To,   February 2, 2015

Secretary
Department of School Education and Literacy
Shastri Bhavan, New Delhi 110001.

Sub – NVEQF syllabi violating National Policy on ICT in School Education

Dear Ms. Vrinda Swarup,

We commend the efforts and public investments made towards integration of ICT into education in our country. In this context, we feel it is critical to adopt and promote the use of free and open source software (FOSS) applications in all areas, where proprietary applications are currently in use. This is especially so since appropriate FOSS is now available for most areas. There are several benefits of adopting FOSS, conversely the adoption of proprietary software has serious harmful effects on learning and the education system. Such effects are explained further in this letter.

Indeed, recognising the importance of promoting FOSS in education, MHRD has issued the **'National Policy on ICT in school education', June 2012**, which requires the use of FOSS. Subsequently, MHRD has issued a circular in June 2014, in which the prescription of proprietary software in syllabi has been identified as having iniquitous implications and the use of FOSS as economical and ethical.

In this light, it is unfortunate that the PSS Central Institute of Vocational Education has released text books for the NVEQF (National Vocational Education Qualification Framework) programme that require the use of proprietary applications. The courses on text editing / word processing and on spreadsheet are based on proprietary software. While the book does mention that FOSS options are available, all examples and images used are of proprietary applications. This is quite unnecessary since free and open source Office Suite software is available and widely used. In fact, free and open source software based Office suite is already part of the ICT Curriculum for schools, which has been launched by NCERT.

It is our understanding that the Sector Skills Councils have been asked by MHRD to frame the syllabus for vocational education in their domains. In the case of IT, the sector skills council may represent the interests of dominant vendors which is not necessarily that of the industry or that of the students. While the dominant vendors will want that their products continue to monopolise the syllabus, this is not in the interest of either learning or society.

We would like to make two key points in this context:

1. Learning needs to be about process-related knowledge in any industry, since the products used in such learning would probably be obsolete by the time the students enter the job market. Hence encouraging students to learn the processes will help them to have an open mind, and build and enhance their skills, rather than restricting it to the limited functionality of proprietary software. Students who have learnt FOSS tools can easily adapt to proprietary software should these be used in their work places, just as a person who has learnt to drive one kind of an automobile can still become a driver in a company, driving another kind of automobile. Similarly we need to learn to do 'text editing', rather than learning a specific product like MS Word or LibreOffice Writer.

2. Secondly, use of FOSS can significantly encourage self-employment opportunities by lowering entry costs. This is not possible with proprietary software - students will find it difficult if not impossible to purchase licenses of software, whether MS Office or CAD or Film making or DTP tools. Similarly, most small scale enterprises are keen to use FOSS applications and platforms, and therefore employment opportunities in SMEs can be enhanced by a knowledge of, or experience with using FOSS tools. More specific reasons why the course should be based on FOSS and not on proprietary software is provided in Annexure.

Hence we request that MHRD issues instructions to the PSS Central Institute of Vocational Education to withdraw the text books prepared and replace them with text books that use FOSS Office suite. In fact the learning materials for FOSS Office suite is itself available as open educational resources, so that such a replacement will be quite simple.

In light of the educational, economic and technological implications of procuring proprietary resources in various programs in education, there is a critical need to avoid prescribing proprietary resources. We look forward to your support in promote the use of public software and open digital resources in education to promote equitable and ethical learning.

Yours truly,

Gurumurthy Kasinathan, Director IT for Change

(Guru@ITforChange.net)

on behalf of

Signatories (PTO)

Enclosed – MHRD Circular on avoiding proprietary software in syllabi

Annexure – Need to adopt FOSS in education – pedagogical, economic and political reasons

The adoption of ICTs in education is essentially an educational issue, rather than a technology issue, hence our policy and program need to be anchored in sound educational perspectives. Since curriculum is the primary process of directing teaching towards fulfilling educational aims, digital learning resources (content) and digital learning tools/ processes (software applications), which together constitute curricular resources, need to comply with established curricular principles. An important principle of public education systems is that **curricular resources need to be publicly owned**, so that they are freely available to teacher educators, teachers and students without restrictions. In the case of traditional print media (books), the public education system does *not* use *proprietary* curricular resources, since that prevents the schools, teachers and students from freely sharing the resources and from customising them for their local needs. In the same manner, proprietary (*meaning privately owned, which is prohibited by the owner, from being shared or modified*) software and proprietary content should not be used in education.

Proprietary software and content forces the teacher and the student to be a 'mere user'; treating these resources as a 'given'. Teachers, schools and the entire public education system become completely dependant on the vendor for any modifications, enhancements, customisations or localizations (creating local language versions) to these tools, and have no right to modify or freely share these resources with one another. Proprietary resources thus do not allow the needed experimentation, collaborative construction, and local/ contextual enhancement of learning processes, important new opportunities offered by digital technologies, required to meet the constructivist ideals aspired for by numerous policy documents including the National Curriculum Framework 2005.

In addition, the use of publicly owned software has other important advantages:

1. Since publicly owned software applications are free to procure and share, the costs of using freely shareable software applications would be much lower specially for implementing at a large scale, where the necessary support systems are feasible to build. An IIM-Bangalore study estimate that on a conservative basis, Kerala IT@Schools program has saved 50 crores on software license fees and India would save 20,000 crores each year by adopting a similar approach.

2. The free GNU/Linux operating system is virus-resistant and this can hugely reduce maintenance and support efforts and resources. Many computers in educational institutions tend to remain unused due to virus issues and using GNU/Linux would increase infrastructure availability.

3. Upgrades can also be done easily and freely every year, whereas proprietary software is usually not upgraded owing to its financial implications.

4. Proprietary software being 'closed' can contain malicious code and trojans which can infiltrate computers

and do surveillance. This constitutes a real political risk, and on security considerations as well, proprietary software needs to be avoided.

Public software for vocational education (IT)

There are public software applications (which by virtue of public ownership are freely shareable and customisable) for all areas where proprietary software applications have been used. Applications specific to vocational education are available

FOSS applications for regular use in organizations

Area	Proprietary software	FOSS
Operating system	Microsoft Windows	Ubuntu GNU-Linux / Bhartiya Open Source System (CDAC)
Office Applications	Microsoft office	Open Office / LibreOffice / Bhartiya OpenOffice (CDAC)
Email client	Microsoft outlook	Mozilla Thunderbird / Evolution
Internet Browser	Internet Explorer	Mozilla Firefox / Chrome
E-learning system		Moodle, EdEx

FOSS applications relevant to vocational education

Area	Vocational software
Animation / Drawing / Design	QCAD, LibreCAD, Blender
Audio editing	Audacity
Desktop Publishing	GIMP, Inkscape, Scribus
Geographical Information System	QGIS, Open Street Map
Statistical analyses	PSPP, R
Video editing	PiTiVi, Kdenlive, Openshot
Website / Content Management	Drupal, Wordpress

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