ग्रामीण क्षेत्रों के लिए प्रौद्योगिकी विकल्प केन्द्र
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To

Principal Secretary,
School Education and Sports
Government of Maharashtra
Mantralaya, Mumbai 400032

Subject: *Suggestions on school education.*

Dear Sir/Madam

This is response to the call for suggestions on school education as posted on the website
https://education.maharashtra.gov.in/.

Here are my contributions.

At the outset, let me say that teacher training and community involvement remain the key
components of any system of educations which empowers its children to be creative cisitzens. In
this vein, I would like a propose a conceptual architecture to transform the School into a regional
knowledge resource and to train students to develop an identity as a social and professional agent. I
will first list the key elements in my proposal and then the architecture which will emerge.

Village File and knowledge database.

Each school must mantain in soft-copy and hard-copy, a village data-base/knowledge resource. The
data and the output of various studies (outlined below) will depend on whether the school is a
primary, middle or high school. Based on the level, this should include, e.g., revenue maps, resource
maps, various GIS layers for the village, the taluka and the district, a list of households, the
professions practised, cultural practices, the geography of the village, the resources and a brief
history of the village. A sample village report is attached in this link:

http://www.cse.iitb.ac.in/~sohoni/water/NikeshBharatiReport.pdf

Such a file should be created and added to by subsequent batches of students and used by teachers.
Various student outputs of good quality should be added to this knowledge base and the student
recognized for his/her contribution.

Every new teacher must familiarise herself/himself with this file and visit key locations within the
village and in the neighborhood. She/he must also visit households across all social cross-sections
and understand the typical households of her/his schools so that the curriculum can be made more
relevant and the other innovative programs (listed below) may be designed.

Role models at local levels.

There should be an award for students who secure the highest and second-highest marks within the gram panchayat at the state Xth standard Board Exams in Science+Mathematics stream and the Marathi+Social-Studies stream. Moreover, these students be recognized as *Vidyan Vishesh* and *Kala Vishesh* awards. If they so choose, they may further receive a stipend (*teaching fellowship*) of Rs. 800 p.m. for two years. In this period, they must assist in documentation and planning for the village's development and also assist in innovative programs as listed below. A list of tasks may be prepared for the purpose, e.g., noting down water levels in the village wells, liaisoning with information-dissemination programs of the state, follow-up of individual cases of residents, assisting in innovative programs at the school.

This would lead to a creation of role models, a celebration of science and the arts within every village and community, and also create local capacity for knowledge gathering. I must also point to the Kishore Vaigyanik Protsahan Yojana (of DST-GoI), which identifies the top 1% within a given state. However, this usually bypasses most small town and villages, where really the *protsahan* to knoweldge and new role-models are sorely required.

Innovative visits and visitor programs.

One day, say saturday, should be reserved for special programs. This would include calling visitors such as the gram sevak, the tehsildar, the local artist or *bhajan* singer, a shop-keeper or the rice-mill owner. These speakers should address the school about their activities and the issues that they face. The teacher, or the fellows should assist in the organization.

On these special days, semi-structured visits should be organized, such as to the village blacksmith or to a farmer's field who has experimented a new crop, or even the weekly market. It should also include visits during important government processes, e.g., crop-cutting test, or survey for a road and so on. Other sample visits are to a metal fabricator shop, a rice mill, the taluka bus-depot. A sample semi-structured visit design is enclosed. Each student must write a small report on the visit. The above *Vishesh* fellows may help in arrangements, documentation and assessments. Care must be taken that the students visit a complete cross-section of the professions in the village, including those of the scheduled-caste and schedule-tribes such as the barber.

This will help the students to connect real-life events, processes and actors with what they learn in school. It will also help in a shared experience of students which may cross various social boundaries.

Vicinity Studies.

A vicinity study is a project and documentation of a local problem, event or social process and is a deeper engagement than the community visit. The high school curriculum should design and promote a set of vicinity studies. A simple example is the testing of *chulhas* and locating the most efficient *chulha* in the village. Another vicinity study is e.g., a botanical census of the area or an ongoing documentation and report of how *ganesh chaturthi* is celebrated every year, i.e., the contributions, the budget, the key programs and so on. It may even document the outcomes of a government program or a report on the drinking water situation in the village. New vicinity studies may be suggested by residents, visitors and neighboring village studies may be copied. A list of vicinity studies may be used by the school to seek more funds and facilities. The senior students may conceptualize the study while junior students may gather data. In this way, the school may be seen as a local knowledge resource. Moreover, such reports may be the basis for awarding more

infrastructure to the village school, e.g., a soil-testing kit or a survey instrument.

State Department and Civil Society: Mentoring, Support and Assessment.

This role should be done by the Education Department and civil society organizations (CSOs) such as local/regional colleges, popular science/arts organizations such as the Marathi Vidnyan Parishad. The local college may have an NSS program, may offer laboratories and also guidance. The civil society organizations should develop possible study templates, engage with the resource team, i.e., the teachers, the and the teaching assistants, and local community leaders.

Thus, the following architecture emerges.
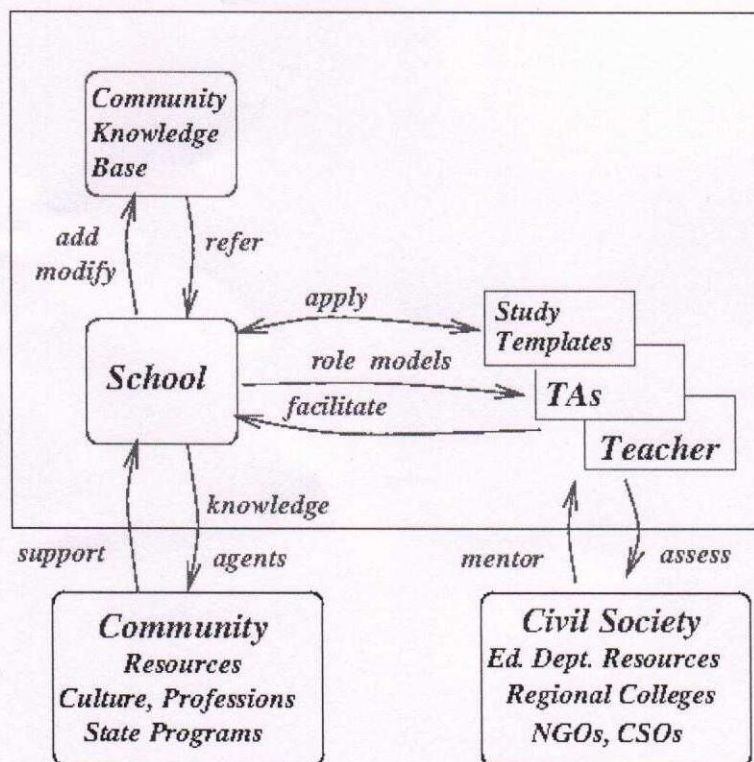
The above suggestions aim to encourage (i) the school to develop as a knowledge resource, (ii) give the teacher much needed scope for creativity and (iii) the community to participate in the development of their children, and finally and most importantly (iv) create a plural set of avenues for students to demonstrate themselves and to build role-models.

I thank you for your attention. I would be happy to help detail out the above recommendations and way of merging it with the current educational system of curriculum and evaluation. Moreover, we may have a pilot project for a few districts to refine the proposal.

Regards,

Milind Sohoni.
Professor, CSE and CTARA

A sample semi-structured visit: Visit to a *chakki*

Objectives: Familiarization of students with a community service.

Questions to be discussed before the visit.

- How many machines are there? How many operators? See the motors, the switches and also the grinding stones. Understand the physics.
- What is the volume and weight of wheat input and wheat output? Why is there such a difference? What is wheat bran? Understand the grains, the process of grinding.
- How much does a machine cost? What is the electricity bill? Will we get to see a typical electricity bill?
- Who are the typical customers? How many customers arrive on a typical day?
- What are the charges per kilo? Who owns the premises? How much are the rents and taxes? Understand the economics.
- How many chakkis are there in the village? Do these chakki-walas meet to each other?
- Where does the chakki owner live? What about the operators? What community do they belong to? How many members are there in their households?

Questions to be discussed after the visit.

- What did you notice or observe in addition to the above? Did you see the calendar on the wall? Did you see the lay-out of the shop? Can you draw it?
- Here is the map of the village. Locate other chakkis in the village. How far is the farthest home?
- How do you think is the chakki-wala doing?
- What improvements would you suggest?
- How does this chakki compare with the chakki in your habitation?
- What special skills does the chakkiwala have/need? Does anyone at home do work similar to the chakkiwala's (e.g., women pounding chillies)?
- Is the chakkiwala happy with his work? Does he want his children to follow in the same profession -- why?
- Are there any hazards that the chakkiwala faces because of his profession?
- Can you write a story about a chakkiwala's life?