



FREEDOM FORUM

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REVIEW OF SCHOOL CURRICULUM AND TEXTBOOKS

on

Safe Use/Practice of Computer and Internet



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Taranath Dahal/Haribinod Adhikari



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Freedom Forum

P.O. Box: 24292

Thapathali, Kathmandu, Nepal

Tel: 977-1-4102022, 4102030

Fax: 977-1-4226099

Email: info@freedomforum.org.np

Web: www.freedomforum.org.np



■ Background

This study has been carried out to review the status of various materials included in the curriculum of subjects like computer and information technology, and internet system, and analyze the provisions set for their safe use/practice. This is a review of documents. The information acquired from discussions held with individuals from the concerned sector has also been included.

Subjects concerned with information technology, computer and internet in the overall curriculum under the primary and basic education level from Grade 1 to 8 (5-8 grade in focus), secondary education level from Grade 9 and 10, and higher secondary (now secondary level) of Grade 11 and 12 have been reviewed.

During this review, only the subjects that provide knowledge and share skills and practice about the safe use of internet have been accorded special importance. Also, efforts have been made to scrutinize the curriculum and textbooks that cover instances of freedom of expression and internet freedom. This study is basically focused on curriculum and textbooks related to computer education. In addition to this, attention has also been made to ensure that internet and freedom of expression related matters included in the curriculum and textbooks of compulsory Nepali and English, science, social studies, new technology, profession and business, and journalism are not left out.

The study also looks at whether there is any plan to provide some knowledge and information about computer and internet in the final grade of the erstwhile primary and now basic level education i.e. Grade 5, which will let one know whether the adolescents have benefitted from some basic information about the subject while being upgraded to the higher level from primary level.

Access to mobile telephone and internet has become almost universal in Nepal and in the context when the majority of the youths (teenagers and young population) are using the social media, especially Facebook they are used to using mobile telephone since a very small age, and hence the need for minimum information and knowledge among them has been felt. This context has been considered, and focus laid in the review on the knowledge and skills about the safe use of internet.



■ Facts & Analysis

Grade 5

The Grade 5 curriculum of science and environment subject talks about holding deliberations about computer as the medium of information technology and communications, and to produce students who are capable of telling how a computer can work. There is no separate curriculum and textbook about computers and internet in Grade 5. The basic introduction has been provided in the curriculum of science and environment. But, there is no information about it in the textbooks. As per the curriculum, the teacher may provide as reference information about it while teaching ‘multi-media’.

Grade 6

In Grade 6, effort has been made to touch upon the subject of information technology and computer and internet in various subjects in the curriculum while computer has also been included as an optional subject. It has been noted in compulsory Nepali subject that various print and electronic materials could be studied with enthusiasm in order to listen and say, and for study about the information of the media as listening and speaking achievements. However, there is no clear information about it in any chapter in the textbook (compulsory Nepali) under it.

Likewise, in the learning achievements of compulsory English subject of Grade 6, the listening achievement has also been mentioned. Here, short sentences and statements that are transmitted through the electronic media can be listened to and discussed. In the ‘English’ textbook developed for this achievement, under paragraph unit 6 chapter, the instance of receiving information from cyber café, that could be relevant to this, has been included. But there is nothing mentioned about safe use of internet in this chapter.

In Grade 6, optional subject, profession, business and technology education, some have been covered under technical education. This includes general information about computer

system, and the use of computer, mobile and telephone by realizing information technology. For this achievement information have also been included in the textbook.

In optional computer subject of Grade 6, four major learning objectives have been included, which include familiarization and use of internet, receiving and giving information about multi-media, familiarization and use of information communications and technology, and about information and following of morality while using computers. For this achievements, chapter 11, 12, 14 and 16 have been provided. Of them, Chapter 12 talks about internet, SMS, social media under the use of information technology while Chapter 14 include a note for teaching along with information about the technical aspect of internet. “As search for information and educative materials through the use of internet may lead to unnecessary matters, special attention should be given to use, it,” reads the note.



The Grade 6 textbook on ‘profession, business and technology’ developed for the achievements under this curriculum to provide education on profession, business and technology since a young age, include useful materials about internet. It would have been better that more example were included.

There is one chapter on introduction and importance of information technology, and another chapter on computer and internet as sources of information. The chapter includes knowledge and skills about the information that can be searched, downloaded and stored, and the exercise on search. An exercise has also been carried out to look for information related to any community through the medium of internet. This textbook has encouraged the tender mind of the students to receive knowledge, information and notice through the use of internet. This needs to be further refined. But, the knowledge about the alertness to be exercised while searching for information has not been included much.

Grade 7

In Grade 7, the information related to information technology and internet, and its use has been noted to be provided in different subjects. In compulsory Nepali subject of this class, like in Grade 6 there is no chapter in the textbook for the listening and speaking achievements. In the English curriculum of Grade 7, it has been noted in the achievement of hearing skills that information can be acquired and copied from the electronic medium. Also, it is noted that for learning objectives, one could study through email, short messages and web materials through the electronic medium. For that achievement, priority has been laid on the use of multi-media in English subject of Grade 7. Like in Grade 6, for the listening and speaking achievement of compulsory Nepali of this Grade, it is noted that electronic materials should be studied with interest. Also, in the exercise section of the chapter called Location 2 Position, the use of laptop has been mentioned. But there is not much information about internet and its safe use.

In Grade 7, new technology education also, the achievement of exchange of information through internet and the use of computer has been mentioned. Also mentioned is about computer (email, internet, online, chat and video chat) as a news media. In the textbook of the same subject of Grade 7, various aspects of computer has been included under modern technology. In chapter 5 of modern technology section of the textbook, under computer as a communications tool, knowledgeable information and skills-oriented information have been included about internet, email, webpage, Skype, online, chat, video chat etc. Also, exercises have been included about the aspects of its use. But, it does not touch about the importance of the freedom of expression, safe use of internet and the things to be considered for it. However, the reading materials are clear and useful.



In optional computer of Grade 7, it has been noted to make the achievement of acquiring information about internet, making use of various services from it, and to know about and follow the ways to use the computer.

Grade 8

In the listening and writing achievement of compulsory Nepali, the achievement to be able to listen and tell about information of communications media has been mentioned. For this achievement, in the compulsory Nepali textbook, chapter 6 on computer and internet has been included. This chapter comprises information about computer and internet, its importance and utility, service and knowledge, and information and knowledgeable information about information and dialogue in a total of six pages. It has not been noted in the chapter of having encouraged for the proper use of internet. In the exercise too, questions that lead to discussion and thought about the utility and negative aspect of computer and internet have been included. But, it does not mention about the possible risks of internet and the ways to remain safe from it.

Grade 8 compulsory English subject talks about the making able to note the major aspects in brief the information received from electronic media. There is a chapter on computer and its parts in the textbook but only technical information about it. Internet is not mentioned. Likewise, there is chapter on journalism but it does not mention anything about internet in this chapter. Likewise, in the chapter on Graphs charts, it talks about Data/chart but does not include about the things to be considered in the use of internet.

In the profession, business and technical education subject of Grade 8, the textbook about modern technology talks about the use of internet for exchange of information and following a code of conduct in the use of information technology has been mentioned as an active achievement. Also, for facilitation of its learning, the use of visual software like 3G and digital accessible internet system for students with disabilities (blind and deaf) has been mentioned.

The textbook related to profession, business and technical education subject of Grade 8 looks important. In chapter 4 of the modern technology section, under the title 'Use of internet and code of conduct in information technology' there are two pages of useful reading materials. This chapter comprises materials that encourage students about the multi-use and scope of internet. Also, seven points have been presented calling it the code of conduct developed by the government on considerations to be made for use of internet. The source of those points have however not been mentioned. The knowledge presented in those points seems useful for the proper use of internet. Efforts have been made to alert about not using foul and indecent

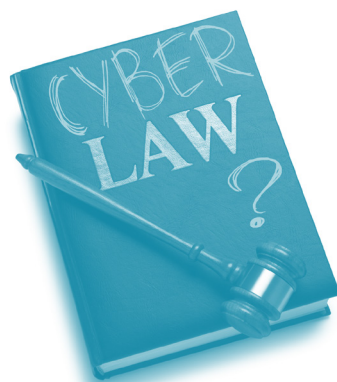
language, not disseminating information against national interest, keeping password safe, not posting information, photograph and pictures that effect others, and not using information and language in the internet media that could damage social harmony. In the activities too, discussion has been proposed on the things to be considered in the use of internet and ICT. The six questions included in the exercise section of this Chapter are very relevant. However, there is absence of focused matter on internet freedom and ways to ensure safety.

In the learning achievement of computer education of Grade 8, the use of information network to receive and provide various information, to acquire information about internet to communicate or disseminate information, collect various education materials and other materials, acquire information about the sites to use internet and to develop general website after gaining information about the process of website formation have been mentioned.

Grade 8 computer education Chapter 11 includes information and information technology, which talks about some equipment and method about thematic use in trade, health, and bank and ICT education but not about internet.

Chapter 12 comprises computer morality and cyber law. This chapter includes matters like accountability, responsibility, intellectual property rights.

This chapter provides an explanation about cyber policy and matters like utility of cyber, cyber crime, cyber law, data protection, confidentiality, intellectual property law and digital signature. Likewise, it also includes information about cyber law in Nepal. Covering four pages, though this chapter includes information about morality and legal aspects, information about its safe use and risks and alertness have not been included. Though the possible legal action have been alerted the aspect of skills and alertness over it safe use has been left out. The learning facilitation process of this Chapter comprises the skills to search for information of education institutions through internet and providing normal skills about webpage formation have been included as projects. And these could be very useful project works.



In the national objective of Grade 9 to 12 of secondary level, it is mentioned to become familiar to information technology and develop human resources to use it, and produce human resource skilled in daily life to use modern technology by gaining procedural skills necessary for scientific exploration and research. Also in the learning facilitation process, importance has been given to increasing the utility of computer. The matters included in the curriculum and textbook to achieve the national objective are as follows:

Grade 9

In compulsory Nepali to Grade 9, to teach comprehension and expression, a written exercise on an essay on 'information expansion and today's word' has been included. For this achievement, in Nepali textbook of Grade 9, an exercise on writing an essay on the title 'Who am I' has been included but there is no exercise on internet and its use. Likewise, in the chapter called Doctor Uncle, there is an instance about playing in the computer and laptop but the matter is different.

Grade 9 compulsory English curriculum does not include any reference about it.

Grade 9 optional computer subject includes achievement to make students able to use computer as a form of education material and to be able to design a normal web page. Likewise, Grade 9 curriculum also includes about Nepal's information technology policy, email, general knowledge about internet and making students able to design HTML Code and web page, and about e-governance.

Of the 13 chapters in Grade 9 optional computer subject, chapter 7, 8 and 9 covers matters relating to computer, internet, information technology and its various aspects. Chapter 7 talks about in detail the good qualities, bad qualities and thematic benefits of a computer. Internet has been mentioned in the discussion about communications in this chapter. But not much about internet as such. Chapter 8 includes a photo copy of the information technology policy 2057 BS. Likewise, e-governance is discussed in Chapter 9. Though these information have encouraged self-confidence and skills enhancement on computer and information technology, the questions included in the exercise of this chapter do not encourage study about internet freedom and the security challenges created by the use of internet.

Grade 10

There is no provision about it in compulsory Nepali curriculum of Grade 10. Likewise, there is no such mention about information technology, internet in compulsory English subject. There is not curriculum about it in science and social studies.

In the optional curriculum of computer in Grade 10, brief information has been included about computer network, internet, email and their use. For it, cyber law and ethics and the use of multi-media have been included. In the textbook developed for this achievement, of the 11 different chapters, chapter 2, 3 and 5 mentions about internet and its legal and moral aspects. The five pages from page 17 to 22 give detail information about information technology, legal and morality issues. Likewise, introduction of internet, web www, protocol, net, chat, email, URL, EFEX and other matters have been covered. Chapter 5 gives information about the cyber law in Nepal. It also gives general information about the electronic transaction act that came as an ordinance in 2061/05/30 (15 September 2004) and later as an act in 2008. There are five points about internet morality, which includes knowledge about the legal and moral alertness to be observed in the use of internet. But practical knowledge and skills about internet safety and safe use have not been mentioned. As the textbooks for secondary level, grade 11 and 12 is not ascertained, only the curriculum for grade 11 and 12 has been analyzed here.

Grade 11

There is no mention about information technology and internet communication in compulsory English and Nepali subjects of Grade 11. Among the subjects provided for Grade 11, there are matters like Records Management in unit 7 and business communications in unit 8 of business studies. But there is not much information about internet here. In Mass Communication and Journalism of Grade 11, the protocol exercise includes general information about computer and method of its use. Likewise, there is no reference to safe use of information technology and internet in subjects like Library and Information Science, Gagarin law/Human value education. In the objectives of the computer curriculum of Grade 11, it is mentioned about providing general capacity of internet, email, and website design and computer network. In the course-content for this achievement, Unit 9 talks about it, including seven textbooks for it on introduction and use of internet, protocol, web browser, web page, website, URC, DNS, search engine, messenger, service and browsers and network settings. Likewise, chapters have been included in course content in detail about email.

Grade 12

In the Grade 12 curriculum of secondary level, computer, information technology, internet and other matters have been linked where relevant in different subjects. In addition to computer, some instances of internet are also found included in the curriculum of subjects like Mass Communication, Journalism, library and Information science, contemporary society, Educational technology, social studies gender Studies and Business studies.

The curriculum of Grade 12] Mass communication and Journalism has the objective of providing information about the importance of computer and its use in mass media. Under it, press law has been mentioned in Unit 5 of the lesson plan. But there is not much mentioning about the safety of internet use in this lesson plan.

Likewise, in library and Information science, subjects like basic concept of ICT, virtual library and digitization have been incorporated. eBooks, e journals, website, homepage are under Information Service. But the matter to be discussed about internet and its safe use have not been included. Similarly, in General Law, cyber crime has been included in unit 3.4 of the curriculum. Business studies includes subjects of knowledge management and communication. In education technology also distance learning, open learning have been included in the curriculum but there is no clear lesson plan about internet.

The curriculum objective of Grade 12 computer education includes developing infrastructure for human resource able to compete at the international level, bridging the digital divide and developing mid-level ICT human resources. The goal is to produce a change that can transform Nepal into the IT-friendly society. For this, the course content is there in 10 units. Unit 5 includes information technology and cyber law. There is 7 hrs credit hours for this. Of them, include Social Impact for TCT, Digital Divide, Computer ethics, Intellectual Property Rights, Privacy, Computer Crime, Concept of Cyber law, Cyber law in Nepal and IT policy in Nepal. Even though internet safety and safe online use could be included within this curriculum, there are no clear lesson plans for it.





■ Analysis

Computer education and internet education looks technology-oriented. Awareness-oriented reading materials is less while the load of science is also low. It is appropriate to begin computer and internet education from the introduction section of multi-media, because this is a result of the same. This is only a media in itself. It is necessary to understand about this media, because there are many such media in today's world. As a result, among the multi-media, computer and internet are a distinct and special media. It is easy, low-cost, and extensively useful.

Computer and internet are two such media that can disseminate the materials produced by other or multi-media in an easy and efficient and rapid manner. They can provide grand information or education service to the world at once.

The major department of education is the aspect of philosophy as well, which shows a new aspect to the work. It should be an area where a new media could be used. i.e. the philosophical aspect of these two media are service-oriented. Providing service is its first and final goal. It has provided huge service to the field of expression, writing and publication, which has been strengthening the aspect of humanitarian freedom. It has made people of the world very independent. It has given us an age where a poor and powerless individual living in one corner of the world can criticize a power autocrat living in another corner of the world. Or, computer and internet technology have for now been proved a great weapon in the field of freedom of expression, writing and publication. These strong aspect needs to be further expanded.

But it has also expanded entertainment and games, which has developed an unnecessary addiction in the society. Misuse has increased i.e. the marketing aspect of both these media has become very powerful. Because it has made its trade sector dynamic and extensive. It has also promoted laziness and immorality. It has transformed humans into a stubborn, non-conscientious time waster, and a mischievous who abuses freedom. Hence, this weaker

aspect needs to be curtailed. So, computer education should not only become business-oriented but also needs to be made service-oriented. This education needs to be provided right from the primary level.

The curriculum that informs about the introduction, need, use and utility of multi-media should be used to introduce computer, mobile, notebook, internet etc and develop lesson plans to take them forward, which could be more beneficial.

The subject of computer is specially related to mathematics. The discovery of computer is a result of mathematics education; it is an offspring of mathematics. Without mathematics, computer and internet technology, methodology or system can never be understood. But the status of mathematics education in Nepal is very poor.

The computing system of mathematics controls and operates the computer and internet. Hence, materials that provide a brief history about the origin of computer and internet system should not be left out from the curriculum.

It would be appropriate to include it right from the primary level. Some of its aspects have been included in Nepal's curriculum as well.

The fact that this subject is a modern part or branch of pure science that deals with a huge department should also be provided at the primary level. This helps to facilitate the act of science. It expedites it.

Computer and internet helps to make subjects understood in a technical way. In that sense, computer technology and internet system are only modern extra media but the end. So, in order to avoid misuse of such equipment, technology, its utility and moral education should be taught in separate sections.

Computer and internet technology and system are education under the science subject. The use of computer and internet and its skills are education under mechanical science and automation science. The matter of social utility of computer and internet falls under social science i.e. sociology, moral education, ethics, custom, language, loksastra, national and international law, freedom of expression.

In this manner if education is provided by dividing into three sections, then the students can easily learn about computer and internet technology use, utility and operation. This will increase its utility than its misuse. Students can learn about moral education and freedom of expression and publication along with science, and about freedom of expression including social and political awareness and other education of utility from the school level. Such a situation would lead to a decline in the misuse of technology.

The present curriculum is weightier in technology and system (skills oriented or operational system). This will teach operation and use but cannot make students practice its utility (utility in extensive terms, life-skills use) and moral norms and values and conduct. Making technology life-useful and increasing the practice of moral education through it is its philosophical aspect, which is service-oriented. The origin or discovery of computer and internet was made to provide extensive information and education service at once to many people. This aspect of service has been found to be very minimal in our curriculum. If this is also given some weight and teaching learning activities carried out, then its misuse can gradually be decreased.



■ Conclusion

A review of the compulsory and some optional subjects from Grade 5 to 12 draws out a conclusion as follows:

1. All compulsory and optional subjects (including computer and internet related curriculum and textbooks) were found with the intent of only informing the students about computer and information technology.
2. Considering the use of computer only as an equipment is found to have limited internet to general information as a media only in the basic level and secondary level of education.
3. The information relating to computer and internet in compulsory and options subjects were found to have scattered, with duplication in many places. Hence, horizontal and vertical standardization needs to be carried out.
4. Computer and internet education seems to be technology-oriented. The aspect of philosophy, science and awareness needs to be added. This will help give the students the right direction from an early age towards the good use of this special media, which is easy, low-cost and widely useful.
5. A need was felt to develop curriculum and textbooks by classifying the knowledge and information received from the internet. For this, the Government of Nepal (school) curriculum development centre needs to be provided fact based recommendations in this regard.
6. The awakening education to encourage the better use of very useful tools like computer technology, information technology and internet needs to be included in the textbooks along with the skills and technical knowledge about it.
7. As per the principle of curriculum development, recommendations needs to be given including fact-based information about use of internet, its utility and misuse especially in the compulsory subjects at the basic level and optional subjects at the secondary level. And it needs to be included as necessary knowledge in the curriculum and textbooks of subjects related to information and technology.

8. To provide such recommendations, an interaction should be held among curriculum experts, teachers, civil society, information technology experts, freedom of expression campaigners, user students and the computer experts, and efforts should be made to include its conclusion in the forthcoming curriculum and textbooks.
9. As internet security could be preached even through some exercise, the exercises in community and institutional schools needs to be observed and awakening campaign organized.
10. For this task, the people's representatives responsible for education related affairs in the local government including rural municipality and municipality, the concerned government official, head teacher and the teachers should be trained on internet security and a campaign organized extensively to reach to the society through them.
11. Freedom of expression is essential to consolidate democracy and necessary knowledge is needed for such freedom. So forthcoming educational objectives should be determined with high priority on better use of internet and attention should be given to its safe utilization.

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