

Public Sector Software Program : An On-going Experience

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The purpose of this presentation is to create a list of a few guiding principles of public sector software program based on our experiences and learnings from an earlier version of a computer aided learning program and the current Computer Aided Learning Study.

Public sector software in the education sector is an enabler of learning. The guiding principles of public sector software can be divided into two parts; (a) principles related to the process of knowledge creation and (b) principles related to conditions of its use

Principles related to the process of knowledge creation

For public sector software to be used effectively to components are important. (a) The nature of the software, and (b) the approach to professional development.

The nature of the Software

The nature of the software and the pedagogy are closely related. It is critical that the vision of public sector software for education be in alignment with the vision of learning itself. One cannot use proprietary software and expect it to lead to collaborative learning or adapting its content to local conditions. The tools, contents / artifacts of public sector software to be in alignment to the vision of learning needs to reflect the ideology, philosophy, culture of this vision. Learning is not an individual process but a social phenomenon. Knowledge is constructed by collaborating with the others. If a public sector software has to enable this, it should have the following features;

- a. Public sector software has to be free and not bound by licensing fee or other proprietary systems. Only then can it ensure access to all children regardless of their economic or social status.
- b. Public Sector software has to be adaptable to enable teachers to customize it to local conditions. This is in sync with the idea of using local resources for teaching. Second, the process of customization has within it teachers actively engaging with the software. Third the process of adapting the software to needs of the learners is also the process of teachers co-creating knowledge. The use of static software like edu-sat or radio provides little scope for this sort of customization.
- c. When the public sector software is co-created it should provide scope for being uploaded and then redistributed to other users. This is in consonance with the principles of collaborative learning. Again static software has very little scope for this sort of collaborative learning.

The approach to Professional Development

Software is a tool that becomes valuable only when human intelligence organizes its use in a productive ways to create and co-create knowledge. In the classroom, that human is the teacher. Teacher is not a mere consumer of knowledge by using the software created elsewhere. She actively engages with the software in and then uses it in ways that makes her co-create the knowledge itself.

For public sector software to impact learning, it is necessary for in-service teachers to have a vision of learning. In its absence there is a tendency for teachers to either not use technology at all or to use it wrongly.. So for public sector software to be used effectively, professional development is an important component.

Usually, the approach to professional development in the use of public sector software in education is to emphasize on the skill. Once teacher participants have acquired the skill component, they are trained to use the public sector software

for promoting learning. Such an approach fosters a tendency to look at software in terms of ordered sequential steps and creates problems for integration because teachers have been trained to know technology first before using it. While it is important to know the software and also have skill, the process of acquiring this could be through pedagogy. In other words, teacher learn public sector software by creating learning artifacts on specific curricular topics depending on their needs and local conditions, sharing their creations with other teachers, learning from their peers, mentoring etc., Professional development should focus on the FOSS educational software tools like hot potatoes, and

Professional development in Public software needs to be at two levels – at the centralized level for a broad conceptual understanding and for professionals in their school context. In the school context, such learnings take the form of mentoring also.

Teacher network meeting (TNM) is another critical component of professional development. It is based on the view that when teachers are oriented to learner-oriented pedagogies, they will begin to practice it by mutual engagement with other members in the teaching community and through peer learning. TNM is a structured forum created by teachers and for teachers to share their experiences, motivate other teachers to try out their innovations, raise pedagogical issues, and collaborate to solve problems. Establishing such a community of practice is an essential requirement for sustainability.

Principles related to the use of Public Sector Software

- Public sector software tends to become an instrument of inequities by promoting unequal access. To ensure equal access a minimal requirement is to have Student computer ratio of not greater than 3:1 plentiful availability of basic tools for teachers and students to figure out contextual usages
- Public domains like schools in rural areas have problems of electricity and timely maintenance of electronic infrastructure. If this is not taken care of then the software itself becomes a showpiece. To ensure effective use of software, it is necessary that the technology be deployed in such a way that the following electronic issues are addressed.
 - a. Lack of electricity for prolonged periods of time, many a times for the whole day, which can be addressed by providing back up of 3-4 hrs.
 - b. Issues in quality of electricity which can be addressed by providing UPS that can work and charge the back up in very low voltages.
 - c. Implementing a rigorous system to track the availability and regular usage of electronic infrastructure.
- Inappropriate furniture becomes a means for propagating unequal access to the software, particularly gender inequities or inequities based on perceived levels of intelligence of students. The student who is in-charge of navigating the mouse is the person who is in “control” of the learning. To address this, it is essential to have furniture that provides easy mobility to all students. The height of the table, the availability of head phones etc., all have both health and hygiene implications as well as implications for equities.

Conclusion

To conclude, public sector software is a process that has its value-laden in terms of philosophy, ideology, culture, pedagogy, economics and politics. In short it is a microcosm of society itself. So, it is essential for all stakeholders to build a shared vision of society and of human beings in society and use the software in accordance to this vision.