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Strange Loops in Education: Problems for Planning and Progress

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Abstract

Why does it appear that no matter what we do in education, we seem to face the same problems continually? The education agenda has expanded dramatically over the years as societies entrust more and more responsibilities to vast and complicated curricula. There are many different interest groups in a society that is concerned about education. They promote different educational priorities, and greater consultation does not result in clarity of intents but rather in compromises and complexities. In responding to diverse goals and highly interrelated problems, the development mechanisms of an education system operate largely independently, culminating in a closed-door classroom where a teacher and students determine the relative influences of intents and actions. A shifting schooling context tangles the hierarchy of interests and emphases. There is no final arbiter of what constitutes the essential features or outputs of education, and even if this could be remedied, there is a low correlation between intents and technologies, where well-intentioned actions may lead to unintended consequences. The result is a development domain riddled with strange loops. There's a sense of infinite problems that re-emerge as foci shift. Escape from strange loops requires the establishment of a hierarchy that enables clear judgments and suggests directions or guidelines for action. Education is unlikely to fully untangle its intents and processes. This paper suggests that the criterion of "quality-of-life" may serve as an overall goal for the judgment of program appropriateness and adequacy. The loosely-coupled technologies would be guided by a well-informed, strategic thinking, evolutionary planning management that fosters dialogue, coordinated action, and continual monitoring and evaluation. Unfortunately, we are likely to continue to face strange loops as our efforts fall short in this complex endeavor. We need new development strategies that (1) increase our understanding of the educational process and its reform, (2) recognize the complexities of the domain, and (3) are based on better analyses and utilization of systemic and programmatic information. There is no permanent fix for strange loops. Only a well-managed learning environment will enrich the conceptual and thinking talents of our children. Otherwise, they are on their own, and schooling may or may not contribute to the fulfillment of their talent. We need to manage better the way we manage our schooling. Strange loops are pervasive.

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Strange loops add interest and aesthetic appeal to our conceptual and visual lives (the music of Bach, the art of Escher, and the elegant thoughts of Gödel).¹ They also baffle and confuse us in the tangled hierarchies that pervade our practical existences. Strange loops are recursive illusions, formed when a natural or social hierarchy collapses so that there is no longer an inviolate level from which to judge the experience or event. There appears to be progress or direction, but from another perspective outside the system, the apparent hierarchy reaches back on itself to leave us where we were. The loop is formed by a reduction in dimensionality. Because of the loop, we have the impression of infinity and no progress or development. With the hierarchical ambiguities of modern education, we have a breeding ground for strange loops and a general and pervasive perception of little progress. This paper will investigate some of those loops. Unfortunately, there's no general fix to hierarchical tangles. We have to "manage" our way out each time, and the successes are rare, particularly in the field of educational development.

Two examples will further illustrate strange loops. In the work of René Magritte,² called *The Two Mysteries* (1966), Magritte portrays an invisibly suspended smoking pipe along side a "portrait" of a pipe. The portrait is further designated as "this is not a pipe." If you are drawn into the painting, you accept the first pipe as "real" and the second as a representation. It is only when you back away that you realize that both pipes are in a single portrait in the same two-dimensional space of the canvas. There is no hierarchy of real and representational, although they invite that impression. Both are part of a painting where we are encouraged to tangle the hierarchy. The strange loop is intentional in this instance. It creates a complexity in the work to promote attention and interest.

Education presents many strange loops unintentionally. Educational development is fraught with tangled hierarchies that present "progress" only to withdraw it as the illusion of resources, or talent, or problem solving is shown to be a temporary reprieve. Local curricula boards set curriculum guidelines while publishers produce textbooks based on perceived markets. Which one sets the agenda? Once the curriculum is in place, exams, standardized or classroom or national (in many countries), implicitly specify the important learning objectives for documented success in the system. What controls the learning environment—the curriculum or the exam?³ The ambiguity of educational intents and the operational inconsistencies resulting from the diverse, wide-ranging, and multiple objectives of schooling present rich possibilities for strange loops.

Complexly Organized Problems of Education

Perhaps the most damaging problem-related misconception derived from the educational process is that problems are objects of experience. They are not. *Problems are abstractions extracted from experience by analysis....* Managers are not confronted with separate problems but with situations that consist of complex *systems* of strongly interacting problems. I call such situations *messes*. (Russell Ackoff)⁴

The starting point for all human inquiry is a *mess*, because human and social problems are inextricably related to each other and the input to any educational inquiry is the system of relevant interrelated and interacting problems. Messy problems cannot be solved but must be "dealt with" or managed. The development of Education Management Information Systems (EMIS) and the implementation of strategic planning processes using EMIS, both highly rational components of educational planning functions, do not directly or adequately address messy problems. In fact, they can contribute to information overload for managers trying to grope with the complexity of problems and exacerbate the very problems they should address or create new ones, increasing the mess.

When we think about an education system, we envision an interconnected set of organizational units each working toward a common set of educational goals. These interrelationships and mutual dependencies define the system. Unfortunately, the highly integrated system model does not describe the organizational realities of any contemporary

¹ As explicated in Douglas R. Hofstadter's *Gödel, Escher, Bach: An Eternal Golden Braid* (New York, NY: Basic Books, 1997).

² Hofstadter analyzes several of Magritte's paintings for their strange loops, e.g., pp. 700-706.

³ Snyder, C. W., Jr., Prince, B., Johanson, G., Odaet, C., Jaji, L., & Beatty, M. (1997). Exam fervor and fever: Case studies of the influence of primary Leaving Examinations on Uganda classrooms, teachers, and pupils. Washington, D.C.: Academy for Educational Development.

⁴ Russell L. Ackoff, *The Democratic Corporation* (New York, NY: Oxford University Press, 1994), p. 211.

education system very well, particularly developing ones.⁵ Education systems are not bounded but rather tend to be open and resemble each other worldwide, influenced by international notions of an ideal educational program.⁶ The components are mutually dependent but not on each other or their local environment but rather focused on an external environment created in the international arena of ideas and recommendations. The commitments and concerns of the fragmented components focus on a particular perspective of the intents and aim at global images of educational form rather than local influences and relevant accomplishments. Namibian education, for example, is not tightly tied to structures of interest and power in local communities, or in fact to an uniquely national one. The entire effort is to put into place a local instance of a proper international model. Each compartment of the system interprets this individually, pulling the components apart further in some cases and sustaining the compartmentalization across the system. The local system is operationally embedded in the international environment, which works through local compartments along the prescribed forms providing automatic credibility-by-association. Remarkable is the fact that the various interpretations of the international form are fairly consistent across relatively non-communicating compartments. This gives the semblance of integration, even where none or very little exists. Therefore, in education, we confront a mess with a collection of independently operating components pursuing a hazy, non-existent ideal of schooling.

Meyer and Snyder⁷ have spelled out what a good school is in this view:

Our data lead to clear conclusions on the central elements that make up a good school from the point of view of local educators. This school has a good and well-maintained building, with well-furnished classrooms of adequate size and number, and with texts and other materials in good supply. It has well prepared students of the appropriate age in regular attendance that remain in school from year to year. It has properly trained and certified teachers in sufficient number. The teachers present, in a clear and well-organized way, the nationally set curriculum to highly attentive and disciplined classes of students. And the rules defining all these dimensions are those of a national system, linked to world models (as per Meyer, 1995).⁸

What the good school is not is also rather clear. It is not a local institution tied into a local culture, economy, and society. It is to be an enacted instance of a national high educational culture, not an emanation of a local system. The school is an institution of the high world values, not the depressed local ones.

This also applies to the children who come to the school. Their local experiences, needs, and developmental trajectories are not the main focus of the school (though it should adapt to variations in their abilities to learn the material). The school is to organize the child, as a disciplined student, around the required knowledge and curriculum of the schooling; not to organize knowledge around the individual needs, interests, or tastes of the child.

Finally, the school is an enactment of a central model, not an active organization of mobilized educators. It is not to reflect their choices and decisions. It is to reflect their faithful carrying out, with professional skill, of their higher responsibilities.

Here the change effort focuses on piecemeal reform to solve the perceived independent set of problems. The reform moves from component to component and individual constraints are identified as hurdles for systemic effectiveness. Each hurdle is addressed by some rational remedy advanced by a respected entity. The emphasis is on the form of schooling, making sure the enactment of the idealized model is mimicked as closely as possible. In the schools, the classrooms are ritualized, concerned with coverage of the internationalized curriculum, maintaining the highly disciplined, social form of a good school, emphasizing the correctness of responses rather than creativity, and promoting a clear presentation of instructional material to attentive learners. Although rhetoric about learner-centered education may be prominent (and attention to individual variation is encouraged but in terms of limited categories of normative excellence), the instructional program is highly ritualistic and static rather than individualistic and dynamic. The rhetoric changes the attitudes of teachers about the learners, encourages more learner participation over time, and promotes variations in teaching strategies, but the framework remains rigid, narrow, and derived from general standards of form. Performance is believed implicitly to follow from proper form.

⁵ Karl Weick, "Educational Organizations as Loosely-Coupled Systems," *Administrative Science Quarterly*, 21, 1 (1976): 1-19.

⁶ John Meyer, David Kamens, and Aaron Benavot, *School Knowledge for the Masses* (London, England: Falmer Press, 1992).

⁷ John Meyer, and Conrad W. Snyder, Jr., *Impact of PEP Policy Initiatives on Lesotho Primary Education* (Maseru, Lesotho: Ohio University, 1996).

⁸ John Meyer, *Organizational Integration in Lesotho Primary Education: Loose Coupling as Problem and Solution* (Maseru, Lesotho: Primary Education Project, 1995).

The fragmented and autonomous components of the system are *pulled* by common external influences. Integration never really occurs because the external image is interpreted in various ways. Still, the quality of the system is judged internally by its credibility and not by objective evidence of accomplishment. Regardless of quality, the system endures and may even attract a sizeable proportion of the national budget, which is “success” in an important sense.

From the perspective of resource-rich countries with long established education systems, these systems are exemplars of ineffectiveness with masses of problems to be “solved.” The indigenous responses are ritualistic and impoverished. The question asked is why can’t these systems attack *their* problems? How quickly we forget.

In the developed world, local society is already imbued with the spirit of the schooling form, and has the resources to put it into place. Local occupational, social, and political arrangements are organized in terms of educational knowledge and credentials, and the school has become an intrinsic base for every aspect of mass citizenship (and local social stratification). It was not always so, and for example, nineteenth century American educators devoted enormous time and effort to establishing the schooling form in ways that now seem highly ritualized and disconnected from *instructional system effectiveness*. They struggled to get the students there, and on time (tardiness was quite an issue). They created major policy efforts to get students of the proper age in the correct grade, and to establish the orderly graded school in the first place. Regular promotion, with minimal retardation, was a crusade. The educators worked for a century to define and emplace properly trained and credentialed teachers. They devoted reams of legislative paper to the definition of the required school facility, specifying window sizes, toilet arrangements, classroom size, and so on. And they agonized over establishing the proper syllabus and the appropriate textbooks and materials. They could not entirely trust local society to do any of these things on its own, though American local society then was generally ... resourceful, and linked to modern schooling conceptions.... Of course, the model of the proper school generally established in the wider world was much simpler in the nineteenth century than it is now.⁹

The effort to *ritually* enact the modern schooling form appears in most educational histories (even though these histories are unique). Newer nationstates have more complicated and intricate models to emulate and fewer relative resources in the world context (thus the emphasis on donor and private benefactor assistance) than the older developed nations. There are distinct disadvantages to arriving late to nationstate status. The international models are far more ambitious and sophisticated. Education has taken on more and more functions in developed societies so the *target* becomes more ambitious and more ambiguous. Foreign agencies promote pieces from their particular translation of the international model, and their efforts can exacerbate decoupling in the already fragmented system, leaving their sustainable ruins (usually aberrations of intents in some structural form) in the organizational archeology.¹⁰ Ritualized change carries no criteria for effectiveness so that “ruins” can be purged if not useful.

The mantra of planning is “you can’t get there if you don’t know where you are going.” In education, there are many places to “go,” and unclear links between present conditions and intents create many possible paths as well. Even the articulation of intents is fraught with ambiguity and conflict.¹¹ Both EMIS and strategic planning have their intellectual origins in rational analytic philosophies. They reflect the “world as a formula”¹² where all problems are bounded and well-structured and the analysts of them are all above average. Unfortunately, this simple schema does not capture the complexities of education. Analytic-deductive approaches have value if they are treated with skepticism and their assumptions debated for the particular context of application. Using the case of Namibia, which possesses a nearly idealized version of EMIS and ambitions to formalize the strategic planning process, we shall propose that logic is “illogical” in dealing with a *mess*. As defined in *The Devil’s Dictionary*,¹³ logic is the “art of thinking and reasoning in strict accordance with the limitations and incapacities of the human misunderstanding.” We must rethink the role of EMIS and strategic planning under the severely limited capacity and bounded rationality of the system. Simple conceptions of EMIS information and strategic planning based on problem-solving and systemic integration are doomed to create their own strange loops.

⁹ John Meyer, *Organizational Integration in Lesotho Primary Education: Loose Coupling as Problem and Solution* (Maseru, Lesotho: Primary Education Project, 1995).

¹⁰ Joane Nagel and Conrad W. Snyder, Jr., “International Funding of Educational Development: External Agendas and Internal Adaptations: The Case of Liberia,” *Comparative Education Review*, 33, 1 (1989): 3-20.

¹¹ See Nathan Glazer’s *We Are All Multiculturalists Now* (Cambridge, MA: Harvard, 1997) for a review of current problems and conflicts in American education about the intents and curriculum for social studies and history.

¹² See Ian I. Mitroff and Harold A. Linstone’s chapter on “The World as a Formula: The Second Way of Knowing,” *op. cit.*

¹³ Ambrose Bierce, *The Devil’s Dictionary* (New York, NY: Castle Books, 1967).

Education Management Information Systems (EMIS)

On or about the fifteenth school day, Namibia begins taking account of the school statistics for the new year. The form is quite extensive, covering basic school descriptive information, enrollment, learner ages, days and periods in the timetable cycle, staff vacancies, teacher information, grade 1 passes at the end of the previous year, and general staff information. Later in the year, the Annual Education Census is conducted to fill in the many details needed. Learner information is collected on the class group level and includes information on medium of instruction, repetition, ages, home language, and subject choice. Teacher information is provided on pre-printed forms so that the teachers can check their information and complete any missing items. More detailed information on qualifications is also collected. A physical facilities section is added to learn more about the school conditions. Combining the information from the Fifteen-Day Survey and the Annual Education Census, the Education Management Information Systems Division of the Directorate of Planning and Development produces the *Education Statistics* publication for that year. This is an extensive compilation of data on the characteristics of the grades 1-12 school system (also including other grades taught in special schools), school enrollments, flow of learners from grades 1 to 12, teacher information, physical facilities information, and life-long learning summary information. The publication is distributed throughout the system. Special queries of the data are handled on an individual basis.

The EMIS process is very efficiently organized and carried out in Namibia. People believe the statistics to be credible, and participation is both a regular activity of schools and one that all schools engage willingly. Return rates of questionnaires have been 100% since 1992, with only one exception. Across a school year the school system does shift in characteristics, but it appears from all accounts that the EMIS reports fairly depict the requested dimensions of growth and changes of the system over the years.

Early administrative information was available through the separate ethnically segregated education authorities, each of whom submitted common school questionnaires to the central statistics agency for processing. Only the White Administration had a sophisticated school-based reporting system, linked through shared computer files (carried on disks) with the central administration. This system, which was geared toward the administration and support of these particular schools, disappeared after the 1990 elections. Over the years the information and the reports have improved, responding to evolving needs from central administration and others who might use the information. The Ministry has gone through several structural changes. Currently, there is a Ministry of Basic Education and Culture and a Ministry for Higher Education, Vocational Training, Science and Technology. The EMIS personnel, files, and responsibilities have remained in the Ministry of Basic Education and Culture, but predictably, little higher education, vocational, or science and technology data are available.

There is little question that the EMIS of Namibia is successful. The data are as accurate as might be possible from a widely spread system, and the reports are highly competent and useful. In order to improve the analytic side of EMIS and to build further demand for information, information was presented in more useful ways to central administration. A geographic information system (GIS) was added to the capabilities in 1992, with financial assistance provided from various sources, notably Sida. The GIS complemented the information in EMIS and was particularly illuminating given the vast regional school and learner differences evident in Namibia, both because of cultural diversity and differential financial support under apartheid. Very rough estimates of variance from the SACMEQ study attribute school differences ranging as high as 65%. This is unusually high as a contribution to academic attainment. There are school differences found everywhere but they are not as vast and as highly related to attainment. The geographic differences in Namibia are disturbingly large. Accordingly, Namibia values schooling equity as a long-term aim of its investment program. The GIS was useful in dramatizing the information, and John Mendelsohn wrote an authoritative monograph on *Education Management and Administration and the Use of Geographic Information Systems* (published by UNESCO, 1996). Since his departure from the Ministry, few reports from GIS are now completed and there is little further demand for the information, reflecting possibly the concern that further analyses would reveal little progress.

Early technical assistance included EMIS support through the so-called Florida State Project (Basic Education Reform Project), with occasional volunteers from Peace Corps and APSO (Irish Volunteers). Long-term assistance was provided by the Academy for Educational Development and the Florida State University. The level of technical expertise has been high and the system is well managed and fully functional (including statistics, database, and query packages and email/internet capabilities for all planning personnel and others). Recent support from the Basic Education Support M&E Project (managed by the Rössing Foundation) provided computers to all regional offices loaded with software and ministry databases.

The basic EMIS work was further complemented by a policy dialogue model developed and implemented by the Research Triangle Institute through Sida funding. This model enables projections of policy implications of basic system growth indices, enrollment, teachers, salaries, costs, etc. Planners and policy analysts can query the model, changing parameters based on hypothetically proposed policies, and then examine the implications of the policy across the system and time. The EMIS group ran workshops on both the use of the model and the substantive issues and implications that arise when the model is used to explore Namibian educational policies. Some of the impact of the model was initially jarring to decision-makers, although the credibility of the model is not yet established and the system is still driven largely by historically important political considerations rather than empirical information. A more flexible, but difficult to use, spreadsheet system was developed by EMIS to project enrollments. Armed with the capability for projections, the EMIS database becomes a useful policy analysis tool for the future.

Since independence and the changeovers, which entailed the merger of 11 education authorities into one central ministry, there has been sensitivity in Namibia to the needs and concerns of a wide-range of stakeholders. The philosophy of early leadership was to seek opinions and to share information as widely as possible. In 1991, the first combined educational conference was held on the outskirts of the Etosha Pan. The Etosha Conference epitomized the ideal of discussion and collaboration. Individuals from all facets and backgrounds of education and the community attended. Although the outcome of the conference was never to be as important as the process of bringing people together who had not been together before to recognize their common interests in education, the procedures used for the deliberations were borrowed from Richard Mason and Ian Mitroff's *strategic assumption surfacing and testing* (SAST) process and Bob Dick's *search* procedure. Both are policy analysis techniques that highlight communication and participation. The Etosha Conference was followed by numerous substantive meetings that affected policy more directly, and task forces and conferences became key methods for policy study, change, and implementation during the early nineties. Many EMIS systems lack this emphasis on participation and are not as intimately tied to democratic management approaches. EMIS data and reports are used at all major junctures of educational debate. The problem is the rarity of debate and not the quality of descriptive systemic information available.

EMIS remains reliant on the basic input data provided by schools. The scenario policy model adds some interest to projections, and conferences add ideas and interpretations to the data. But there has always been a concern amongst the EMIS personnel that more is needed to probe more deeply into the system to understand the dynamics of instruction. Classroom process information is not readily available and it is expensive to collect. Without it, however, the system information is static and focused on inputs. The first regular educational attainment information is not available until after grade 10, when a national junior secondary examination is administered. Continuous assessment information could be collected but has little credibility. Preliminary studies reveal that continuous assessment within a teacher is correlated to test performances but not across teachers (due to a change in scaling from teacher to teacher). Without the external criterion (like a test), the individual teacher scales are not easily adjusted for bias. So EMIS lacks outcome information.

In order to examine the relationships between the various input measures and outcome measures, national assessments have been undertaken in 1992 (grades 4 and 7) and 1995 (grades 6 and 7), and with much smaller samples and only representing northern regions and lower primary grades (grades 1 and 2) in 1997 and 1998. These data enrich the potential impact of EMIS and provide opportunities for useful research on policies. The national assessments have focused on English and mathematics only. The 1992 assessment was published in *What do Namibian Children Learn?* (New Namibian Books, 1993, authored by Sue Grant Lewis, Bruce Fuller, and Haiyan Hua). Grade 6 information was collected in association with the Southern Africa Consortium for the Monitoring Educational Quality (SACMEQ), and the grade 7 information was collected at the same time. Only one outcome measure, reading comprehension, was involved in the SACMEQ study, which encompassed several countries in the southern African region. That analysis (for Namibia) was published by IIEP and SIAPAC (IIEP and Gamsberg Macmillan, 1998, authored by Friedhelm G.G. Voigts). Grade 7 has not been analyzed, indicative of personnel gaps and the lack of demand.

Interestingly, before the SACMEQ/National Learner Assessment study was undertaken, the Basic Education Reform Project provided Abby Riddell of HIID to critique the design and suggest analytic procedures and processes. She reminded the research team:

Policy is a necessary but fairly blunt instrument in the improvement of educational quality (attributed to Heneveld, *Planning and Monitoring the Quality of Primary Education in Sub-Saharan Africa*, World Bank, AFTHR Technical Note No. 14, 1994).

Educational change is usually the result of a political process at both the macro and micro levels. On the macro level, centralised policies create the agenda, whereas at the micro level implementation determines outcomes.... Unfortunately, most systems fail to realise that educational quality is a function of the dialectic between policy and practice, not the preserve of one or the other.... It is time to recentre the debate on the process of schooling (attributed to Oakes).

Both quotations reassert the importance of the use of analyses. Although special studies add considerably to the information pool available about systemic quality, they remain historical benchmarks unless they find an audience. These studies, at least in their initiation, were prompted more by external influences than internal “demands” for information. Later, comments from other countries and shared-information at international meetings prompted more interest in the international comparative data. The country coordinator for SACMEQ in Namibia is now the Director for the next SACMEQ study in the year 2000. This recognition, arising because of the excellent work done by Namibia in its portion of SACMEQ, has also increased the visibility of SACMEQ in Namibia.

In the SACMEQ results, Namibia had the lowest English reading comprehension average score in the region. English became the official language for Namibia at independence, and it is the medium of instruction after grade 3. The results were very disappointing and further tainted EMIS with reporting only “bad news.” With the further analysis of the SACMEQ data, the Ministry “launched” the study in August, 1998. This reflected a commitment to learn more about the reasons for the problems, illustrating a continuing concern in Namibia for good information. Although SACMEQ offers an outcome measure to provide some guidance to links with attainment, the single measure was chosen to be acceptable across many countries. The study offered no information on the instructional process and so was limited to input/reading relationships only. Riddell had pointed out the need to include process variables, but also warned that the research in developing contexts was not yet available to fill in the needed complexity for a full model. She also advocated a “two-pronged conference on *A Namibian Model of School Effectiveness*” that would cover the research findings, dissemination, and initial policy conclusions, and then training workshops on various useful topics to build the process side of this model. The launching of the first SACMEQ report follows her first suggestion. The observation studies never materialized, except smaller versions sponsored within projects, as outlined below.

Perhaps somewhat due to costs, systematic classroom information has largely been collected through projects. There are formal reports on teaching done through the inservice courses, but these records are difficult to collect and aggregate. The INSTANT Project, funded through the European Union, collected some junior secondary classroom observations on science and mathematics classes to examine the policy of *learner centered* education as enacted in Namibian schools. INSTANT was an inservice training project to help with the implementation of new secondary curricula in physical science, biology, and mathematics. Observations revealed that teachers were constrained by the lack of equipment, subject knowledge, basic teaching skills, lack of general classroom management skills, and poor command of English. Teachers were not prepared nor able to handle the implementation of a learner centered oriented class. The more effective teachers had better understanding of the subject matter, which led to the recommendation that all teachers teaching a grade should have significant subject matter education (and this was interpreted as indicating a minimum of grade 12).

A second major set of classroom observations was undertaken by the Basic Education Support (BES) Project funded by USAID. Both grades 1 and 2 of a set of target schools in the north of Namibia were observed using Structured Instructional Materials (SIMs), and control grade 2 classes were observed using the regular instructional materials. Tests in English language, mathematics, and environmental studies were given at the beginning of grade 2 to assess the status of attainment for those using each kind of materials in grade 1. Results for grade 1 indicated that SIMs had made a difference. Improvements were attributed to the structure of the material that helped under-prepared teachers and disadvantaged learners in setting a positive learning environment. Comparative analysis of classrooms at grade 2 indicated that all classrooms were improving as modern notions gained prominence in the previously isolated part of the system, and new teachers began to positively influence the teaching environments of schools. The results were still disappointing. Ethnographic information from a few schools revealed that the SIMs teachers were consistent in their teaching and at least maintained their minimal, but adequate, standard. Control teachers had a small repertoire of “good” lessons that they “brought out” for observations and soon reverted to poor practices over time. This would account for the performance differences of the learners in the SIMs classes.

Again, the results of this monitoring and evaluation information bring the EMIS qualification and experience data to life. It becomes possible to see if teacher credentials have any meaning in the system in terms of real effects on

achievement. Other outcome measures should also be included but it is very difficult to convince anyone to invest in the development of additional indices. Because education is so complex and its outcomes ambiguous, managers appear uninterested in empirical results because they raise new questions and concerns. Information becomes an issue rather than a way to manage the system. As an example, the classroom observation information confirms that few teachers can or will teach in ways that are learner centered. The Director of the National Institute for Educational Development (NIED) confirmed these findings: "...even while teachers profess that they have changed towards a learner-centred approach," they are still very teacher-centered in their actual practice. Their approaches remain traditional even though they interpret their actions in some learner-centered fashion. To some extent, the learner-centered mantra is a political reaction to the former "Bantu education" of the past regime. Traditional approaches were seen as restraints to individual development and modern doctrine has been more easily assimilated into Namibian rhetoric than might normally be the case. The teacher translation of this is concern for the individual child and encouragement for development, but it is not yet a fully integrated method of instruction. Teachers lack the confidence, depth of subject knowledge, and classroom skills to fully adopt learner centered approaches. These kinds of important educational developments can only be monitored with deeper information than a normal EMIS system can provide.

The Namibian EMIS has several parts that have been mentioned above. In all, it has many pieces of an effective descriptive management information system. Its notable linkage deficits mirror the level of fragmentation present. See Table 1.

Table 1. Components of EMIS in Namibia

<i>EMIS Components</i>	<i>Notes</i>	<i>Demand for Information</i>
EMIS Basic Database	Contains information on system, enrollment, flow, teachers, and adult life-long learning.	Reports receive modest attention; needed by Minister for report to Parliament.
GIS Geographic Database	Used to illustrate geographic inequities; contains census information and school information.	Initially high demand but almost non-existent now.
Financial Database	Contains aggregated financial data, mostly budget information. Financial year does not correspond to the school year.	Little use to EMIS analyses; no link and financial data not collected in useful categories; actual expenditures very difficult to get. No demand for financial analyses but this is an area that is recognized as needed for the future.
Outcome Indicators	No systematic collection of outcome measures until grade 10 examinations.	Used almost exclusively for decisions about individual students and not analyzed. Projects collect some outcome information that has led to useful policy analyses. Little demand, mostly from external sources. See below.
Process Information	No systematic collection of process measures.	Projects collect some process information for monitoring and evaluation purposes. Little demand, mostly from external sources. See below.
Special Surveys	National Learner Baseline Assessment (grades 4 and 7) for mathematics and English in 1992; SACMEQ survey (grade 6) for reading comprehension in 1995; National Learner Assessment (grade 7) for mathematics and English in 1995 (linked to SACMEQ schools); and others.	Good data sets with minimal analyses. Demand is due to personal interest but little general use at this stage. Continuation with SACMEQ is likely. Concern that most data show problems and little improvement.
Monitoring and Evaluation Surveys	Basic Education Support Project classroom observations and testing (grades 1 and 2) from 1996 to 1998; and others.	Used mostly for project purposes; information shared but demand is low.

The question is, then, why is EMIS information not in high demand? Without demand, the information is little used in policy formulation or policy evaluation. Of course, the system is very much a supply-side operation. The supply of data and reports using the data does create some demand. More demand might arise within a tightly integrated organization where competition and accountability required information. There are several institutional and organizational reasons in Namibia for the lack of demand.

- *New Management:* Most of the managers and administrators in the Namibian education system are new to their positions. A great deal of training is still going on. Few individuals are yet ready to assert their information needs and request information or to use it effectively. Occasionally, demand is generated, but it mostly entails a few very active planners and managers. As a whole the system does not request nor use a great amount of descriptive or reflective information. Input information from the EMIS is used to establish the enactment of the form and not its effectiveness in the political process.
- *Trust:* Trust was a casualty of the apartheid era. Slowly, individuals are getting to know each other and sharing ideas and requests. Communication is ordinarily difficult in education ministries and here it is exacerbated by past relationships. The concern is that compartmentalized activities and limited communication links may substitute isolationist styles for more useful communication arrangements. Since there is no history of wide communication and the institutions are new, there are many untried links and little knowledge about how to initiate them.
- *Political Realities:* Given the merger of the various ethnic authorities after the end of apartheid, there are many political agendas that remain unresolved. Attention is given to these realities over and above the more technical concerns of an education reform program. The inequities in the system are dramatic. Information about these produces considerable emotion, so information is not sought. Problems are dealt with at the political level. Action is seen as necessary regardless of its specifics.
- *Competition for Resources:* There is little competition for resources within the Ministry of Basic Education and Culture and little between it and other ministries. Within, the budget process is not transparent and decisions are made on limited information. Between, the MBEC is protected by considerable political power because of past inequities. It takes up about 25+% of the GNP and it appears it will continue to do so without debate. The problem is that increasing proportions of the education budget are taken up by personnel costs, reflecting a powerful teachers union and increasing population and educational demand. These pressures will, in time, cause difficulties for the sustainability of the system, particularly as the inequities of the past fade into present realities.
- *Accountability:* Little accountability is present in the system. Some attempts to introduce a personnel evaluation scheme are being made. With little accountability, there is no demand for information at the lower and middle levels of the system. People operate on personal knowledge and informally share information with colleagues. Few systematic analyses are carried out or requested. Systematically collected information plays a very limited role in the MBEC.

Crouch¹⁴ has argued that the last two conditions are key elements for the generation of information demand. Given their virtual absence from the Namibian scene, it is not surprising that the EMIS of Namibia remains a supply-side operation. Under these conditions, Crouch recommends support of an NGO that has information processing capabilities so that debate is created in the public domain. This is happening in Namibia through the creation of the Foundation for Educational Research in Namibia (FERN), an initiative supported widely in the education ministries.

Despite the presence of one of the finest classical EMIS systems on the continent, it appears that Namibia will continue to operate largely on a political basis for sometime to come. There are pockets of concern and a core of individuals interested in further empirical analyses and sharing of information. It remains to be seen if a critical mass of individuals will eventually create a new demand for information and some meaningful and influential dialogue on the basis of greater research and systemic information. At the launching of the SACMEQ report for Namibia and the 1997 EMIS statistics, both Ministers of Education exhorted the audience to please make use of the data and information and not let the reports “gather dust on the shelves.” The Ministry is presently an open institution and

¹⁴ Luis Crouch, “Sustainable EMIS: Who is Accountable?” in *From Planning to Action: Government Initiatives for Improving School-level Practice*, eds. D.W. Chapman, L.O. Mählck, and A.E.M. Smulders (Paris, France: International Institute for Educational Planning, 1997), pp. 211-239.

debate on almost any topic is welcomed and supported. So the low demand is not a function of political restrictions but the context of low need and low capability.

There are many other limitations in resource poor contexts. Few sophisticated analysts are available or retained in these systems in the early stages of development who can utilize the information effectively to enhance the system, and EMIS rarely embodies the relevant dynamic information or complexity for serious reference to outcomes. It provides a platform for deeper probes into education problems. Even in its elementary form, EMIS is more used by external analysts for problem analysis (and they also tend to treat the problems superficially as “tame” because they must devise specific solutions, which complexly organized problem sets do not have and decoupled systems cannot enact by virtue of their hierarchical ambiguities). The information is descriptive rather than dynamic, and a high level of sophistication is required to comprehend and creatively deal with the information needs of a decoupled professional organization. The irony of a working but unsophisticated and casual use of EMIS is that it enhances the strategic value of potentially tightly planned problem solving approaches that create or exacerbate strange loops. At the analytic level, EMIS requires substantial technical and substantive skills to weave its useful tale.

The Rise and Fall of Strategic Planning¹⁵

Mintzberg’s provocative title captures decades of experience with strategic planning. As he summarizes, “we have no evidence that any of the strategic planning systems—no matter how elaborate, or how famous—succeeded in capturing (let alone improving on) the messy informal processes by which strategies really do get developed” (pp. 296-297). Or as Fullan¹⁶ puts it, “[r]ational planning models...do not work” (p. 108). Given the overwhelming evidence that education systems are non-rational, decoupled organizations, the continued advocacy of traditional strategic planning exercises is surprising and costly. Furthermore, low-skilled personnel are ill-prepared to take on the formalization implied in strategic planning. Even if it were a good idea, it does not work. The needs of education are different. Unfortunately, some international agencies continue to press for this costly approach.¹⁷ EMIS is setup and sustained to feed the strategic planning ideals.

The major assumptions of strategic planning are top-down, full-blown strategies based on clear goals that are endorsed and operated on by dutiful workers enthusiastically responding to centrally imposed ideas. Necessary conditions include a stable environment and a simple organizational structure that has tightly coupled operations. As we have been outlining in this context, the organization of education is notoriously decoupled, operating under ambiguity with strong political influences and different individual interests. The components of education are fragmented and resistant to any central control. March and Olsen¹⁸ called the processes of such a system “organized anarchies.” Under such conditions, it is impossible to predict subsequent needs and actions from initial (present) conditions. Planning has little function as a fixed controlling process, and planning must become more participative and evolutionary, rather than highly structured and rigid.

If the role of planning is not strategic planning, then we need to ask what it is and how that relates to research. The failure of strategic planning does not mean that there is no role for planning. Organizations engage planning activities not to create strategies but to program them. This means the formal articulation of their strategies, which already exist (sometimes implicitly). Mintzberg defines the steps as:

- Codifying the strategy helps to crystallize and clarify the strategy so that it can be communicated effectively;
- Elaborating the strategy into specific action plans with substrategies that enable action at a workable level; and
- Converting the elaborated strategy into routine operations, connecting the action plans with budgets and objectives for performance control.

Planning is cast into the role of implementation and programming rather than strategy formulation. Strategies usually already exist but their operationalization remains problematic, particularly in education where the linkage between strategy and accomplishment is weak. As you might have guessed, formal programming is not as effective in

¹⁵ Based on Henry Mintzberg, *The Rise and Fall of Strategic Planning* (New York: The Free Press, 1994).

¹⁶ Michael G. Fullan (with Suzanne Stiegelbauer), *The New Meaning of Educational Change*, 2d ed. (London, England: Cassell, 1991).

¹⁷ Interestingly, many international organizations also develop strategic plans. Because they lack needed information and have little faith in the planning process, they largely ignore these plans, except for reporting allegiance. Strategic thinking could be useful, however.

¹⁸ J.G. March and J.P. Olsen, eds., *Ambiguity and Choice in Organizations* (Bergen, Norway: Universitetsforlaget, 1976). Cited in Mintzberg.

education as it might be under other conditions. The context is too ambiguous and dynamic. But programming remains an important task. It must be placed within an evolutionary planning context, however, where flexibility and adaptability are anticipated and institutionalized.

Even at the level of programming, the rational model imposes itself in debilitating ways.

Proponents of the rational model believe that a change in procedures will lead to improvement in educational practice. In short the rational model begins with an “if-then” philosophy. If A happens, then B will logically follow. When reality fails to validate this “if-then” perspective (i.e., when B doesn’t happen) the argument shifts to an “if-only” position. If only schools will tighten up rules and regulations, improved teaching will follow. Advocates for the nonrational model claim that the “if-then and if-only” model is wishful thinking; organizations do not always behave in a logical, predictable manner. Acknowledging this reality, the nonrational model attempts to turn it to the advantage of those in the system. Rather than spending organizational energy trying to conform to wishful thinking, the nonrational model allows us to invest our energy into devising solutions that will work, given reality.¹⁹

This type of thinking, “if-then” or “if-only,” begs the question, externalizes the blame, and immobilizes the organization.²⁰ Rationalism simply does not address the issues confronting a fragmented organization facing complexly organized problems. Most project initiatives are of this type and their failures or short-lived successes are not surprising. Even seemingly obvious solutions have considerable ramifications. Not only aren’t the interrelationships always clear at the outset so that messes get worse, but it is hard to judge what directions to follow to extract a program from the mess. The results are strange loops rather than sustainable, simple solutions. How do we find out what the important problems are and what directions to pursue in managing them?

In Escher’s *Drawing Hands*, two hands are holding a writing implement and each hand appears to be drawing the other. There is no resolution to the infinity of the action. It would be hard to say which hand decides what to draw. In the same way, examinations affect instruction and changes to instructional activity also affect examinations. When the emphasis is on examinations, the impact is directed from that source. Resolution of the ambiguous relationship between examinations and instruction is achieved by the dominance. There is a temporary hierarchy, if anything at all. Education has many components, and in time, the dominance is challenged or dissipates as other influences take their turn of dominance or full autonomy prevails, thus increasing fragmentation.

The ultimate resolution of the drawing hand dilemma is to move outside the relationship and clarify the hierarchy.²¹ The resolution to the Escher print is the fact that Escher draws both hands, and in the normal rhetoric of education, it is hoped that both examinations and instruction are driven by a common set of goals that is established by the society. This is why conservative and right-wing pronouncements on education are clear and dogmatic (because they have a clear and unambiguous agenda, even if narrow and unuseful generally). However, any success in a narrow domain of special interests comes at high costs to other interests. Education is not a zero-sum game but the relationships in the problem set mean trade-offs will occur (additional resources or clever strategies may preclude total exclusion of other interests). The ambiguity derives from the multiple interests in the society, as well as other loose links in the system. There is no resolution because there is no inviolate level. Nor can there be in an open and democratic society. Society, as a whole, has difficulty developing a coherent and consistent frame for the education system. It must remain relatively ambiguous to satisfy the multiple and diverse interests, as well as cultural differences and values. A society is not a unilateral entity and is now recognized as stronger for its diversity. Accordingly, education reflects the diversity in society and its programs have multiple intents. There is no absolute authority for ultimate decisions. The decisions are arrived at by negotiation and debate, and are the result of numerous compromises. Without a resolution to the strange loop, the infinite return of problems persists. And the mess can get messier. Education should be multidimensional in a modern society. The difficulty lies in managing an effective education system in the absence of adequate management capacity and meaningful information.

For example, for many education systems, the examination program and the instructional program have very little operational relationship. When this occurs, the examinations are attracted to issues of feasibility and efficiency. They move to assess lower level skills and knowledge, which are easier to measure and lower cost. Instruction is

¹⁹ J. Patterson, S. Purkey, and J Parker, *Productive School Systems for a Nonrational World* (Alexandria, Virginia: Association for Supervision and Curriculum Development, 1986), p. 27.

²⁰ Michael G. Fullan (with Suzanne Stiegelbauer), *The New Meaning of Educational Change*, 2d ed. (London, England: Cassell, 1991).

²¹ See Daniel Hofstadter’s *Godel, Escher, Bach: An Eternal Golden Braid* (New York, NY: Basic Books, 1996).

influenced by the worklife of the teacher. Other things being equal, teachers seek comfort and control, which lead to teacher-centered strategies and lower level skills and knowledge development. The appearance is a traditional system, decoupled but mutually relevant. Traditional forms of internationally recognized components yield *apparent* integration. The inherent “attractors” of instruction produce the traditional form that we criticize but it will keep appearing under the present dynamics. It is in fact the “hardware” of educational development. Unless the hard alliances with traditional concepts are broken, we are actually being “led” into more difficult management problems, particularly in resource poor situations.

Under reform, decoupling can be increased. If a singular reform for examinations only is introduced, then examinations move to higher level skills and thinking, while instruction remains static. Because of the interrelationships of problems, examination performance causes a problem for teachers (although the leverage isn't as much as expected due to organizational decoupling and emphases on structural form). In light of opportunism and asset differences, some teachers will find the change advantageous. Others will resist reform or fail to cope with it and just not try. The inequitable power and increased ambiguity in the hierarchy caused by singular reforms pull the components further apart with tensions that are eventually resolved by the alteration of the reform in implementation or resistance and/or avoidance of changes. We may experience temporary successes while the dominance of reform prevails (as in the presence of sophisticated technical assistance with resources) but we end up with a strange loop that reveals the same kinds of problems after the reform.

From the planning side, there may be good ideas of what needs to be done. The hope is to link these ideas to an effective program that draws on the understanding of the change process within the context of the reform. These intents entail considerable information needs. Two pervasive issues in development contexts are bounded rationality and asset inequities. Capabilities are low and the unraveling of complexly organized problems in an atmosphere of a decoupled organization that resists change is a sizeable task. Because the situation will not yield to solutions but requires continuous management, the need for insightful information is very high and also continuous. Static EMIS systems overload management with information, but it's not critical information. Under these conditions, there is a tendency to “simplify” the models and metaphors for education conditions, resulting in increased rationality to reduce the information. Unfortunately, rational models simply do not work. Planning must deal with the irrationality of education and schools. External conditions are always changing, influences fluctuate and emphasize differing interests, internal organizational issues vary with teacher and student changes, and different criteria apply under different management arrangements. The look must be short-term so that programs are responsive to changes and needs. The appropriate conception for planning is then evolutionary:

The evolutionary perspective rests on the assumption that the environment both inside and outside organizations is often chaotic. No specific plan can last for very long, because it will either become outmoded due to changing external pressures, or because of disagreement over priorities arises within the organization. Yet, there is no reason to assume that the best response is to plan passively, relying on incremental decisions. Instead the organization can cycle back and forth between efforts to gain normative consensus about what it may become, to plan strategies for getting there, and to carry out decentralized incremental experimentation that harnesses the creativity of all members to the change effort.

This approach is evolutionary in the sense that, although the mission and image of the organization's ideal future may be based on a top-level analysis of the environment and its demands, strategies for achieving the mission are frequently reviewed and refined based on internal scanning for opportunities and successes. Strategy is viewed as flexible tool, rather than a semi-permanent expansion of the mission.²²

Role of Planner

Education does not present the same kind of environment as a corporate organization. Given the inadequacies of the rational model in the education context, the role of planner might be thought to be less important (and certainly less influential) in education. This is not the case, although the role of planner entails many activities that are not what we normally think of as planning and what we might think of as planning is less important. Formal modeling, for example, is useful but not of central importance or of unquestioned validity in this arena of shifting assumptions and allegiances.

²² K. Louis and M.B. Miles, *Improving the Urban High School: What Works and Why* (New York: Teachers College Press, 1990), p. 193.

Aside from the obvious role of planners in the development of strategic programming and the more general use of plans in communication and indirect control, Mintzberg has outlined three roles for planners that are somewhat independent of the planning process: *strategy finder*, *catalyst*, and *analyst*. These roles presume the existence of a strategy, derived from the political process and “handed down” to planning and research personnel. Within Ministries of Education, planning is frequently a search for strategies, in the sense of “interpreters of action” (social psychologist Karl Weick’s terms). This means that the planning group is quite often in the position of justifying the strategy already selected and looking for ways of making sense of it. The idea is that planning is used to find out just what the Ministry *is* doing rather than planning for it to do something. The planners find out what strategies are being used. Mintzberg suggests that planners should track realized strategies across time to build a better understanding of the organization. The role of a classic EMIS system in this is only contextual.

As a catalyst the planner plays the role of broadening the understanding and promotion of ideas within management. New options are considered and management is encouraged to think in the future. Under ideal situations the planners become the conceptual thinkers of the organization. They bring to the process information about the latest strategies and what works and how. Managers, although given enormous responsibility in the education system, rarely have the time or inclination to think strategically. It is harder than it sounds. The managers must lean on the planners to provide the strategic thinking and analysis. Strategic analysis becomes one of the key functions of a planner in this rendition. This helps to keep strategic issues under scrutiny and provide illumination or new perspectives on those issues. Of course, in a decoupled organization, it isn’t clear how much of any of this will be communicated anywhere. Planners, for example, are more likely to have influence under crisis situations when the manager is looking for “solutions.” This means being prepared for the opportunities when they arise, rather than expecting continuous flows of information and knowledge to reflective managers.

Modern management and planning concepts place considerable credence on the competence of leaders and the natural flow of information. We have problems with both assumptions. In the late seventies, we came to know the *Peter Principle*, whereby competent people were promoted eventually to some level where they were incompetent and then remained there. The obvious example from education was the highly skilled teacher who is then made into a principal of a school, even though these jobs entail different kinds of tasks. At least, we could count on the fact that they were competent teachers at one time. Now, we have the *Dilbert Principle*,²³ where “the most ineffective workers are systematically moved to the place where they can do the least damage: management.” Although we have to hope that both the Peter and Dilbert Principles overstate the case, the “problem” of management is noted in nearly every analysis of development organizations. That being the case, one wonders why we believe that magnificent research and effective information systems, interpreted and illuminated by skilled planners will have a significant influence on the quality of an education system.

In light of our knowledge of the poor communication and the generally poor leadership in organizations, and in education systems in particular, the role of catalyst may become the most important for implementation of “good ideas” that emerge from research and policy analysis. James Brian Quinn²⁴ has emphasized the planning role of “teaching” managers by:

- Building awareness about new options;
- Broadening support and comfort levels for action; and
- Crystallizing consensus or commitment.

The importance of wider dialogue and wider participation is implied in these recommendations, but the emphasis is still on the manager or executive. In education systems, the line of authority is not as clear cut and politics are very powerful determinants of what prevails rather than authority. We would press the role of planner to be a catalyst for a wider “clientele.” This would entail the provision of data and knowledge to many interest groups, addressing them, debating with them about different options, and “educating” them so that they are informed participants in the educational management process. Namibia embarked on this path with the development of its Geographic Information System (GIS) under the first Minister of Education. The idea was to “empower” the regional offices and their communities and to create competition for quality among the various groups across the country. Nearly everyone who participated in that process is now gone from the planning group. This notion of the role of planner would need to be institutionalized in order to be sustainable. Creating this role or expanding activities under it may

²³ Scott Adams, *The Dilbert Principle* (New York, NY: Harper Business, 1996).

²⁴ James Brian Quinn, *Strategies for Change: Logical Incrementalism* (Homewood, IL: Irwin, 1980), pp. 198-200. Cited in Mintzberg.

be less complicated and more durable than focusing solely on management training, which most development efforts have carried out with mixed results and short-lived successes at best. And the strategy simultaneously promotes the use of information in the political processes and increases the likelihood of debate, while improving the level of debate so that it might be useful. Two assumptions underlie this approach: (1) education requires wide participation because the problems are inherently complexly organized; and (2) information will not be used well or timely if retained solely within the central education system—high quality research and communication are required for high quality debate and the development of a high quality system. As we demonstrated earlier, unless there is a level at which the dominance of ideas and strategies is determined, then strange loops will continue to eat resources and confound educational development. We add to that view that debate cannot be limited solely to within the system. Planning must encompass the views of the various communities served by public schools.

Wrong Problem and Another Mess

Much of what constitutes investment in educational development emphasizes the technical aspects of education: getting a better curriculum, instructional program, textbook, teacher, or principal. Innovations sometimes work and then disappear into the traditional forms of education. Each of the components seems critical. With the large number of failures of development efforts, the view has narrowed to the classroom to directly affect the target of reform. The responsibility for the “problem” is now focused on the teacher. Over the years, we have tried to replace the teacher, “teacher proof” materials, train the teacher, get the teacher to reflect to self-improve, and build performance reviews for merit and promotion incentives. None of these approaches has much to recommend it as an overall solution.

Mitroff and Linstone point out that we are unable to consider all the possibilities that might arise in complex socio-technical systems. Simplistic “solutions” frequently exacerbate the problems and eventually “look like” strange loops and the same problems emerge again. We know something about natural systems (Mitroff and Linstone, p. 116):

Complex natural systems are designed to minimize the cost of failure rather than its likelihood. Ecological systems sacrifice efficiency for resilience; they trade the avoidance for the ability to survive and recover from failures.

Education systems are made up of incredibly large numbers of low probability events that have individual impacts that are potentially substantial for any one child. Teachers, and education systems, quite naturally select strategies that minimize their personal risk for failure and ensure their continuation in the process, even if the outcomes are unclear (or precisely because the outcomes are ambiguous). Therefore, development projects that deal solely with the technical aspects of education are solving the “wrong problem” or at least, emphasizing the wrong set of solutions. There is nothing wrong with training teachers or making them less influential in the classroom in order to “improve” the chances for learning if those strategies are warranted technical remedies but the costs will be high and the result will be unsatisfying. As Dilbert might say in the Namibian context, teachers combine a civil service mentality with traditional routine while diminishing neither. They do what it takes to survive in the system, and that may or may not be related to what it takes to be technically competent and effective. Survival means compliance with the traditional notions of education in conformance with internationally accepted (or at least practiced) forms.

The implications of the international influence on education and its translation into structural form rather than performance are clear.²⁵

- In a country with a deep commitment to education, strategies that develop the basic formal structures of schooling will be most likely to be implemented and effective.
- When there are great gaps between local reality and the admired high educational models, attempts to improve instructional practice along rather traditional lines are more likely to be implemented and effective than are attempts to redirect instructional styles in more participatory and learner-centered (or locally influenced) directions.
- In cases where the information and organizational systems are weak, efforts to improve organizational information and control systems are necessary, and in the long run are likely to show impacts.

²⁵ John Meyer and Conrad W. Snyder, Jr., *Impact of PEP Policy Initiatives on Lesotho Primary Education* (Maseru, Lesotho: Ohio University, 1996).

- Where there are strong commitments to educational expansion and improvement, support for the improvement of management and organization should concentrate more on strengthening existing structures rather than creating new ones representing special reforms.
- Organizational and management reform, over and above simple improvement, may involve great costs in terms of fragmentation, duplication, conflict, and inefficiency—reform and improved capacity often do not go together, at least in the short run. It is important to assess the full range of costs of structural reform, as opposed to simpler efforts at incremental or evolutionary improvement.

There is nothing simple about the explicit reform of education or its development due to the wide variety of influences over time. But this listing is not likely to inspire enthusiasm among developers because it expressly denies the likely success of technical solutions. These recommendations underline the fact that movement in education is less a function of specific innovations or technical adjustments than motivated imitations of perceived “successful” foreign models, even in the face of evidence of the general dissatisfaction of these models in their home countries. People believe that the nationstates involved are better off than they are and got there in this fashion. They do not want “experiments” on them; they want the models that led to better quality of life for so many other people.

The idea of incrementally shaping a country’s education system towards a model that is outdated and exceedingly costly is unappealing. Our choices are to innovate and probably fail or support traditional aspects and forms of the education system and see little gains by any measure of effectiveness. The latter strategy leads to some improvement of the form. Unless this is shattered (by civil unrest or dramatic reforms that undo gains) it does lead to higher capabilities. The case of teachers is instructive. In Namibia teachers are paid approximately ten times the GNP, and in the rural areas, their inequitable economic position is more pronounced. Teachers see themselves as “modern” equivalents of teachers everywhere, and they display their position by formal dress even in a context of inadequate physical facilities. The teacher’s union is very powerful and they insist on their importance to the establishment of quality education, although no evidence actually exists for Namibia. The salary base for education dominates the national budget for education. There is no similar economic history in the developed nations. Teachers did not occupy such exalted status in the economies. So the form and salary structures of modern systems are copied even if the context is radically different and the stage of development would logically call for other conditions. Since the traditional model is teacher-centered, teachers are key to the notion of quality in this model. And therefore, they are also the target of pathologies.

From a planning point of view, addressing the teachers as a problem in a traditional model of education is non-productive. It’s the wrong problem. If we persist in ignoring the complexity of education, the mess will continue to give birth to strange loops. Two sources of change suggest themselves in open system development, *internal* and *external forces*. Internally, planners would work to find out what is going on and why, ascertain the kinds of communication that are taking place and their impacts, gather and generate needed policy research, and illuminate the status and vision of education in the country. Namibia has begun this process in a small way with meetings discussing the SACMEQ report. Once the present system is described, then efforts can be directed towards dialogue opportunities to examine and explore programmatic alternatives for the future.

Externally, planners look for new credible models that can be “advertised” locally. As they educate the communities, which in Namibia’s case would be handled through the regional offices, new options for education are cast systemically through credible examples from outside the country. These would be “true” success stories, rather than simply vague notions of education systems. Donors contribute by expanding the dialogue base, bringing international educators together with local educators. With the internet possibilities, this no longer requires outrageous costs for visits. Videotapes can be provided on the net with subsequent face-to-face communication through teleconferencing approaches, supplemented by continuing electronic mail connections. The social marketing is geared to create more useful and more effective models from the international arena. The power of international credibility is considerable. Right now, that power is sustaining an outmoded, expensive model of education that does not meet modern democratic needs. Older models were built by elites for themselves around principles of assimilation of those permitted to become full members of society and exclusion or elimination of those not considered part of society or intellectually limited in potential contribution to society. If we insist on the traditional model, then the education system, must by the scales of economy and complexity, revert to elite programs. They will either by default or by

choice. If the vision for education is broader and democratic, then we would expect at least three characteristics to be reflected in the education system:²⁶

- *Equality*, where every young person has equal access to schooling, is treated as a capable learner, and has access to the same levels of power and influence;
- *Liberty*, where ideas flow freely and there is no repression or discrimination; and
- *Fraternity*, where the responsibility is for all members of society to participate together in this social contract.

Namibia was denied these features of society under apartheid. Surely they would join bell hooks in hoping for a system that “celebrates diversity, welcomes dissent, and rejoices in collective dedication to truth.”²⁷ Namibia has many different ethnic groups, the variety of languages and practices that accompany that diversity, and wide variations in resource availability. It is not hard to understand why the education system has defaulted to comfortable ideas and enactments of what constitutes traditional schooling by international standards.

The combination of internal and external influences to change the system slowly may constitute the only hope for quality education. Although technical changes will have to occur, the emphasis in this presentation is the inclusion of organizational and psycho/social personal factors to moderate the technical notions for the particular context, and these changes should reflect appropriate principles, like the democratic ones above. Only with clear principles can we direct the “hands” of education and avoid the returns through strange loops.

Change will only be progress if it retains good practices from the past and is selective about modifications in practices for the future. As documented by Chapman, Mählck, and Smulders, many “well intentioned initiatives have resulted in problems worse than the one’s originally being addressed...” and “meaningful improvements in an education system require *pressure from above, and continuous negotiations among those at different levels of the system.*” The most powerful influence to date has been the collective international model, both explicit and implicit, on what constitutes schooling. It will never be possible to direct or explicitly influence the thousands of micro-decisions involved in the activities of an education system unless these individuals share a common notion of what they are doing and why. We need a way within any system to differentiate between good practices and bad practices.

Despite the power and influence of the international model of schooling, there are good technical reasons to hope that more contextual influences would prevail in the establishment of practices and the monitoring of their effectiveness. We are unlikely to be able to generate wholesale change to new models of schooling in developing countries, although there is evidence of growing frustration due to the costs and lack of utility of present practices. Internal concerns, coupled with external changes in presenting a wider range of credible models, may lead to some tinkering of the traditional model. In Namibia, quite clearly, everyone “knows” about the reform agenda. They merely ignore it in practice. The “they” refers to the teachers. In resource rich countries, teachers will be primary elements for a long time, possibly combined with other ideas, such as technology, to create savings and efficiencies. In the developing world, the number of teachers will have to decline. It is this noticeable difference that motivates conformance with the ideal, read “rich,” model. Even wealthy countries are experiencing difficulties in the finance of schooling. This may provide the impetus for real change, both in the realities of the developed world and in the options for the developing world.

Education systems are notoriously resistant to change. Projects fail because they do not become part of the “way to do things.” Tinkering may be the mode of change. David Tyack and Larry Cuban²⁸ provide some historical perspective on American reforms:

Although policy talk about reform has had a utopian ring, actual reforms have typically been gradual and incremental—tinkering with the system. It may be fashionable to decry such change as piecemeal and inadequate, but over long periods of time such revisions of practice, adapted to local contexts, can substantially improve schools. Rather than seeing the hybridizing of reform ideas as a fault, we suggest it can be a virtue. Tinkering is a way of preserving what is valuable and reworking what is not.

²⁶ C. Rolheiser and Carl D. Glickman, “Teaching for Democratic Life: Effectiveness in Context,” *The Educational Forum* (1995: 59,2), pp. 196-206.

²⁷ bell hooks, *Teaching to Transgress: Education as the Practice of Freedom* (New York, NY: Routledge, 1995), p. 33.

²⁸ David Tyack and Larry Cuban, *Tinkering toward Utopia: A Century of Public School Reform* (Cambridge, MA: Harvard University Press, 1995), p. 5.

Given the failures of private and public systems created by small groups of individuals who thought they knew better what to do, the prospects and even the directions for wholesale change are not bright. Education interacts at many levels of technical and socio-political and psychological factors. Lecturing, for example, in one context is acceptable and effective and totally alienating and ineffective in another.

In Namibia, one of the more recent efforts to involve citizenry in educational reform was to create a public charter for education. Wide participation was encouraged. When this exercise is completed, it may provide the basis for principled-schooling practices. The Coalition of Essential Schools (CES) in the United States illustrates a way in which this might be implemented.²⁹ Schools pledge to put into practice a set of shared *Common Principles*. In this way, the schools share a vision but operationalize their programs around local needs and practices. Principle #5 states that “[t]he governing practical metaphor of the school should be student-as-worker rather than the more familiar metaphor of teacher-as-deliverer-of-instructional-services. Accordingly, a prominent pedagogy will be coaching, to provoke students to learn how to learn and thus to teach themselves.” As we have set out, this is a common principle for Namibian education that is rarely seen in practice. Why doesn’t the principle provide the same guidance for Namibian educators as it does for CES members? The reason is clear: Namibians did not frame the principle. Learner-centered instruction is widely accepted in principle but seen as an “outside” idea that is alien to local practice and counter to the way the teachers themselves were educated. There’s a difference between an outside idea and an international model that other countries have used over time and succeeded. It will be difficult by any means to break the cycle of teaching and learning the way the teacher and learner did themselves before. When the CES is combined with Comer’s community schools and Levin’s Accelerated Schools, there is a broad-based movement to improve the technical and societal aspects of schooling. Perhaps through movements like this in many countries, a new international model will emerge and its promotion will encourage new practices and wide-ranging systemic change. Only if the internal and external influences converge on changes will schools change in ways that contribute to learning rather than to individual interests that are counter to group needs. Until then, we can only tinker.

Backward To “Progress”³⁰

Even in thought experiments, the complexities of education are considerable. No idea or strategy is without interconnected problems. No implementation or enactment has only positive effects and many present major difficulties over time for the extant system. There is nothing benign in education, and the future is not predictable. Strategic planning is impossible over the long-term, and even undesirable, under these conditions, so planning becomes evolutionary, consultative, and some muddling along if it is to work at all. Our notions of the skills that educational planners need is likely to change to include a “softer” side of research, and our uses of research information will become more proactive in support of active and informed debate amongst a wider segment of society. But we may want to consider more dramatic possibilities.

If we continue to focus on the technical side of education, already an ambiguous area, in the absence of due consideration of the human side of education, then we are likely to solve the wrong problem repeatedly and have to do so repeatedly. Education is society’s key to *quality of life*. It entails nearly all facets of human interaction and communication, and it is responsible for the development of our abilities to continue to learn from this sharing of information and knowledge (tested information). Russell Ackoff³¹ reminds us that the ancient Greek philosophers identified four dimensions sufficient for development: *truth, plenty, the good, and beauty/fun*. Truth refers to the information and knowledge of society that is passed on through schooling to successive generations so that development is continuous. Plenty refers to the production and distribution of resources and their protection so that we can pursue our ends. The Good refers to the dissemination and enactment of ethical and moral principles so that

²⁹ See Theodore R.Sizer’s three books tracing the experiences of a fictional teacher, Horace, in changing a school. The books are *Horace’s Compromise* (1984), *Horace’s School* (1992), and *Horace’s Hope* (Boston, MA: Houghton Mifflin, 1996). Sizer’s work provided the inspiration for the CES.

³⁰ With the notion of *strange loops*, progress is a useful myth; with multiple interests, changing, frequently oppositional, aims, and weakly coupled policies and practices, when there is “progress” along one dimension there are deficits in others. As Albert Hirschman summarizes, “everything backfires.” We create the illusion of progress within the context of the day, but when the needs and interests shift, that progress recedes to the background of reform and is modified in contextual terms. Tyack and Cuban’s *Tinkering Toward Utopia* argues that there is a “common institution” that is preserved and developed through an “interaction of long-term institutional trends, transitions in society, and policy talk” (p. 58). We argue that there is no inviolate level from which to decide on progress, and the commonality witnessed in developing education systems is sadly on archaic forms of schooling that served an alien set of interests and contexts.

³¹ Russell L. Ackoff, *The Democratic Corporation* (New York, NY: Oxford University Press, 1994).

we can approach omnicompetence, satisfying all our needs without conflict. Beauty and aesthetics induce us to pursue ends that are unattainable in their absolute. The *quality of life* is largely aesthetic (p. 71): “It is derived from the satisfaction (fun) we get from doing what we do regardless of what we do it for, and a sense of progress toward the developmental ideal, omnicompetence, the meaningfulness of what we are doing.” Although the notion of society is constructed and unattainable in its ideal form, we pursue its collective and social rewards because it is intrinsically satisfying and stabilizing and because it provides a *sense* of “getting somewhere.”

The reasons for failure in the schools are aesthetic. We’ve lost the intrinsic joys of learning and the sense that schools are getting us anywhere in developing the skills and joys of learning to learn. Schooling as presently constituted in the public education systems of the world isn’t very effective, and this is the case because it isn’t any fun and it doesn’t create for either adults or children a sense of development. By fun, we are not referring to a good giggle or two. This is the “edge of assimilation” where structure and complexity of the instructional activities intrinsically engage both adult and student learners in the process of learning. The learning involves both particular schemas and learning more generally how to learn. It’s the peak of interest.³² What happened to the beauty in the learning experience?

In solving the wrong problems, we have lost the aesthetic dimensions of learning. Internally, for example, if we follow the advice of Luis Crouch without thinking about the reasons for our actions, we would tighten controls through increased accountability and increase competition internally for resources to increase information demand and use. What happens when we increase accountability?³³

The effect on learning is comparable to the effect a noose has on breathing.... When teachers are held strictly “accountable” for their students’ performance on tests—when they feel pressured to produce results—they in turn tend to pressure their students and remove opportunities for the students to direct their own learning....

The more we pressure teachers to *make* their students perform...the less well the students actually perform.

And what happens we increase competition? Competition entails conflict moderated by cooperation. Without cooperation it degenerates into conflict. In Namibia, the three pillars of the schooling system were considered the administration unit (management, planning, monitoring implementation, inspection, finance, and regional offices), the examinations and assessment unit, and the instructional and teacher education unit. The latter two can generate income through fees for examinations and sales of instructional products and expertise. Accordingly, the Directorate for National Examinations and Assessments (DNEA) and the National Institute for Educational Development (NIED) are both scheduled to become quasi-parastatal institutions. The underlying notion is to create groups that will deal together cooperatively without the normal political interference that would generate conflict. Namibia’s past provides sufficient grounds for conflict among many of the “old” officials in the ministries. The hope is that this arrangement will encourage individuals to put aside their past differences to help their part of the ministries carry out its task in friendly competition with other entities. It is easy to see that this arrangement could quickly degenerate into conflicts. Competition only works when the reasons for cooperation are recognized and compelling.

Both accountability and competition require a soft edge to them. If the *quality of life* goal is meaningfully applied to these cases, then accountability and competition become useful and energizing. If blind efficiency drives these through decrees, then inactivity and conflict will blemish the organizational terrain. And this is not an unusual picture of development organization. Only when the aesthetic is added to the mix do we arrive at meaningful use of information to improve effectiveness and high motivation to continue to improve. The accountability must emerge intrinsically as a personal and/or professional expectation (thus the “success” of the “work ethic”). And competition must keep an eye on what is good for the entire system, rather than any individual component of the system. The larger picture must be produced and marketed by planning.

Planning can be like a ritual rain dance performed at the end of the dry season: It can have no effect on the weather that follows, but it can make those who engage in it feel good and mistakenly think they are in control. The principal benefit to be derived from planning may not come from implementing the plans produced but from producing them. In planning, process is often the most important product. The reason is that by engaging in it one can come to understand how the parts interact to affect the performance of the

³² See Conrad W. Snyder, Jr., “Multivariate Analysis of Intrinsic Individual Differences in Disjunctive Conceptual Behavior,” *Multivariate Behavioral Research* (1976:11), pp. 195-216; and Pieter M. Kroonenberg and Conrad W. Snyder, Jr., “Individual Differences in Assimilation Resistance and Affective Responses in Problem Solving,” *Multivariate Behavioral Research* (1989: 24), pp. 257-284.

³³ Alfie Kohn, *What To Look For in a Classroom ... and Other Essays* (San Francisco, CA: Josey-Bass Publishers, 1998), pp. 197-198.

whole. This enables the parts of an organization to focus on the performance of the whole rather than on their own. Recall that when every part of an organization taken separately performs as well as possible, the whole does not.³⁴

It is this latter character that exacerbates strange loops. The key to effective change and development is keeping focus on the overarching reason for action that guides and motivates the education system. Quality of life may be a good way of stating why we want an education system for our society and what we expect of it in process and product. Change is never easy.³⁵

Changer: “I hope I can count on your support.”

You: “No problem. I’ll be delighted to jeopardize my short-term goals to help you accomplish your career objectives.”

Changer: “That’s not exactly—“

You: “I don’t mind feeling like a confused rodent and working long hours especially if the payoff is a new system that I vigorously argued against.”

There is little doubt that everyone is growing weary of reform and short-term changes that seem to have little direction, and (fortunately sometimes) little impact, on where education is going and its *raison d’etre*. In Namibia, the Ministry of Basic Education and Culture embarked on an exercise to bring together the citizenry and articulate the hopes and aspirations for schooling. The project was entitled, the *Citizen’s Charter Initiative*.³⁶ The government had decided to develop an overall charter for the public service and the ministry wanted to be the first to develop a specific one for the role of the public in its mandated or perceived activities and responsibilities. Many interviews were held.³⁷ “What do you consider to be the most important rights of citizens when it comes to education and culture services? What do you consider to be your primary responsibilities when it comes to planning for and delivering education and culture services?” The result was an enormous amount of information, lots of complaints and criticisms of the Ministry, but also some valuable perspectives on rights and responsibilities. From this information, a draft charter was produced but it has not yet been reviewed and discussed. This could be an empty exercise or a dramatically meaningful step in the development of an effective education system. It is at least the right kind of step and it could serve to energize the reforms (which would be a good thing if the reforms were good ones).

Anyone who has tried to solve a maze (or figure out who is drawing which hand in the Escher print) knows that it’s easier to work backwards. If you see where you need to go in the maze, you can eliminate many possibilities in finding the best path from some starting point. From the starting point to the end point, there are many false possibilities. In the Escher case, if you see Escher drawing both hands, you break the infinity relationship between the two hands in the print. That is, you see the way out of the strange loop. In education, we have argued that there is no inviolate level to lodge appeals for the many decisions and directions needed in the system. That argument remains intact. Now, we are saying that we can add a worthy arbiter, the *quality of life* in both the process and product of schooling. This is not an unambiguous concept (which the double negative reminds us). There is no way out of the need for wide participation, good information, inspired management, and informed dialogue and debate. Schooling is both a technical process of learning and a human process of socialization. We need to increase the quality and number of discussions about education and debates about strategies to improve the effectiveness of schools. But we also have to always remember why we’re debating. Effectiveness includes a value dimension that merits attention and concern. If the society has good reasons for schooling, then we should always be working backward from those reasons so that we don’t wander down some useless path (again and again). Of course, the problem is that society is not setting the agenda in developing countries. As we have seen, education systems are largely institutions formed around myths and symbols associated with an ambiguous international model of schooling. They are not reflections of local conditions. The aspirations are far grander, even if illogically linked to archaic forms of schooling.

³⁴ Russell L. Ackoff, *The Democratic Corporation* (New York, NY: Oxford University Press, 1994), p. 125.

³⁵ Scott Adams, *The Dilbert Principle* (New York, NY: Harper Business, 1996), p. 198.

³⁶ Personal communication with Greg Miles, 1998.

³⁷ There was a great deal of cynicism expressed in the interviews about the importance of citizen input to education policies. But the people wanted to be involved and were more than willing to participate in discussions about the rights and responsibilities of various stakeholders. Unfortunately, like many attempts to involve the public, follow-up was promised, as well as further consultation and review of the draft. This has not yet occurred. With low demand for information, the consultation was initiated out of good will and the hope of “looking good.” The urgency was to start the process and not to finish it (and then have to deal with it).

We are suggesting a common dimension for the reform discussions, shifting the focus to the contribution of schooling to the quality of life of each individual in the global community. This will not make the debates less contentious and the compromises less complex, but it may provide a way out of institutionalism, the delayed, unconscious, copycat paradigm of reform now ever present in developing contexts.³⁸ But then we may be able to argue this again in five years time!

³⁸ A quality of life criterion (or set of criteria) does not totally eliminate the possibility of strange loops. Because it is a multifaceted, ambiguous concept, quality of life is not ultimately inviolate. The bases for decisions could slip and slide, offering a new breeding ground for strange loops. Management remains the key, and quality of life provides a guide for good managers.