Date: 5/26/99 11:44 AM
Received: 5/26/99 8:22 PM
From: Seymour Papert, papert@media.mit.edu
To: Gary S. Stager, gstager@pepperdine.edu

Am working this week on a more detailed statement but am sending two statements of purpose that were used internally by the Maine State people to get supprt and funding.

I have no doubt that this could be a great thesis subject ....

seymour

THE PROPOSED PILOT LEARNING ENVIRONMENT IN THE MAINE YOUTH CENTER.

BRIEF STATEMENT

1. Background

The concept described below has emerged from a proposal made by Dr. Seymour Papert in May 1998 to establish as a pilot project an alternative form of learning environment at the Maine Youth Center, the Maine juvenile correctional facility. The specific form of the proposal has taken shape after discussions with many people in the state administration including the Superintendent and staff of the Youth Center, the Commissioners of Education and Corrections and their staffs, faculty members of the University of Maine as well as the Governor. These discussions ensure that the project is adapted to the furtherance of state policy on education and on corrections.

Dr. Papert has been internationally recognized as a leader in the uses of technology for learning since his seminal work which began in the nineteen sixties at MIT and where it is still an important theme of research. He was the first in the field of educational computing to break away from the idea of the computer as an instrument for drill and to recognize its opportunities for creative learning. His 1980 book "Mindstorms: Children, Computers and Powerful Ideas" is by a large margin the most influential book on educational uses of computers. Other well-known contributions were the invention of Logo, the first programming language accessible to children and the idea as behind the currently successful LEGO product named after Mindstorms.

In recent years his emphasis has been on the use of computers to enhance the learning of those who have not been reached by traditional schools. He has worked with great success in inner city

urban schools, on out of school projects for youth at risk and on projects aimed at bringing education to the young people of the poorest countries in the world. The proposed project at the Maine Youth Center will be a synthesis of what has been learned from these experiences.

Although Dr. Papert is engaged in educational projects in many countries across the globe he has recently established full-time permanent residence in Maine and has a personal interest in concentrating his new work in this state where he feels that there is both a special need and a special opportunity. While retaining a half-time appointment at MIT he has been appointed as Distinguished Visiting Professor of Computer Science at the University of Maine at Orono.

2. Concept.

Although the presence of computers in schools in industrially developed countries is now almost universal, it is only in a few very elite schools where the numbers of computers and the opportunities for staff and curriculum development are at a level that allows deep transformation of methods of learning. Yet it is socially disadvantaged youth who stand to benefit most from the more individual, more hands-on, more project-based learning that is made possible by the technology. And this relative advantage is especially great in the context of a correctional facility such as the MYC where students come with needs that simply do not fit into the grade and curriculum structures of regular schools.

Thus many factors contribute to an exceptionally high expected "return on investment" for this project. Among them:

The larger than usual expected improvement in educational results. The very large direct savings consequent on earlier release of residents. The indirect social saving every time a single graduate from the MYC becomes a productive citizen instead of a statistic of the high rate of recidivism. An opportunity for the state's education system to gain experience in the management and evaluation of a cutting-edge project on the educational implications of digital technology.

3. Plan

The proposed plan is to commission Dr. Papert to design and manage the implementation of an alternative learning environment to operate within the MYC school on the lines of a "school within a school."

For an initial group of 12 students the alternative learning environment will constitute their entire schooling. These students will follow a study plan based on full access to digital technology – as in most modern offices there will be a computer on every desk. The educational goals will have three components:

Academic advances in the categories defined by Maine's Learning Results legislation at a rate greater than what is expected in the best public High Schools. Technological fluency at a level substantially higher than entry level requirements in the current job market. Skill at learning new skills and self-confident empowerment as citizens capable of leading full and productive lives.

If work with the initial group proceeds satisfactorily the number of students will be expanded over the course of the first year to reach a steady state level or 20 or 30.

Further expansion is not formally part of the immediate plan. The objective is not necessarily to replicate the initial project as such to include all students at the MYC (or other students elsewhere) but rather to use the experience to guide the development of larger plans.

4.   Financial Considerations.

Dr. Papert has prepared a start-up budget of $300,000 for: Acquisition of technology. Preparation of educational materials. Management of the project during an initial period. Training MYC staff. Documentation.

The "start-up period" will be three years but the activities covered by the budget will be most intensive at the beginning and will phase progressively down to zero by the end of the period.

However, the financial design goal of the project anticipates operational costs beyond the start-up period at a per-student level no higher than at present.

This budget is presently under consideration by the Maine Departments of Education and Correction.

5.   Networking

Even before the project has been finally approved and funded it has begun to act as a hub for an informal network of people interested in exploring and supporting uses of technology to bring about bigger educational change than can be expected from the level of use of computer technology in most public schools. Participants include professional educators at all levels form elementary school teachers to University professors, business people, opinion makers and "just plain folks" who believe that if technology can take us to the moon it must be possible to use it to create better ways of learning especially for those who have been least well served by traditional methods.

ANOTHER VERSION

Plan for the Creation of an Alternative Learning Environment (ALE) at the MYC.

1.   Authorship.

The following plan has been elaborated by Dr. Seymour Papert in consultation with officials of the Departments of Corrections and Education of the State of Maine and with colleagues at the University of Maine, at MIT and at the Seymour Papert Foundation, a Maine not-for-profit corporation.

2.   Immediate Intention

The direct intention of the plan is to create at the MYC an alternative learning environment ("a school within a school") which will expand over its first year of operation from an initial cohort of 10 students to a steady state level of 30 students. In this paper the alternative learning environment will be referred to as ALE.

The key points in the design of ALE are stated briefly in the following points and elaborated in later sections of this paper:

2.1 Student schedule. ALE will be the full academic experience of the participating students replacing all other school classes.

2.2 Teaching staff. The MYC will assign two members of its teaching staff to the ALE. The Seymour Papert Foundation will provide additional staffing who will act as lead teachers with the MYC staffers serving as apprentices for the ALE methodology of the MYC until they have acquired the competence to operate independently. Thereafter for the remainder of a two year period SPF staff will continue to serve in an advisory capacity.

2.3 The educational objectives of ALE will include making at least as much progress in all the categories defined by Maine's Learning Results as would be expected in a good high school. In addition, ALE is committed to objectives beyond the Learning Results in the following areas: Technological Fluency. Project Management. Career Planning.

In addition the project will be assessed by another category of measures: Reduction in time before the student is considered fit to be released from the MYC. A minimal goal is for ALE to be demonstrably cost-effective when reduction in the cost of detention is off-set against the cost of operating ALE. Reduction in recidivism.

2.4 Methodology. ALE is based on the principles of constructionist learning developed by Dr. Papert and his colleagues at MIT. These principles have been demonstrated to be effective in engaging students who have not been able to benefit from traditional school methods and in fostering the development of: a sense of identity as competent learners, academic and/or vocational ambitions, work discipline, and collaborative skills.

At the core of the constructionist methodology is the use of digital technologies as an infrastructure to allow most learning to take place in the course of working on newly designed learning-rich projects.

2.5 Technological Infrastructure. ALE students will have free access to computers at all times, as well as to other forms of technology, including materials for: robotic construction, computer-based science investigation, multi-media authoring, computer construction and repair, and Internet research.

2.6 Constructionist/Instructionist Balance.

The technological infrastructure will be used to create project-based learning opportunities that will occupy approximately 80% of student time. The remaining time will be split between class instruction and group discussions.

The special character of the ALE educational methodology derives from many years of research that have been devoted to developing project areas with rich connections to the most powerful ideas in academic learning. A much richer set of examples to be described in part 4 of this paper will be anticipated here by a schematic sense of one such project -- building a computer-controlled robot vehicle similar to the one that was famously shown by television maneuvering the terrain of Mars. To serve our purpose here this must be conceived as a project on which four students might collaborate over a period of several months, working many hours a day; the point being that it is a long-term technical project requiring knowledge from many disciplines to design, build and evaluate such a robot and, especially, to search for the needed knowledge and to describe the process of work as it proceeds.

Focus on just one facet of the project. You have a motor to drive the vehicle. You have found that direct coupling of the motor to wheels does not provide enough force. The problem will be solved – after some struggle—by using gears. Figuring out just how to do this brings in mechanical principles, issues from physics and mathematical manipulation of ratio and proportion. Describing how this all works (which you would have to do as an ALE student) involves learning or inventing a whole terminology as well as how to make diagrams and mechanical drawings. It will involve a considerable amount of reading and writing.

This is just one corner of the project. Taken as a whole, an immense amount of learning must take place to complete the project. But because it is a meaningful project, and one that would have been chosen by the students working on it because it fits their interests, much more learning can take place in a given time than any, but the most highly academically motivated students would achieve in a classroom setting.

2.7 Security Issues.

In principle access to powerful technologies including computers and the Internet may give rise to threats to security that cannot be predicted in advance. To deal with the possibility of such problems a security committee will be set up by the superintendent of the MYC to meet with the ALE staff at least once a week until the superintendent decides that this is no longer necessary.

2.8 Authority. During the first-year authority over educational issues concerning ALE will be given as far as is consistent with the law to Dr. Papert who will work in close consultation with the principal of the MYC school.

2.9 Assessment. Intrinsic to the design of ALE is the development of a suitable assessment instrument consistent with Maine's Learning Results legislation and with the additional educational objectives adopted by ALE. The development of the instrument will be monitored by a working group for which Dr. Papert, the principal of the MYC school and the Commissioner of Education will each nominate two members.

As noted in 2.3 it the intention of ALE includes follow-up of students after they are released.

3. Longer Term Intentions

ALE is intended to serve as a model to support the exploration of new ways of learning for a much wider population of students than those who will take part in the initial form described above.

3.1 Expansion within the MYC

If ALE is successful it will open for consideration the question of change in the educational methods used generally in the MYC. This may lead to admitting more students to ALE until eventually all inmates are included. It may lead to a decision that the ALE methodology serves some students well while others are better served by the traditional kind of schooling. Again it may lead to the design of something very different from either ALE or the traditional school.

3.2 Adaptation for other students at risk.

If the ALE methodology proves to be successful for some or all the students in the MYC, it will become highly plausible that it might save some youth who are at risk of finding themselves in MYC.

3.3 Lessons for all Schools.

What success of ALE might mean for the regular schools in the state is less obvious. Nevertheless this question is a critical part – indeed the key part – of the intention behind the design of ALE. If well done, ALE will be the best example in the State of Maine, and among the best anywhere, of the use of digital technology to enhance learning of traditional academic and vocational content as well as of new content that becomes possible for the first time.

This intention raises the question: why is the pilot being conducted in a detentional facility rather than in a regular school? Perhaps the simplest strand of a very complex set of considerations is that the population of students in the MYC are in greatest need of an alternative learning environment; they are to a very large degree young people for whom the regular educational system has not succeeded. Another strand is financial: the cost benefits of using what might seem to be expensive technology are more visible in a context where educational success can contribute directly to very large savings to the State budget. Finally, we mention a political aspect: it has proven possible to move more rapidly to a decision in the MYC context than one would expect in the context of a school committee. Nevertheless, the SPF would be very willing to discuss with any school committees in Maine how it might help any school interested in moving immediately to a replication or adaptation of the ALE project.

4. Content

4.1 A new "Basic" – Technological Fluency

In ALE the concept of "educational basics" is extended beyond the traditional three R's by the addition of technological fluency. The addition will not detract from the level of attainment in the other three basics. Quite the contrary, technological fluency serves as a foundation for gains in reading, writing and mathematics as well as in science and other areas of school knowledge. It is therefore given priority in the design of ALE activities.

URGENT URGENT ……

TO DUKE ALBANESE (Maine Commissioner of Education)
FROM SEYMOUR PAPERT

**A Process for Design of Education at the Northern
Juvenile Correction al Facility**

The following is intended to advance discussion on the
problem of a more fundamental rethinking of the
educational aspects of Juvenile Correction.

II

Issues to be addressed

1. What kind of schooling would be appropriate for a juvenile correctional facility?

In the current structure of the MYC educational goals are served by a school (or in some sense two schools, a middle school and a high school) conceived, operated and evaluated on the model of Maine public schools.

Over the past years defects in the educational services provided by the school have been addressed by pressure to bring it more closely in line with schools outside, for example by correcting deviations from the state's conditions for school approval.

A first question to be addressed is whether this policy is correct. I make no secret of the fact that I believe that the model of a "standard school" does not fit the needs of the majority of MYC residents and attempting to force education into that mold deforms the entire process. Moreover I have found

that in informal discussion pretty well everyone who knows the situation and has given it any serious thought holds a similar view. Within the school this situation is expressed by the thinking of a "restructuring committee" created in the past year by Ms. Niehaus, the principal. Outside the school I have found broad agreement in discussions with Commissioner Albanese, Deputy Commissioner Saar and many others.

The fact that a policy which so many believe to be counter-productive remains in force requires an explanation. In my view the explanation has two parts.

(1) The most important of these is simply that nobody in the circuit has the time, the resources and the authority to develop radically new alternative policies. I make the point by commenting on a proposal that has been formulated by Ms. Niehaus to restructure the learning environment around vocation-like areas of interest such as "carpentry," "graphic arts" "business technology" and the constructionist activities that I have been developing at the MYC. I think that this is an excellent starting point for serious study but taking it really seriously requires (at the very least) more work on the following issues than Ms. Niehaus has the resources to carry out:

♦ Defining learning outcomes which will be (a) consistent with the goals of Maine's Learning Results legislation, (b) acceptable by "receiving schools" to which the students might return after release and (c) synergistic with the rehabilitation goals incorporated in the "core program." In my view this goal can only be achieved by a process of consultation involving personnel from a representative sample of Maine schools, rehabilitation and treatment specialists and individuals from out of state who have related experience and expertise.
  ♦ A promising line of work in this direction would be to examine the feasibility of the adoption by DOE of a learning outcome standard that could be described as " a certificate of learning competence." My experience is that the majority of students at the MYC have such large gaps in knowledge in specific subject areas that it is

meaningless to define their goals in terms of gaining "credits" in specific subjects. What they need is a basis of competence in learning, some fundamental ideas that cut across the disciplines and the development of a "learning ethic."

♦ Translating the new learning outcomes (whether or not they include the certificate of learning competence) into curriculum and assessment procedures. An initial stab at developing some segments for such a curriculum for language has been made under the direction of Ms. Niehaus during the summer of this year. My project has developed some in the area of science. But in the absence of a deep re-examination of the learning outcomes these efforts could not be more than an initial cast to serve as a basis for more discussion.

♦ Examining deeper possibilities of using modern technologies in the "interest areas."

♦ Examination of possibilities of on-line courses for the minority of residents who are "in good academic standing." The only justification for operating a school on the model of a regular high school is that students who could graduate in good standing should be able to do so. But there are other ways this could be achieved.

♦ Examining a host of legal issues such as the implications of special education requirements and rights of students to pursue their education.

(2) The already formidable difficulties of developing a policy taking into account all the issues mentioned above are greatly compounded by the difficulty inherent in developing change in an ongoing institution. Transposing the problem to the design of a new ("Northern") facility will clear the air for study of a wide range of proposals (including but not confined to the Niehaus plan mentioned above). This does not mean abandoning the "Southern Facility." On the contrary the most effective strategy for change there might be to implement it elsewhere.

2. An integrated view of the facility as a "Learning Environment."

Posing the question about what kind of school is appropriate assumes that there is a school separate from the rest if the institution. But a deeper, more systemic, analysis of possibilities must ask whether there should be a separate school. Might it not be better to design a "total learning environment" where "learning takes place everywhere and all the time" ?

Clearly this question raises a host of extremely difficult issues. But that is not a reason for ignoring it. What I think should be done is:

♦ A fundamental examination of the issues; search worldwide for models that have been tried; draw world-class people into the process of exploring ideas.
♦ Designing a new model in which flexibility is a major criterion, something that can grow and evolve. It is *not* reasonable to believe that a committee or task force could come up, especially in a limited time, with an ideal solution to the very complex issues involved in designing a totally integrated situation. BUT IT MUST BE POSSIBLE TO AVOID IMPLEMENTING A PLAN WHOSE EVOLUTION IS IMPEDED BY FACTORS SUCH AS CONTRACTS, "TURF" ....ETC.

3. Developing an integrated approach to "thinking skills."

It is a striking coincidence that both the "core program" on the "treatment side" of the facility and the program that I have been developing on the "education side" place an emphasis on "thinking skills." The integration of these two approaches cries out to be tackled irrespective of what is decided about the bigger question of integration. I have already started a search for compatible people on both sides of the "cognitive" vs "therapeutic" divide in

approaches to this issue. At the least it would be interesting to hold a seminar/workshop with participation of practitioners in Maine correctional and educational sectors together with some leading theorists,

4. Developing a new interface between detention and receiving schools.

This is another issue that falls under the bigger ones but merits independent consideration. An aspect which interests me particularly is the development of a "certification of readiness to learn" that would be accepted by receiving schools as an alternative to subject credits which in many (probably in most) cases have little relation to the students real academic fitness to proceed.

III

Forms of Activity to Support the Design

1. Gathering information on what exists: look for models, read and abstract publications, identify and consult experts. This requires a research assistant, some travel, and a lot of telecommunication.

2. Meetings of correctional and educational professionals. This requires meeting facilities, support staff, editorial work.

3. Draft curriculum ideas. In initial phases using part-time consultants. Later as staff for the new facility is recruited they would participate increasingly. (I assume here that the staff would be recruited to start work in the spring or at the latest early summer of 2001 but would not have operational duties until September.)

4. Write position papers, reports etc. Part time services of a very good writer(s).

5. Discussion with legislators, opinion makers, school personnel.

IV

Possible Timeline

Sept.

<u>**Get started**</u>**: Last week of September (or if this is delayed other dates will slip by same delay.)**

Sept/Oct:

 <u>**Period of study and consultation**</u>

November:
 <u>**"First Position Paper" on issues and a range of solutions including drafts of curriculum and assessment instruments**</u>**: Written in first half of November and widely circulated for comment. Replies requested before end of November.**

December:
  <u>**Meetings to discuss contents of paper**</u>**: First half of December. First round of meetings with "internal" people: DOC, DOE, MYC etc. Followed by a one day conference to which all stake holders in the juvenile correction in Maine are invited.**

 <u>**"Second Position Paper"**</u>** responsive to feedback from December meetings written before Christmas.**

2001:

Preparation for Opening Day:

By the beginning of the year we will have defined the "philosophical basis" for the new facility and have developed prototypes of curriculum. Staff for the facility including the principal can be recruited with a clear understanding of shared perspective and commitment to a plan for development. As they come on board they will work on the elaboration of the design.

Permanent Design:

One of the features of the design should be flexibility: it should avoid re-creating a structure that is inherently hard to change. This also means that the transition from "design phase" to "operational phase" will not be sharply defined by an opening day.