community and with society at large. Schools must provide students with the means to engage in learning for the sake of their membership in a variety of communities. In order for people to be engaged learners, they must see the value of learning, they must see their own potential as learners, and they must have access to resources for learning.

The school recognizes the learner in every student.

The purpose of schooling is not to sort students according to their apparent ability or inability to learn, but to bring out and enhance their ability. All young people seek a successful and rewarding life, and it is the school's responsibility to guide them successfully in that search. Kids' belief in themselves begins with others' belief in them, and others' commitment to them. Above all, then, the school must be a place where each student is important, where each student succeeds, and where all activities are geared above all to the benefit of students.

Students take charge of their learning.

Engaged learners plan, implement, and assess their learning in relation to goals that have meaning for them as well as for the community and the wider society. This has implications for changes in all aspects of schooling, and can only come about through radical change. Isolated reforms such as portfolio assessment have been introduced in order to encourage students to take responsibility for their own progress. However, inserted into a system in which the opportunity for such responsibility is otherwise severely limited, innovations that might otherwise foster engagement can ultimately add to the weight of a system that fosters passivity.

School articulates with the student's other communities, rather than setting up conflicts of identity.

Students come into school with knowledge and experience that is grounded in other communities. The role of school is to help students expand that knowledge and experience—to support this participation in multiple communities. A school that is open to the world is first of all open to the local community—it goes out to students' families and neighborhoods, and it invites them in. It supports students' connections with problems, issues and knowledge of communities beyond their own, forging connections between their own experience, that of others in their communities, and that of the communities that make up their growing world.

The curriculum has to be clearly of use to students' broader endeavors in their communities, and in the wider society, rather than simply within a closed system of schooling. The purpose of school should be to grasp students' natural eagerness to learn and show them how to use that eagerness to build a productive and rewarding lifetime in their communities and in the world community. School learning, then, should not conflict with or be kept separate from informal and everyday learning; rather, it should be integrated into the lives of the communities that the institution serves, rather than isolating students from their communities. This does not mean that curriculum must all grow out of community interests, but it does mean that it must be integrated into those interests. Students have to know what their learning is useful for, and to come to school seeking new knowledge to help them understand things outside of school.

Teachers are model learners, model participants.

If what students are to learn is HOW to learn certain kinds of things, then the teacher's best role is as guide, facilitator and model learner. A willingness to explore along with the students makes the teacher a member of the community of learners who, by serving as a model learner, provides the class with something like an apprenticeship in learning. This creates an important link between the teacher's knowledge and the process of learning. And once the teacher is freed of the role of exclusive "knower," then students can also be knowers, allowing them to construct and examine their knowledge. If students are acknowledged as experts in some of the areas that the teacher is not, they will be afforded meaningful roles in the learning community. A cooperative community, then, develops in which any individual may bring in important information, and in which not knowing something is seen above all as motivation for finding out.

2. Curriculum and Assessment Foster Engaged Learning

Most educators know that the traditional view of learning as the accumulation of a standard set of facts and formalisms is obsolete. Yet this view is so deeply embedded in the history of educational practice that it stymies efforts at educational reform. The co-dependent structures of curriculum and assessment have been engaged in a vicious spiral, perpetuating educational practices that run directly counter to our current knowledge about learning. The only way to break this spiral is to simultaneously break the mold on both curriculum and assessment. But first it is crucial to recognize how thick this mold is.

Standardized testing is currently used to assess the success of our educational institutions and their students. But because this method can only test the student's retention of abstractable facts and formalisms, the schools have felt constrained to prepare their students by organizing their curriculum around a strictly sequential delivery of these same abstracted bits. Every piece of curriculum has been justified uniquely by its necessity within a closed system—i.e. as preparation for the next piece of curriculum in the sequence, and for the assessment. What makes reform difficult is that generations of education in this mold have instilled in almost all of us a belief in the necessity of retaining some bits of this abstraction.

Students soon forget the subject matter they learn in school; but they retain the activity structures in which it was embedded. The activities that dominate school learning now are passively listening to others, watching demonstrations, and trying to mimic what one has seen and heard. And the measure of success in school is the ability to excel in standardized tests that better measure one's fitness to win at Trivial Pursuit than to deal with the problems and challenges that await the student after school.

We need to rethink the curriculum in terms of students' ability to do things and to figure out new problems. And we need to rethink assessment so that it fosters that ability. Assessment practices, classroom practices, and notions about the nature of information that tests provide are mutually reinforcing. Assessment practices must be meaningfully integrated with the entire educational process, in order to foster the very highest standards and the most productive learning practices.

a. Assessment is part of a learning system.

Assessments are activities within a surrounding education system, yet few proposals for assessment reform sufficiently consider the relation between assessment and this surrounding system. Our design principles call for the integration of assessment with the rest of the learning system in order to guarantee that assessment will, above all, support engaged learning. Any particular form of assessment, furthermore, is part of a system of assessment that must be considered as a whole. Students assess themselves, their teachers, their school, and each other; parents assess their children, their teachers and the school; the district assesses students, teachers, and schools, and so on. The activities that make up each of these types of assessment must be suitable to their purpose, and must not detract from the basic purpose of the school—indeed, they must enhance it. This means that we need to

rethink each act of assessment in terms of its place in learning activity, and of its potential and real audiences.

Engaged learning requires empowered self assessment

Self-assessment and the assessment of others is a normal everyday part of human interaction—people learn everything from how to comb their hair to how to build rockets by constantly monitoring their own progress. They do this in subtle ways, by comparing their actions with those of others, by monitoring other people's reactions to their actions, etc. When the teacher is the repository and the ultimate judge of knowledge, and when external assessment becomes the ultimate measure of the student, the student loses control of his or her learning and hence abandons responsibility. Assessment then ceases to be part of the learning process and becomes a means to spot failure. If the goal of educational reform is to prevent rather than spot failure, then assessment must support learning at the same time that it measures it.

If students are to be active constructors of their own knowledge, then self and mutual assessment must be as normal a part of their classroom learning as it is of their everyday learning. All other assessment in the school must be built on this bottom line activity—which, where learning is concerned, is where the rubber meets the road. Students' self assessment must be an integral part of any assessment that the teacher, the school, and the community are engaged in. Indeed, if learning is to be organic and student driven, this self assessment must be the pivotal point of the entire assessment system.

Assessment standards are related to personal responsibility and direct engagement with the outside.

Education must be local—that is, it must be designed for and owned by local communities, if it is to provide a meaningful learning experience for all students. At the same time, learning must satisfy extra-local standards. Given the opportunity, individuals, including and perhaps especially, students, set higher personal standards and goals than others are likely to set for them. Schools need to capture kids' ambition, and put them in contact with personal goal setters in other communities, providing an organic connection between selfassessment and the expectations of society. Thus state, national, and international standards should be something that students and teachers have direct access to as they set goals and

standards for themselves. Students must have the opportunity to see the performances of other students—in other schools, other states, other countries—in order to have a measure not only of their own performance, but of the performance of their own schools and communities. Allowing students to take charge of their own learning means allowing them to take charge also of assessing the learning opportunities that are offered to them. Students also need to see adult performances—direct observation of masterful performances is a common aspect of learning out of school, as when aspiring basketball players watch Michael Jordan make a spectacular basket in slow motion on television. This form of authentic experience is almost entirely absent from the learning environments typical of schools.

Assessment is transparent

In order for assessment to be meaningful, participants in the assessment must share an understanding of its purpose, structure and criteria. In the current alienation of assessment from the learner, the meaning of assessment activity can be obscure in a variety of ways. The criteria for evaluation, in the hands of the assessor, may or may not be shared, known or understood by the people whose performance is being assessed. Means of assessment—such as the interactional devices used for assessment during classroom interaction—are placed beyond the learner's control and may even be opaque to the learner. And frequently students do not even know when they are being assessed. School personnel may be noting bits of behavior in the classroom and on the playground whose role in an overall assessment system is not at all apparent to the student or the student's parents. Behavioral expectations in these cases may be quite opaque to those being assessed—a problem that is particularly exacerbated when the student is not a member of the dominant culture.

When the design, performance, and evaluation of assessment are separated across sites and participants, the separation tends to make meanings of that assessment opaque: students are asked to engage in activities that they can see only as "tasks;" teachers can be required to administer tests that they play no role in constructing; and administrators and the wider community can be expected to make comparative judgements on the basis of impoverished, quantitative summaries of those tests. In each case, the intended meaning of activity has been largely lost. Meanwhile, human capabilities for constructing, interpreting, and using information about learning are overlooked and undersupported. For students, the alienation

resulting from such assessment processes profoundly affects learning. What students learn from these assessments is that school is "about" sorting students, and that understanding subject matter is only loosely related to this sorting. They learn, thus, that they are powerless to control their own achievement.

Assessment relies upon the social practices for producing, selecting, interpreting, and using information to support evaluations of learning. Innovation must be located within these social practices, and in the relations between people with different interests who must negotiate the content, process, and meaning of assessments*. Without understanding how existing practices reflect diverse interests and then engaging those interests during the design of alternatives, changes imposed in the interest of reform will more likely reinforce existing problems. It is, then, within the wider and diverse social practices of the education system that we are reframing the idea of assessment systems. And it is against this broader context that notions of systemic validity, participation, and transparency must be seen. Participation by students and teachers is needed to integrate the processes and subject matter content of assessment into activities that have a legitimate place in different communities within the school, allowing members to co-construct a sense of identity around meaningful learning practices.

Assessment is of real activity and of best efforts

The current assessment system has many of the qualities of a game of intellectual hide and seek. Assessors try to construct tests that will defy cheating, chance, and ambiguity. Test takers gear their activity towards watching out for tricks and pitfalls. In all of this, it is not at all clear what the relation is between the results of the test and the student's learning, except that it has no doubt reinforced the student's view of learning as a contest. Assessments should be assessments of activity that reflect learning—that reflect the student's ability to use rather than to parrot knowledge. The vehicles of assessment, then, must be authentic activities that afford students the opportunity to display their power. They must also serve as

^{*} Hall, Rogers, James Greeno and Penelope Eckert (1992.) Participatory Design of Assessment Systems. Palo Alto, CA: Institute for Research on Learning.

a reward for learning—a positive rite of passage rather than a carefully placed roadblock. If we accept that students will learn different things at different rates, then we must accept that they will not all participate in the same assessments at the same time. Rather, an assessment should be an opportunity for the student to mark an accomplishment, and the details of these accomplishments should be resources for others.

b. Curriculum Is Thematic and Integrated

While it is commonly said that students come to school to learn how to learn, our curriculum continues to focus on content rather than on the activity of learning. Even scientific method is commonly reduced to a content item in science classrooms. It is time, then, to develop a curriculum of activity. If the curriculum of content casts the teacher as knower and transmitter and the student as receiver of knowledge, then a curriculum of activity will cast the teacher as learner and the students as a community of learning apprentices. This radically changes not only the social relations among people in the classroom, but the understanding of what knowledge is, and what there is to be learned.

Curriculum builds on diversity

The traditional view of education as a system, in which all students are supposed to learn the same things at the same time, deprives students of the opportunity to develop roles and meaningful forms of membership in their learning community on the basis of knowledge itself. Differences in knowledge among individuals within a community should be seen as opportunities. Part of being a member of a community is knowing how one's own knowledge fits into the activities of the community, and how knowledge is distributed among others within the community. The traditional emphasis on uniformity in current schooling prevents students from coming to see their knowledge as part of community knowledge, and as part of their own identity in the community. In a classroom that offers complementary tasks and information, on the other hand, students can explore the relation between their own knowledge and that of others, and to view each other as resources. Knowledge, then, is not something to be hoarded or to compete with, but something to be shared. This also means that not knowing a particular thing can be viewed as an opportunity for learning rather than as a failure to know some item in a standard list.

Curriculum is embedded in meaningful activity

Learning in school should be an extension and enhancement of the learning and thinking that students do outside of school, and vice-versa. If there are no artificial boundaries between subject matter and the social contexts in which it is useful—if school is not an isolated community of learners learning "school things" in a rarefied setting—then there is a possibility for merging practice outside and inside the classroom. Everyday situations give real content and context to subject matter activity. This is not simply an enhancement to motivation for learning, but a direct approach to the basic issue of meaningful learning and an obviation of the age-old problem of the classroom: "learning transfer."

The schools have traditionally extracted bits of knowledge for teaching in abstraction—then the problem has been to teach students how to "apply" this knowledge in real situations. This is perhaps the most obvious in the case of math education. If, however, knowledge is gained in real situations, then the problem of "transfer" can take care of itself. A constant back and forth between intellectual skills (such as, for instance, finding ratios and proportions) and their instantiation in real life situations (such as dividing a recipe) is the only way to guarantee that students will be able—and disposed—to use those skills in future settings. And if these intellectual skills are learned within the context of real problems, students will be better able to see problems that are, for example, mathematically tractable in real situations in the future. Ultimately it is the real situation and the real problem in that situation that will make the math learning meaningful to the student. Math education should not teach students abstracted algorithms—it should transform students' daily experience into a world full of mathematically tractable problems. An important aspect of being this kind of a community of learners is that in focusing on recognizing a problem, the students are also learning to develop a sense of their own knowledge as something that they must construct.

Curriculum is thematic and interdisciplinary

The division of subject matter into cleanly separated areas—math, science (and within science biology, chemistry, physics), language arts, art, music etc. abstracts subject matter away from the real life phenomena of which it is part. This makes the material harder to learn because it lacks cohesion for the student. At the same time, the abstraction of subject matters from their existence in the world obscures some of the most important aspects of the phenomena supposedly under study. The organization of learning around real problems

does not eliminate the possibility for abstraction; rather, it provides the grounding for useful abstraction, making abstraction accessible to all participants.

Curriculum is transparent

Students need to know where the curriculum is going and why. They need to know what there is for them to learn and what they will be able to do with it. They need to be able to look at older kids and have a sense of what those kids know, and see something of their own future—have some sense of their own trajectories. Without this, kids cannot make school subject matter learning part of their identities, or part of their aspirations. Part of this transparency is to be gained by breaking down the barriers between knowers and learners. We have discussed this in relation to teachers—it also applies to students at different levels.

3. Grouping of Students is Flexible and Appropriate to the Task

Students in most schools currently find themselves in learning groups that are homogeneous with respect to age, facility with certain subject matter and with English, and even physical facility. This homogeneity prescribes progress in each subject matter, in such a way that limits and discourages rather than enhances development and learning.

Too many classrooms also tend to be ethnically and economically homogeneous. This limits some students' access to school resources, and it limits all students' access to each other. The current mentality sees diversity as a problem that must be overcome. We see diversity as a resource that must be treasured and built on. Diversity in this context must be seen not only as ethnic and class diversity, but as diversity in learning trajectories. If students are to take charge of their own learning, they must be able to develop personalized learning trajectories. And if the curriculum is not standardized, then the groupings of teachers and learners cannot be standardized. Above all, diversity must be a criterion for grouping rather than something to be avoided.

Learning groups are age heterogeneous

Chronological age is a very rough indication of cognitive, emotional and physical development at best. Yet age is the primary grouping criterion in our school system. And because of strict age grouping in the schools, age becomes a crucial aspect of personal identity, and the age group (or grade level) becomes a basic social unit. Kids are encouraged to identify above all with their own age group and since the school provides the age group as the basic social cohort, kids develop a strong need to "fit in" with their age peers.

Middle class families generally encourage their kids to stay with their strict age peers, and to rely on their parents for information and resources. Many other kids' support systems, however, are based in age-heterogeneous peer groups, and their normal strategies for learning are embedded in age-heterogeneous groups. When age separation is imposed on these kids, it disturbs important social connections and interrupts important learning relationships*. Schools, embodying white middle class practice, tend to see kids who socialize with older or younger kids as deviant, and to attempt to interrupt those relationships. Not only does this put the school at odds with their students' lives outside of school, it also has no positive value in itself.

For many kids, older friends and siblings are a valued source of learning, and younger friends are a valued object of teaching, nurturing, and reflection on one's own progress. Interrupting contact across age groups shatters this continuity, limits the kids' social roles, and creates mystery around development. Kids have less opportunity to see where they're going—to see what older kids do in school, what they know, and how they learn. In short, age segregation prevents transparency, and indeed age heterogeneity may well be the most important justification for the current nostalgia for the one room schoolhouse.

Kids do not all mature in the same ways and in the same time. The age grouping of students assumes a kind of lock step development, and hooks up that development with a lock step curriculum. Students in any age group may be quite heterogeneous and may be held back or pushed forward in different areas. There is, for instance, a very unambitious and strictly graded math curriculum for students in elementary school. Left to their own devices, many students would progress in math much faster than dictated by the curriculum. In the current system, they are forced to choose between belonging with their age group, or setting themselves aside from other students. Those who are unwilling to set themselves aside in this way tend to hang back and get bored, perhaps even troublesome. Other students, on the other hand, might be "ready" for certain kinds of math later than others, and are likely to be

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^{*} Eckert, Penelope (1989). *Jocks and Burnouts.* New York: Teachers College Press.

disheartened, and labeled as slow when pushed too early. The mythical "average" student that such a curriculum is aimed at does not, in fact, exist.

Grouping and curriculum support view of learning as deepening rather than accumulating knowledge

In most current schools, students who progress more slowly in some area are cast as failures; while those who progress more quickly distance themselves from their peers. All kids, forced to see themselves in relation to a strict metric, cannot construct identities on the basis of learning except identities of "better" or "worse," "faster" or "slower." This means that the identities that are facilitated on the basis of learning are strictly competitive, and do not foster community or cooperation. And it means that the content of learning is subordinated to some notion of quantity. The student who has advanced "faster" is the student who "knows more"—not the student who "knows X."

One major objection that has been raised to heterogeneous grouping is that it holds back the faster learners. This notion of holding back, however, is based on a view of education as accumulation rather than building depth. The student who progresses faster in a particular area can help his or her classmates. And this helping allows that student a minute examination of his or her own knowledge—an activity that is crucial to quality learning, and an activity that is not provided in our current system. Where students in the current system help other students, it is commonly in a context in which the two are seen as being ahead or behind, making the relations between the two counterproductive to learning activity. On the other hand, if the normal course of learning takes place in a community in which members feel routinely responsible for the learning of their peers, then all learners will be continually probing their own knowledge and their own learning.

Grouping is according to task

Class size is one of the most frequently discussed and manipulated aspects of schooling. Class size has no meaning in the abstract, however, since different activities call for different sizes and kinds of groups. The key to productive grouping is flexibility, achieved through the creative use of non-teacher personnel, peer teaching and collaborative work, collaboration with resources outside of school (such as museums and workplaces), flexible workspaces, and flexible schedules. In all of these cases, the locus of learning (e.g. in school or out), the individuals involved in instruction, and the groupings of students, should be determined by the learning activity involved. Greatest flexibility will come through collaboration among numbers of teachers, and with resources outside of school.

4. School is a Workplace for Learning

Schools have been notoriously bad workplaces for teachers. Teachers have little control over their time, activities, and environment. They usually work alone, and they have few human and material resources. They have sparse opportunities for meaningful professional development, and there are few rewards for good teaching. Professional advancement leads away from the classroom—a bizarre practice that emphasizes the devaluation of teaching activity and expertise that our teachers have labored under.

Schools have been relatively isolated institutions, for teachers as well as for students. Teachers have little contact with their peers outside of the school, and even inside their own school there is little time for collaborative professional engagement. The high performance school, like any high performance workplace, needs to be organized for learning. It needs to promote communication and collaboration among all parties to the educational process, eliminating boundaries and hierarchies that inhibit the flow of information and resources.

Change is built into the school as an organization.

The needs of education change continually, our understanding of learning changes, resources for learning change. A crucial part of any plan for a true learning community is that not only the individuals, but the community as a whole, learns. This must be built in to everyday practice in the school—the school must be a self-consciously reflective organization, intent on keeping careful track of its mission, its goals, its progress, its mistakes. The mission and the goals will not be static, but will continually change. For the school and for teachers, as for students, there must be room for mistakes as long as the institution knows how to profit from those mistakes. The key to this organizational learning is collaborative self-consciousness. And this collaboration must involve all parties to learning—both inside and outside the school.

Teachers are also in school to learn: everything that applies to students also applies to teachers.

Although they are engaged in work that requires continual reflection, teachers generally have no private work space and very little time for this reflection, and while teachers should be examples for their students, they are given little opportunity to continue their own learning. If teachers are to engage and lead their students in learning, they must be engaged members of their own subject matter communities—a math teacher must be engaged in mathematics, a music teacher must be a musician. They must have access to the resources for their own continued engagement and learning—to the same kinds of resources that we are advocating for students. Teachers need to be encouraged to forge relations with experts outside of the schools, to engage in learning communities outside the school as well as in, and to see the clear relation between this learning and their activities in school.

Like their students, teachers need opportunities to assess their progress and needs, and act on those assessments. For this to happen to the greatest benefit of both the individual teacher and the institution, the practice of teaching must be opened up in such a way as to forge a continual dialogue between spontaneous self assessment, local standards, and standards being developed at a distance from the school.

Teaching tends to take place behind closed doors, and teachers are commonly quite self-conscious and sensitive about their teaching. Indeed, teachers tend to be primarily concerned with others' impressions of their classroom management which, after all, is easily observable to the person passing by in the hall. This is an indication of the current isolation of teachers, that gives them no realistic yardstick for evaluating their own practice. Without opportunity to participate in each other's activities, to observe each other at work, to exchange ideas and develop collaborative practices, teachers have no means for evaluating their own teaching or for benefitting from meaningful exchange with their colleagues. It is essential that the practice of teaching become open—that teachers be given the greatest opportunity to collaborate, to discuss practice and standards, and to articulate these standards with other parties to their practice: students, parents, administrators, etc.

Resources are appropriately controlled

In order for teachers to control their own activity, they need to control resources for that activity—people, space, materials, equipment, time. They need open access to information and to people both inside the school and out. Dispensing these from above leads to

unproductive use of resources, hoarding, and competition. Collaboration among teachers on all aspects of learning will lead also to the cooperative allocation and use of resources.

5. School is a Community Resource and the Community is a School Resource

The school needs to work with its students' other teachers in the community, and learn from their students' lives outside of school, and from their families and community members. At the same time, the school needs to provide opportunities for their students to branch out into new parts of the community, and to foster their students' direct access to resources well beyond the school. The school should be a facilitator, not a gatekeeper, in the relations between students and resources beyond the school.

If learning is lifelong, then schooling must be integrated into a larger view of development than is currently embodied in the focus on grades K-12. The schools must be part of a larger community responsibility for ensuring that appropriate opportunities are provided at all stages of life, not just those who are of "school age." Public schools cannot be all things to all people, but they can forge connections to other resources and facilitate their community's use of these resources.

School takes advantage of community resources for learning

Communities have their own combinations of individuals with special abilities and interests, museums, businesses, natural resources, etc. that will welcome a productive role with the schools, can provide invaluable resources for the school, and may actually reduce the burden on the school itself. If school is to be an experience that opens the world to its students, then the school must take advantage of these resources, sending its students out to them as well as bringing them in to the students. The school needs to maintain intimate knowledge of, and active participation with, the community's resources. Careful articulation of curriculum and in-school learning activity with resources outside of school will provide rich experience for both students and adults.

Kids also need an opportunity to help and serve—to make a difference in their communities. In current schools, community service is frequently embedded in extracurricular activities, and watered down to fit the limitations of those activities: students may gather canned food in a drive embedded in a school-internal competition. The contact between that activity and the people who stand to benefit from the drive is beyond the students' reach, and the real meaning of the activity is masked in a kind of competition that is both inappropriate and of little interest to most students in the school. Most students engaged nowadays in community service do it through churches or other organizations: the school must encourage and facilitate opportunities for such activities.

School works with parents

While schools recognize that parents have a tremendous stake in their kids' education, they commonly do not manage to forge productive relations with parents. In general, schools think of parents—particularly low income parents—as people who need to be taught how to work with the school. It is a fundamental aspect of our design that the teaching works in both directions. Parents are a vast resource of knowledge and expertise about their kids—about the expectations, hopes, talents, problems and needs that their kids bring to school; and about what their kids bring away from school. And parents have their own expectations, hopes, talents, problems and needs that are intertwined with those of their kids. If the school is to attend to the learning needs of its students, it must be family focused. The school needs to work closely with every student's parents or caregivers, and siblings, attending to needs well beyond those directly connected to school work.

Parents are not just individual participants in their kids''s education, or individual collaborators with the school, but members of communities, and members of communities of parents, whose combined efforts can far outreach any individual interactions with the school. It is the school's responsibility to develop collaborative and open relations with parents not just individually with their own kids, but in the context of their community membership. Parents can organize themselves to jointly support learning outside of school—to help each other develop strategies and resources, and to develop the school itself as a resource.

Frequently some of the most crucial parents to the school's activities are those who hesitate to become involved in the school. This is frequently true of parents who themselves had bad experiences in school, or of parents who are recent immigrants and are not used to the idea of participating in their kids' education. It is the school's responsibility to forge relations with these parents—relations that allow the school to learn about and from those parents' experiences and insights into school problems. When the school deals with parents separately—particularly low income parents—those parents tend to be forced into a passive

role. Encouraging parental collaboration will strengthen parents' participation in the school, and will ensure that the school learns from the parents.

6. School reform is a learning process.

School reform is not a matter of building schools from scratch, but of transforming long-standing practices. School reform is, therefore, a process of learning. Thus the principles of school reform outlined above apply to the very process of reform as well as to the end product. Individuals learn best when they engage as a community and with other communities, take charge of their own learning, build on what they know, engage in continual self-assessment, and control their own resources. Meaningful reform can only be accomplished by those whose practices are being transformed—the community of learners, adults and students, who constitute the institution.

Epilogue

Many kids choose to fail in school because academic success conflicts with what they see as their possibilities for social fulfillment outside the classroom and the school. This choice between academic success and social fulfillment should never arise. Transforming schools into learning communities requires harnessing for the pursuit of school subject matter the same energy that goes into non-school pursuits. This means that schools must foster communities of practice in which participation, including subject matter learning, is a valued resource for social identity and social interaction both in school and out.