



PRAGYATA

Guidelines for Digital Education



Department of School Education & Literacy
Ministry of Human Resource Development
Government of India

दीक्षा (DIKSHA)

सीखने-सिखाने का मंच



“किसी भी समय किसी भी जगह सीखना”

क्यू आर कोड से जुड़े ई-संसाधनों तक पहुँचने
के लिए चरणबद्ध मार्गदर्शिका

गूगल प्लेस्टोर से दीक्षा एप्प प्राप्त करें। नीचे दिए गए निर्देशों का पालन करें और अपने स्मार्टफोन अथवा टेबलेट पर दीक्षा का उपयोग कर ई-संसाधनों का लाभ उठाएं।



अपनी पसंदीदा
भाषा चुनें

अपनी भूमिका चुनें
(शिक्षक अथवा विद्यार्थी)

एप्प और पहुँच
के लिए अनुमति
प्रदान करें

क्यू आर कोड
स्कैन करें

पाठ्यपुस्तकों के
क्यू आर कोड पर
कैमरा कॉन्ड्रिट करें

क्यू आर कोड से मिले
ई-संसाधनों तक पहुँच
के लिए बटन दबाएं

डेस्कटॉप अथवा लैपटॉप पर दीक्षा का प्रयोग कर ई-संसाधनों तक पहुँच के लिए नीचे दिए गए निर्देशों का पालन करें –
वेबसाइट <https://diksha-gov-in/ncert/get> पर जाएं और क्यू आर कोड के नीचे दिए अल्फान्यूमेरिक कोड को निर्दिष्ट जगह में भरें।

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Section-I Understanding Digital/ Online Education

1.1 Introduction

COVID-19 pandemic has led to secure disruptions in normal life, including closure of schools. It has impacted over 240 million children of the country who are enrolled in schools. Extended school closures may cause loss of learning. To mitigate the impact of the pandemic, schools will not only have to remodel and reimagine the way teaching and learning have happened so far, but will also need to introduce a suitable method of delivering quality education through a healthy mix of schooling at home and schooling at school.

While digital or online education cannot replace classroom learning, it has some advantages. It allows flexible and personalized learning at the speed of the learner and one can continuously augment and expand content through digital means. The rapid increase in internet penetration and various government initiatives such as Digital India campaign have created a conducive environment for moving towards digital education. This shall be complemented by the recent launch of PM e-Vidya by the Ministry of Human Resource Development (MHRD), a national campaign which will unify all efforts related to digital/online/on-air education. This includes, DIKSHA (one nation – one digital platform), TV (one class-one channel), SWAYAM (online MOOCs on various topics), IITPAL (platform for exam preparation), AIR (through community radio and CBSE Shiksha Vani podcast) and study materials for differently abled students developed by NIOS. All these areas of e-learning shall be expanded and developed further in a systematic and unified manner by the MHRD in a phased manner.

Following guidelines have been developed from the perspective of learners, with a focus on online/blended/digital education for students who are presently at home due to lockdown. These guidelines also provide a roadmap or pointers for carrying forward online education to enhance the quality of education. The guidelines will be relevant and useful for a diverse set of stakeholders including school heads, teachers, parents, teacher educators and students.

1.2 Concept of Digital Education

Digital Education is an evolving area which is primarily concerned with the teaching-learning-process using digital medium. This has evolved from activities such as sharing of text resources and students submitting assignments online to availability of various types of content such as audio, video and multimedia resources. The continuous advancement in the field of Information and Communication Technology (ICT) and the internet (with virtually unlimited supply of digital resources) has made multiple modes

of digital education possible. With regards to the availability of digital infrastructure, Indian households can be classified into six categories:

Households with

Computer/Laptop/Smartphone and a 4G Internet connection as well as a Television set with a DTH/Cable TV connection

Smartphone with 4G network

Smartphone with limited (3G/ 2G) or no access to internet

Television set with a DTH/ cable connection

Radio set or a basic mobile phone with FM

No digital device

There are households with none of the above facilities while we are focusing on the mechanisms of teaching and learning with the help of digital/online education. There are two kinds of online learning and teaching that schools will need to balance based on the feasibility:

- **Synchronous:** This is real-time teaching and learning that can happen collaboratively and at the same time with a group of online learners or even individually, and usually a teacher, or some method of instant feedback; examples of synchronous learning are online teaching through video conference (two-way video, one-way video, two-way audio), audio conference (two way audio) using satellite or telecommunication facilities.
- **Asynchronous:** This is anytime, anywhere learning but not connected on real time, for example, emails, SMS, MMS, surfing e-content on DIKSHA, listening to radio, podcasts, watching TV channels, etc.

Schools should not assume that teaching-learning through synchronous communication is the only requirement or even desirable in order to support effective digital learning. The goal is NOT to try and recreate face-to-face (F2F) classrooms over the internet. Anytime, anywhere, online and blended learning provide opportunities for learners to work more independently, expand their agency, intellectual horizon, learn to use tools and strategies that otherwise may not be feasible in classrooms for teaching-learning and assessment.

1.3 Modes of Digital Education

The vastness and diversity of India is reflected in the scale at which school education operates in the country - with about 95 lakh school teachers and 25 crore students, characterized by geographical, socio-cultural and linguistic diversity. Therefore, decentralised planning and implementation is advisable for the digital education system to work, keeping in view the ground realities of each State and Union Territory. Depending upon the availability of ICT infrastructure, one can choose an appropriate mode for implementing digital education.

Modes of Online / Digital Education



Online Mode



When computer/ smartphone with internet connectivity is available

Partially Online Mode



Computer/ smartphone is available but regular Internet is not available

Offline Mode



Where internet connectivity is not available or available with very less bandwidth



Television



Radio

Disclaimer:

These guidelines are advisory in nature and have been prepared by NCERT. Many of the suggestions received from various states/UTs in this regard as a part of the consultation process have been incorporated in these guidelines. The suggestion received through Padhe Bharat online Campaign have also been suitably included in this document. States/UTs are required to come out with their own detailed guidelines by adapting/ adopting/ modifying these guidelines in accordance with their requirements and assessment of the local situation.

1

Online Mode:

Any one of the following model can be chosen when computer/ smartphone with internet connectivity is available

Model 1:

Guide learners to go through the online resources shared by teachers through instant messenger/ mail etc. Students come prepared and then discuss their queries during online interaction through video conferencing tools.

Model 2:

Conduct scheduled online classes through any one of the video conferencing tools.

Model 3:

Conduct a scheduled live class through any of the Learning Management System (LMS) and students interact during live sessions or through forums/ groups in LMS. All the resources to be shared in the LMS itself, and assignment submission also happens in the LMS.

2

Partially Online Mode

When Computer/ smartphone is available but regular Internet is not available, any one of the following models can be chosen

Model 1:

Links of resources available at DIKSHA/ ePathshala/ NROER/ NDL or any publicly accessible platform are shared with students/ parents by teacher through instant messengers/ emails. Students can download those resources in a pendrive/ phone/ computer for offline use. Teachers can suggest activities (experimenting, further reading, etc) to be done offline for further exploration.

Model 2:

Teachers instruct students to read the textbook and other reference materials physically available with the student and then the teacher (once a week) interacts with students through WhatsApp, phone call, video call to clarify/ enrich/ teach the content.

Model 3:

Sharing DVD/CD with class wise topic wise resources like video lectures/ demonstrations/ simulations etc and students learn using the resources. The teacher comes online to discuss and clarify doubts, queries or explain concepts (may be once a week).

3

Offline Mode:

In situations where internet connectivity is not available or available with very less bandwidth, resources are shared through various platforms like television, radio etc that don't depend on internet connectivity

Television –
Majority of the population in India has a television along with DTH/ Cable connection. Some of the models of using television as part of digital education are:

Model 1: Class wise and topic-wise resources transmitted on TV channels (DTH and Cable TV) like SWAYAM Prabha, Vande Gujarat, Victor Channel, MANA TV etc. Such contents can be easily accessed and utilised by students and teachers using television available at home.

Model 2: Sharing through pen drive/ DVD/ CD with class wise topic wise resources like video lectures/ demonstrations/ stories etc that be viewed through some of the resources newer sets TV if available at home.

Model 3: Incase where TV is also not available with student, community television which is available in panchayat union office, or in public places can be used for mass education.

Radio – It is perhaps the most cost effective medium when TV is also not available or when power supply is

Model 1: Class-wise, topic-wise audio content can be broadcasted through dedicated radio channels with support of AIR. Audio programmes organised through All India Radio (AIR) stations as per the curricular needs.

Model 2: Community/ FM radio channels utilised to broadcast teaching-learning resources and at times customised to address the local needs.

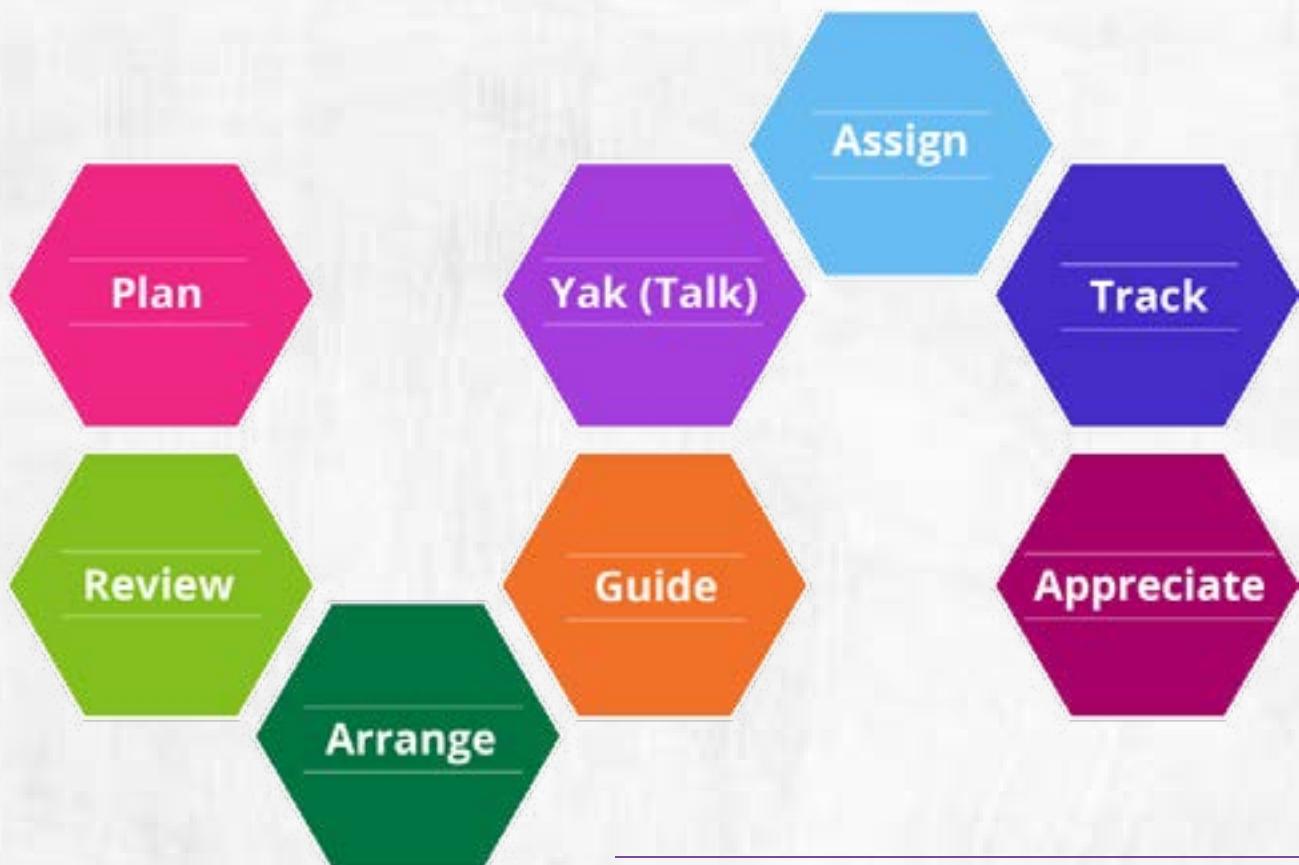
Model 3: Incase where radio is also not available with student, community radio, if available in panchayat union office, or in public places, can also be utilised along with loud speakers for mass education in some generic areas.

Section-II PRAGYATA- Steps for Digital and Online Education

Being one of the most effective ways to ensure continuity in school education, digital education presents several advantages over face-to-face classroom teaching. Parents may also desire to know more about the how, what and where of providing online education as well as its real-time online conduct so that their children do not get overly stretched or stressed, or get affected negatively (postural defects, ophthalmic issues, and other physical problems) owing to its prolonged use.

This section of the guidelines includes eight steps of online/ digital learning. An attempt has been made in this part of the guidelines to present in a way that they may answer frequently asked questions by different stakeholders on the modalities of providing online education.

In many schools across India, the MHRD has been funding computer labs, smart screens, etc. Twenty-nine States/UTs are already onboarded DIKSHA, a digital platform. Slowly, but surely, many teachers in several states/UTs are getting used to integrating ICT in the classroom process. Eight steps for implementation of online/ digital education is **PRAGYATA**.



Online Learning for Class IV students

An Exemplar

PLAN:

Lesson Plan for the following is prepared by the teacher in great details

REVIEW:

- Teacher conducts a brief survey with the children via mobile about their access to digital devices and finds that:
 1. 15 Households have a Television, Smartphone with internet connectivity and also a Laptop
 2. 10 Households have a Smartphone with internet connectivity and a Television but no Laptop
 3. 4 Households have a basic mobile.
 4. 1 Household does not have even a mobile

ARRANGE:

- After this survey teacher may make arrangements in the following manner.
 - Giving immediate attention to children belonging to households at (c) and (d). For children belonging to households at (c), teachers may plan calls early morning on the mobile as there is a possibility that the parent who will go out for work may take the mobile along with him/her.
 - Teachers select a theme (Example - a theme from EVS, i.e. family)
 - So, she/he will call the parent or student and ask them to discuss with their family members (their age, what work they do, etc.).
 - For a child belonging to a household at (d), teachers may explore contacting them via the child's friends. After getting the contact of a student residing nearby, the teacher may explore communication channels with the household at (d) such as identifying his/her accessibility to a mobile belonging to a neighbor. The teacher will guide the parents, child or guardians.
 - For children belonging to households at (a) and (b), she may plan to call them via Google Hangout or WhatsApp calls, etc. Teachers may create three groups of eight students each, and guide on the same theme - 'family' by asking them to discuss and make a chart as discussed above.

GUIDE:

- Teachers may also ask parents to show a video on the theme 'family' to their children and encourage them to discuss it. This may be an individual activity, wherein parents may also participate and may be motivated to discuss and talk to their children about the family.

YAK/TALK:

- Teachers will arrange doubt clearing sessions, and remain available at pre-specified times to talk to the learners.

ASSIGN:

- She/he will guide the child to draw portraits of her/his family members, write her/his relationship with them, prepare a family tree, list their work and also write one thing about them that they like.
- Learning of a language may also be made an integrated part of this activity, wherein students may be asked to write a poem on their family, or share an experience from within the family, etc.

TRACK:

- The chart or poster or data sheet that children have made may be sent to teachers through email or WhatsApp by the parents.
- Teachers will track progress of students on each of the assignments and give constructive feedback to the learners.

APPRECIATE:

- Teachers need to attend to each and every group for a few minutes. Teachers need to appreciate children and parents by sending some good words on the completion of the assignment.
- This will sustain the interest and motivation of children and parents both. Teachers will also inform parents and students that participating in this activity has made them progress as per the learning outcome already identified for the above class.

2.1 Step I: Plan

The need for proper planning is as much essential for the conduct of successful face-to-face teaching learning sessions as for online ones. For example, for face-to-face, the state department plans to provide textbooks every year, creates an annual calendar, assessment plan, etc. and schools make a timetable as well as plan on how to complete their syllabus. Similarly, teachers not only plan for a given session, but also prepare

weekly and monthly plans along with formative and summative assessments, co-curricular activities, projects etc.

The same detailing will need to be carried forward for digital education where anyone who is involved with facilitating digital learning must prepare a plan at their level. For the successful implementation of a digital education, State department, School Heads and teachers must develop a coherent plan and ensure clarity about their respective roles. The scope of planning may vary from stakeholder to stakeholder. However, the core elements around which the planning is done are common to everyone. These important core elements/factors are as follows:

CONTEXT

- Number of students in each class
- Duration and time schedule
- Availability of digital devices for teachers or for the school
- Availability and accessibility of quality resources for the teacher
- Safe and secure digital environment
- Competencies of teachers in handling digital/ online classes

LEARNER

- Physiological factors like age, class, physical disabilities that requires any special attention
- Psychological factors like interest, learning style, motivation to students, intellectual disabilities that requires special attention
- Sociological factors like language of the student, availability and accessibility of digital gadgets and facilities, parental support

CONTENT

- Nature of subject
- Duration of the intervention
- Nature of assignment
- Nature of assessment

1. Age and Class of children

Planning should be undertaken keeping in mind the age and class of the children. Considering any concerns for their physical and mental health, audit the resources available, tools to be used and time duration for activities and online sessions, etc. e.g. for pre-school children, online classes on mobile or laptop must be discouraged. For them, television and radio can be used for this purpose. They can be given good television programmes that use animations, films, etc. to link learning with their day-to-day life. In case of availability of online and offline mobile and computer applications for children below class 3, parents must be engaged as a bridge between the digital device and the child.

2. Number of students in each class

Consideration of the number of students in each class is another factor to be considered. Teachers need to plan different online strategies for different groups of children based on the digital tools available and accessible to them.

3. Learning styles of children

Teachers must be aware that in their class some children learn by reading, some by listening and some by doing. So, students have different learning styles. Teachers may take into consideration these learning styles while planning group-wise sessions.

4. Nature of subject

Different subjects have different pedagogies, e.g., A Mathematics class may need more time allocated to solving numerical problems instead of discussions, and a Social-science session may require deeper/longer discussions because children belong to diverse contexts, etc.

5. Language to be used

Given the extent of multilingualism in our country, it should be kept in view that the programmes and material provided under digital education must be in language/s in which students are well-versed with.

6. Contexts of children

Students belonging to diverse socio-economic backgrounds come to school. Some get the full support of their parents in their education, but in some cases, parents are not able to support them because of illiteracy or if they are extremely busy with their work. So, while planning digital education, these contexts need to be kept in mind.

7. Accessibility of digital devices for children

All students do not have digital tools available at home. If available, they may not be able to access these tools as they belong to adults who are working from home and cannot spare their gadgets.

8. Availability of digital devices for teachers or for the school

While planning, tools available with teachers and with schools also need to be kept in view.

9. Availability and accessibility of quality resources for the teacher

Teachers need to see and analyse the e-content and e-resources for quality before referring these resources to the children.

10. Duration of the class/interaction/video online

This is a very important factor, which needs to be considered while planning. For this, teachers need to talk to parents and students beforehand in order to plan sessions with them as per their comfort. Accessibility and availability of technological aids with them also needs to be ascertained. The duration of these sessions and classes need to be planned in consonance with the age-group of the children.

11. Nature of assignment

With digital/online learning, assigning tasks to students is a motivating and engaging factor. Accordingly, these need to be designed.

12. Nature of assessment

Assessment needs to be planned keeping in view the following –

- a.** Too much dependence on pen-paper may be avoided. Alternative methods of assessment through online classes, social media, blogs and mobile phones need to be promoted.
- b.** Students' activities during lockdown must promote alternative modes of assessment like working on projects, portfolios, conducting home-based experiments, interaction with family members and elders, creating prose, poetry and improving literacy skills. These need to be assessed accordingly.
- c.** Open book examinations can be undertaken. Quality test items need to be prepared by subject specialists and assessment experts for open book assessment.
- d.** Issues related to public hygiene may not be assessed for grades and marks as the scores may not be reliable. A student may be good at drawing a beautiful chart

or composing a very good poem on cleanliness but may or may not be practicing it. This may not provide objective observation as students are not physically present before teachers.

e. Test items related to local corona warriors, services, activities, people in the line of duty, health workers and soldiers can be very well integrated with all the disciplines and for all the grades. This includes subjects like mathematics and geography along with languages.

13. Motivation to students

Students need to be regularly given positive remarks on their tasks, assignments, replies, questions, etc. Rather than waiting for a completed assignment, if students explain the process of doing assignment, he/she must be appreciated/encouraged.

14. Participation of parents

Parents need to be made to understand their role in digital education; specifically, for students in the age group of 3-12 years. They need to be with their children while they are attending online classes or watching TV. In case the students face a problem during the class, parents either can resolve it themselves or talk to teachers about the same.

15. Cyber security and safety

Before planning, there must be a list of dos and don'ts for online education available with/created by teachers and School Heads. This must be discussed with students and parents.

16. If a child has some special need

Children with Special Needs (in the class) should be identified based on their auditory, visual, physical, intellectual and emotional characteristics for planning and delivery of digital education. So teachers may accordingly plan lessons with ebooks, audio/talking books, braille books, Digital accessible information system (DAISY books), sign language videos along with transcription, translation, subtitling, voice over integration into the existing digital resources.

17. Overall planning of class timetables for online learning by schools:

The school will have to ensure a synchronized approach for the learner in a given grade. Each subject teacher cannot insist on holding online sessions for several hours a day. For example, schools could decide on a fixed number of hours/ day of screen time for each level of schooling – lower primary, upper primary and secondary and senior secondary. Please see para 3.1 for more suggestions.

2.2 Step-II: Review

The second step would be to undertake a review after deciding different modes or tools for different sets of students and after identification of all available resources for the teacher/school. This would be a review of the plan in terms of time/duration, quality of resources, scope of assignments, methods of assessment, as well as cyber security and related safety concerns. While undertaking a review, teachers may decide to join hands with other teachers and share the responsibility of talking to parents or students individually or in groups to guide them on all the subjects one by one in view of saving time and the availability of technological tools with students.

2.3 Step-III: Arrange

After undertaking a review of all the information and resources which have been collected, their proper arrangement and organization for their daily/weekly or monthly transaction must be done. It is also to be decided, how follow-up can happen with students in the case of teachers, and by School Heads in the case of teachers.

2.4 Step-IV: Guide

Guidance on the part of teachers for students and their parents is a very important step. Teachers need to inform parents or students about the themes/topics to be learnt by the students under the guidance or via self-study (whatever, the case may be). Using different modes like instant messaging, SMS, teachers may guide each and every student on the following lines –

- Learning outcomes decided to be taken up for the session that the teacher is planning for the students.
- Themes/topics which help achieve progress in selected learning outcomes.

Reflection and Construction

Children should be provided with opportunities to reflect so that they can construct their own knowledge. Teachers need to give them different situations drawn from day-to-day life and a problem identified from within the said situation. As children to observe, hypothesize, collect data, test the hypotheses and draw conclusions.

Example of a situation: You have 1000 litres of water for a family of four persons. Due to shortage of water, now, your family will not get a single drop of additional water. It will take atleast fifteen days to improve the situation. What plan will you make to pass these 15 days with the limited amount of water available to you while continuing to conduct all the essential and routine activities requiring water.

Pedagogy

- Reading content related from the textbook- reflecting upon that, making some important points and discussing either with groups created for online discussion or with the teacher.
- Watching a video-link provided by the teacher, noting down important points, texting the teacher or discussing them with peers, doing exercises related to the theme, answering questions provided with the video link, etc.

Assignment

Teachers need to guide students on how they will do their assignment, what resources they will use, and through what mode they will share this assignment with teachers.

Assessment

Teachers need to guide students and parents on assessment of students' work as well as the process that they have followed to complete their assignments. Teachers may also guide students on self-assessment and peer assessment.

2.5 Step-V: Yak (Talk)

During their guidance, teachers must clarify that talk, chat, discussion, etc. must happen among the members of the groups (created among students), parents and their wards, and with teachers, so that students take an interest in studying the themes and doing the activities.

2.6 Step-VI Assign

After completing two or three themes, teachers can give some interesting assignments to the children. These may be group activities or individual assignments, depending upon the technological tools available to the children.

A list of some of these creative assignments is as follows:

- Healthy Practices for wellness – Parents and children together discuss, reflect and make a chart/table with the information – whether they follow these practices or not. (Individual Assignment for classes IV or V)
- Status of Diabetes in India, state-wise analysis, age group, details about diabetes, symptoms, prevention, cure, suggestive health practices. (Group Work for class VIII)
- Write about Corona Warriors of your locality (if you have heard about them from your parents or you yourself know him/her). Make a list of people whom you think are Corona Warriors in this crucial period (Individual and Group for class VI).

2.7 Step-VII: Track

Tracking or follow-up of the given session and assignment is very necessary, otherwise, children will lose their interest, if they do not get response from their teacher or parents on their work or assignment. Teachers need to track progress either on social media like WhatsApp or by calling them and asking them to show what they have done or if this is not possible, then by telling them that they must keep these assignments in a file and bring those to school when they re-open. If work is incomplete, teachers may again guide them by selecting another pedagogy if the earlier one has not worked.

Teachers will have to make a tracker of habits, skills and values developed in students as they have been learning/receiving education using alternative approaches. They may have their own criteria and need to observe these while talking to students in a group or by talking to the parents.

2.8 Step-VIII: Appreciate

On every completed task, teachers must compliment children by sending messages, calling them and appreciating them. Since the teacher is not physically with them and children do not have the opportunity to see teachers' expressions or listen to their praise, which may be boring or demotivating about getting online education. Through gestures of appreciation, teachers can make students feel that they love them, care for them and feel happy when they progress in their learning.

Section- III Guidelines for School Heads, Teachers, Parents and Students

3.1 Guidelines for School Heads and Teachers

Teachers play an important role in a child's life. Teachers convey their affection, warmth, care, comfort as well as control to the students through verbal and non verbal communication. Therefore, teachers may be more careful about the verbal and non verbal communication they make through various digital platforms. Teachers being the first level counsellors, also have the responsibility to take care of the mental and physical health of their students.

3.1.1 Need Assessment

- School leaders could consider conducting an informal survey to identify various ICT facilities available at home for each child. This data could be analyzed by school leaders to group or create differentiated plans.
- Ensure that for each class, teachers and students (i) mode of communication (ii) learning plans and (iii) necessary well-being support has been identified.

3.1.2 Planning

- School heads to take adequate measures to facilitate ICT infrastructure for teachers (laptops/tablets, connectivity etc.), encourage and lead them in using different ICT tools in teaching-learning and assessment.
- Orientation of teachers, parents and students about using digital technology for teaching-learning and assessment may be done at the initial level and repeated, if so needed.
- School heads should not expect teachers to be engaged in six to eight hours of online teaching in a day. Rather they may be engaged for about two to three hours of online activities per day for the classes they teach. However teachers may continuously explore, create and share learning resources with their students and/ or parents
- Class-wise instant messaging groups may be formed for smooth communication with teachers, parents and students. For lower classes, the parents may communicate on behalf of students.
- Do not make adoption of digital learning burdensome for students and their parents. Avoid setting unrealistic goals for students as well as yourself.
- Involve teachers and representatives of parents in chalking out modalities of digital education. A systematic timetable (with detailed online and offline activities) for each class may be planned in consultation with all the teachers.

- Do not rush for the sake of completing the syllabus, rather focus on the consolidation of learning. Plan the interventions keeping in mind students' level, age, resource availability, nature of content etc.
- Plan ICT enabled engaging activities which have scope for tapping the creative pursuit of students leading to the acquisition of important life skills.
- Children exposed to digital technologies/gadgets for a longer time are prone to severe health issues. Hence seating with digital gadgets for longer hours or their excess use can be avoided by designing age appropriate schedules of digital education.
- If possible, parents and guardians may also be involved in selection of appropriate resources for e-resources and ICT tools for their children.

3.1.3 Implementation of Digital Education

- Keeping overall development of students in mind, it is better that the screen time may be followed as recommended

Class	Recommendation
Pre Primary	On a given day for interacting with parents and guiding them, not more than 30 minutes.
Classes 1 to 12	Recommended to adopt/adapt the alternative academic calendar of NCERT at http://ncert.nic.in/aac.html
Classes 1 to 8	Online synchronous learning may be undertaken for not more than two sessions of 30-45 minutes each on the days the States/UTs decide to have online classes for primary sections
Classes 9 to 12	Online synchronous learning may be undertaken for not more than four sessions of 30-45 minutes on each of the days as decided by States/UTs.

- Use Instant Messaging/Chat groups/emails involving parents (wherever required) for sharing important information, resources, suggestions and follow up activities
- Post a weekly announcement to provide an overview of the coming week's topic or a recap of the previous week's work, or both.
- Teachers may share e-content with students and parents and guide them how to use those contents using available gadgets at home.
- Provide time to time feedback on the responses and performance of students in the assigned tasks.

- School head may interact regularly with teachers and parents (at least once a week) to get feedback
- Where parents are not in a position to support students in digital learning, suggest alternative support like peer learning and seeking help from neighbours, , identified local volunteers, etc.
- Teachers may themselves select the contents based on the following criteria and circulate among students and parents to help them choose appropriate digital media:
 - 'age-appropriate' that it matches with children's needs, abilities, and interests
 - clear learning goals
 - content meaningfully presented
 - contextualized and culturally responsive
- Suggest activities that:
 - are age appropriate, simple to do at home and have learning goals that focus on building concepts/ skills among children.
 - are meant for holistic development, and parents can easily assist their children in doing the activities.
 - encourage children to explore, observe and experiment using objects easily available in their surroundings/ localities.

3.1.4 Cyber Safety and Privacy Measures

- Students, Teachers, and Parents may be oriented on Do's and Don'ts of cyber safety and security.
- Make students aware about cyber bullying and how to avoid getting bullied. Also, encourage them to refrain from cyber bullying.
- Do not share personal information, textual communications, videos or images of

students on social media for any purpose including advocacy and showcasing your work. Create a congenial, safe and secured online learning environment. Communicate often with students with utmost clarity on do's and don'ts of engaging with digital learning.

3.1.5 Specific Guidelines Related to Preschool, Grades 1 and 2

- Plan joyful learning experiences for digital/online learning as you do for face-to-face.
- Give interesting assignments to children such as listening, and reading, stories followed by activities like drawing inferences, adding/changing the climax at the end, picture reading, art and craft, puzzles, simple observation projects, learning new words etc.
- Occasionally organize brief and casual meetings with the parents and children through video conferencing and give them a chance to narrate their feelings and experiences.
- Encourage the parent to document the child's work through a photo or a short video in order to stay connected to the child's early learning experience without making it stressful or going for rote learning.
- Guide parents regarding monitoring TV programs viewing, about what cartoons/programs are being watched by children.

3.1.6 Specific Guidelines Related to Senior Students

- Give 10-15 minutes break between two consecutive classes for students to freshen up, relax and re-energize themselves to focus on the next class
- Encourage peer discussion and interaction during online classes
- Develop and use formative assessments for immediate and continuous feedback, this would help the teacher and students improve in the learning process
- Talk regularly to students in understanding and encouraging the responsible use of the internet and netiquettes.

Let us remember

- To manage, despite the digital divide among students, activities and resources have to be planned keeping all the categories of students (with minimum and maximum facilities) in mind.
- Activities can be carried out using audio, video and audio-visual media so that all the students get an opportunity to learn according to their learning styles and need.
- Ensure disadvantaged, first generation learners, and Children With Special Needs find opportunities to learn through online learning processes. Encourage all children to participate and help each other in the process of online learning.

3.1.7 Teacher Preparation

Teacher Preparation for digital education is a twofold process. The first is the requirement of teacher preparation for adopting digital technology for teaching their students more efficiently. The second is to use digital medium to keep abreast of new development in education for their own professional growth. Teachers must be ready to harness the potential of digital technology to keep them professionally up to date. The teacher may:

- Explore digital technologies (LMS, apps, web portals, digital labs etc), repositories of Open Educational Resources (OERs) at national/ State/global level
- Attend webinars, online training programmes, online courses on ICT- Pedagogy-Content integration
- Use appropriate technology for teaching learning & assessment
- Use digital resources embedded in Alternative Academic Calendars (AAC) developed by NCERT for different stages.
- Be part of forums, interest groups and online communities to interact with peers and know how the rest of the world is doing with digital education
- Get acquainted with copyrighted as well as Free and Open Source (FOSS) e-contents and tools for learning. Teachers can be made aware to use open resources as everything on the Internet is not available for free download or sharing.

3.2. Guidelines for Parents

The COVID-19 has brought with it many new challenges in the learning spectrum for parents, families and especially children. Parents' role will now be amplified to keep their children engaged in learning and at the same time to look after their emotional well-being as well as physical health. As the child will feel a range of emotions during this time, the role of the parent may include providing encouragement and support.

Especially young children do not have so much vocabulary to express/describe their emotions and thus parents and family members need to be very careful to watch over the digital behaviours. Keeping in mind the detrimental effects of the internet and gadgets, judicious use of the internet may be monitored by the parents. Following are some of the suggestions made in this guideline that parents can follow.

3.2.1 Physical, Mental Health and Well-Being

- Parents may interact with children on a regular basis to know their physical and mental well being.
- Watch out for signs of anxiety, depression /anger during digital learning.
- Check if your child is becoming very secretive about his or her online activities. For example, not talking to you, deleting history of the internet browser, using encryption software, or quickly flicking the screen display when he/she sees you. It's better to talk openly about your own internet use and encourage your child to do the same.
- Explain and talk about basic hygiene and healthy lifestyle practices for protection during COVID-19 using digital resources. There are plenty of digital resources (videos, animations, booklets, etc) available in the web.
- Combine online time with fun filled offline play, games and other activities, so that there is a balance between the screen time and the concrete play time
- Parents may ensure the involvement of their wards in physical activities such as yoga, exercises, etc. during breaks from digital learning.

3.2.2 Safety Measures

- Keep TV/ laptops/ computers etc in a common area and definitely out of bedrooms. This will help in restricting usage time and you can easily keep an eye on the child's overall usage of digital devices.
- Develop digital rules in consultation with children, and follow it. The plan could cover things like screen-free areas in home, internet safety rules, duration of watching TV, surfing the web, etc. Talk with children regularly to help them understand the importance of responsible use of the internet rather than scolding.
- Discuss with children about netiquettes like not to post hurtful messages about others, not to post photos, videos and other information without permission of that person online; think before posting one's photos, videos or other data in social media and other places.
- Discuss and enquire if the child is spending too much time on the Internet or mobile, predominantly in instant messengers, forums, texting messages, etc.
- If aware, may use parental controls in devices and enable safe search in browsers while children are surfing the web.

- CBSE has recently released a manual on cyber security for learners. Parents may like to go through it on http://cbseacademic.nic.in/web_material/Manuals/Cyber_Safety_Manual.pdf and also scan the QR codes in the manual and watch the videos related to it.

3.2.3 Teaching and Learning

- Have a regular communication channel with the school (counsellor, teacher, other staff) to better monitor and help children in their progress.
- Try to create and maintain a routine for your children, particularly the younger ones with respect to all daily activities. This includes digital learning activities suggested by teachers and educational institutions as well.
- Consult with teacher, parents of other children and create simple yet effective learning plans by reflecting on following questions:
 - What would the children learn this week?
 - What digital resources, instructions and support children need to achieve the learning outcomes/lesson/unit?
 - How will children receive these digital resources, instructions and support?
 - How will I know that my children are learning?
- Ensure that your children use assistive aids (glasses, hearing aids etc.) during online sessions.
- Do not force the child to sit continuously in front of the TV, laptop, mobile and never stress or pressurize the child to continuously do online activities when the child is not ready for it.

3.3. Guidelines for Students

The most important stakeholder and primary beneficiary of school education are students. The following are guidelines for students to maintain health and mental well-being while ensuring continuity in learning.

3.3.1 Balanced Online/Offline Activities

- Maintain a schedule for sleep, food, noting time spent on the internet for learning and time spent on the internet for socializing etc.
- Besides online learning, every day read from textbooks and read other books as well
- As a follow up to online class, explore further through activities, experiments, creative expressions etc.
- Access the digital resources provided through the various national ICT initiatives (Listed in section 6)

- Take notes during the online class and review them offline
- Restrict time for surfing and regulate screen time for scrolling/reading information on every issue (not more than 2 hours for secondary level students)
 - During online activities take small breaks to stand up and move away from the screen. During this break, take a quick walk indoors, do few stretch exercises, practice deep breathing, catch up with family members etc. Do not continue to sit and surf or chat online.
 - Avoid using mobile/internet surfing 40 minutes prior to going to bed because engaging in passive communication just before sleeping makes the brain active and makes it difficult for the brain and body to relax.

3.3.2 Safety and Ethics Related Precautions

- Seek parents' permission before sharing any personal information on the Internet
- Be careful about cyber bullying and also stop yourself from bullying others.
- Follow netiquette and behave responsibly while online.

3.4 Supporting Online Learning of Children With Special Needs (CWSN)

Children with special needs may require assistance and support from respective teachers. Following are the guidelines that may provide clarity on ways to ensure a hassle-free access to online teaching.

3.4.1 Create/Curate and Share Content

- Develop/Identify and use resources like audio books/ talking books, TTS, sign language videos, audio tactile materials, etc.
- Prepare chapter briefs in advance so that the same may be shared with the CWSN prior to actual group teaching in online mode. Care should be taken to prepare these briefs in multiple formats such as text, audio (voice recorded), audio with visual support etc
- CWSN may be encouraged to watch programs in sign language e.g., the NIOS sign language TV channel and other such programs in sign language.
- Allow flexible ways (types, recorded, audio visual with gestures, adult/ sibling supported) of responding or submitting assignments/ completed tasks, projects, homework etc.
- The accessibility curriculum of NCERT may be referred for enhancing participation of CWSN in online mode (<https://ciet.nic.in/pages.php?id=accesstoedu&ln=en&ln=en>)

3.4.2 Measures to be taken for CWSN

While creating learning groups of students for online teaching learning, as far as possible separate groups for students with special needs, may be avoided and they be treated at par with peers.

Section-IV Guidelines for Physical Health and Mental Wellness during Digital Education

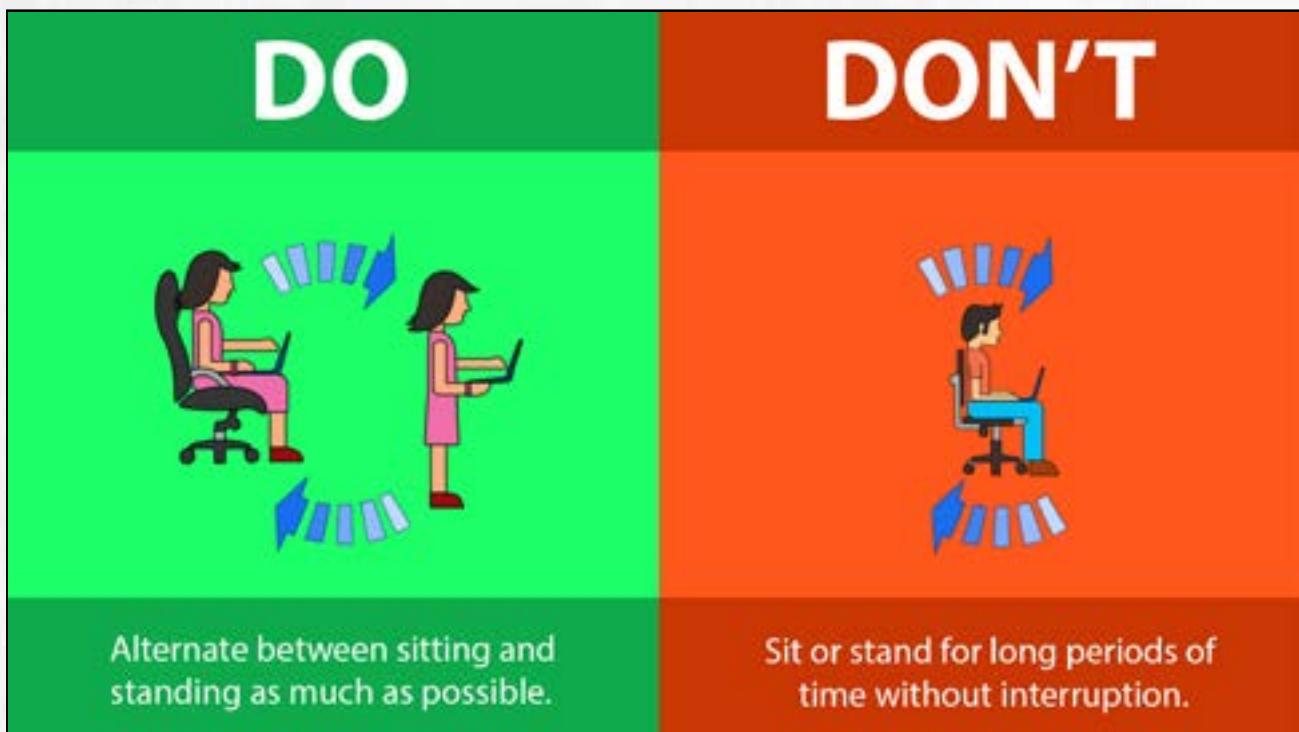
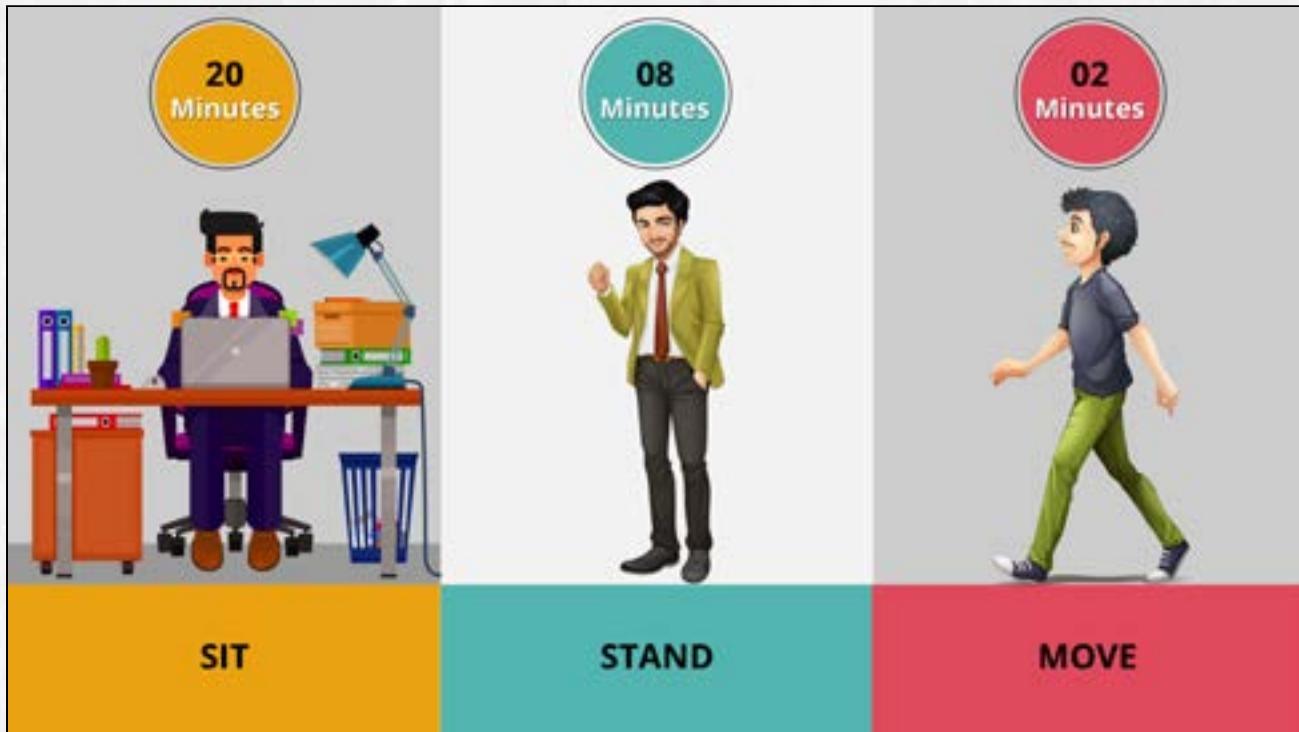
Adequate physical and mental health practices need to be adopted while pursuing digital education. Poor ergonomic practices, prolonged exposure to digital devices and lack of physical activities can have a negative impact on the physical and mental wellbeing of a person.

4.1 Ergonomic Aspects

The postures and practices a person adopts throughout the day while using digital devices can have a significant impact on one's health and well being. Staying in the same posture for prolonged periods is undesirable. Besides, prolonged exposure to digital devices can have negative impacts on other aspects of health and wellbeing also.

How to sit on a table for learning by laptop or mobile is very important. The following figures will show the best posture and arrangement for devices.







It can be a good idea to increase the height of laptop or mobile so that children remain straight while studying. A mobile stand or a few books can be used to make the mobile vertical.

- While working with computers or viewing TV, one needs to maintain proper posture:
 - Sit on the chair straight in an upright sitting posture, maintaining right angles at the ankles, knees, hips and elbows.
 - Head is forward facing, and balanced. Shoulders are relaxed and upper arms touch at the side of the body.
- Digital equipment needs to be placed at appropriate and convenient locations for easy access. For example, a television mounted too high on the wall can lead to shoulder pain.

4.2 Yoga, Exercises

- Practicing Yoga and physical exercises on a regular basis can help in strengthening the immune system as well as strengthening muscles, bones, and joints.
- A short break from Computer/Television/Mobile phone after every 30-60 minutes will help in reducing strain on eyes, exhaustion, improve circulation of blood and reduce stiffness in joints. One can walk around for a few minutes during such breaks. Switching one's eyes off the screen for 20 seconds after every 20 minutes is soothing for the eyes.
- While sitting in front of a digital device, one can stand up periodically and do some stretching exercises

4.3 Mental Wellness

- Malpractices on the internet and other safety, security and ethical issues may be reported to adults/teachers by the students. If teachers are also facing such issues they may report it to authorities and subsequently to the police.
- Students may be oriented to the responsible uses of the internet and how its misuse can cause harm to one's academic, personal, social and mental wellbeing .
- Teachers and adults may be vigilant enough to pick up clues for unusual behavior of any student and connect them to counsellors for help. Examples of such behavior are negative emotional states such as
 - A.** Depression manifested as dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, and inertia,
 - B.** Anxiety manifested as restlessness, fatigue, trouble concentrating, irritability, muscle tension, trouble sleeping (insomnia) and

C. Stress or tension manifested as difficulty relaxing, nervous arousal, and being easily upset or agitated, irritable or over-reactive, and impatient.

4.4 Learning Environment

- The learning environment needs to have proper lighting, ventilation. One cannot participate in a video call when there is too much external noise. Audio-video content should not be played in the middle of an online session. An earphone may be used if available.

Section -V Guidelines for State/UT Administration

The States will have to develop a short- and long-term learning plan based on an assessment of the capacity of the State systems, resources to support a multi-faceted remote learning model, including a combination of technologies and delivery mechanisms based on the data of students and their access to digital technologies.

Equity should be a top consideration in all planning efforts, as the many vulnerable students most likely lack the ability to access digital resources. The short-term plan should focus on the immediate response to continue learning for all students, the medium-term plan will prepare the schools to reopen and function normally. Following considerations may be kept in mind while planning digital education at the State/ Institution/Board level.

5.1 Need Assessment and Planning

- Design and develop need based strategies based on the availability of human resources and digital infrastructure, needs of students, teachers, parents and community to create appropriate digital learning environments.
- Prioritise capacity building of various stakeholders to adopt Digital Education.
- Depending on the model identified by states, various communication platforms (e.g. WhatsApp, Telegram, regular phone call etc.) or Learning Management Systems (MOODLE, Google Classroom etc.) could be chosen.
- Learning plan must be prepared with the details of each week's learning goals, associated content from digital platforms and public platforms, assessment strategies (Oral assessment, creative projects etc.). This may include the sequence of activities that teachers would undertake instead of elaborate lesson plans.
- During the COVID-19 period a lot of children have to stay inside the house for a long period which may have a huge impact on children's mental wellbeing. A regular conversation with children to ensure their safety and well-being through IVRS and regular conversation with teachers may be considered.
- Gap areas as well as difficult concepts/hard spots may be identified and eContents development on these concepts may be prioritised. The guideline for development of e-content for school education developed by NCERT can also be referred (https://ciet.nic.in/upload/Guidelines_eContent_v1.pdf).
- To the children belonging to low socio-economic strata, wards of migrant workers, COVID-19 affected families, support needs to be given for their physical and psychosocial well being through multiple modes including radio broadcast and IVRS. This will create a conducive environment for digital education.

5.2 Digital Resources

- Identify and curate digital resources available in national repositories like DIKSHA, ePathshala, NROER, NDL e-content portals of different states contents from Open Educational Resources (OERs) repositories like PhET, Khan Academy, MERLOT, Geogebra etc can be identified as per the need of the state and disseminate to all stakeholders.
- The prescribed printed energised textbooks (with QR codes) may be made available to all students to make digital education meaningful and effective.
- The States/ UTs following NCERT syllabus and textbooks may align with the Tv programmes and online education courses like SWAYAM being offered by NCERT. Likewise, States following the same set of textbooks and having a common medium of instruction like in case of Tamil Nadu and Puducherry/ Gujarat and Daman and Diu, need not create separate eContent. Rather they can share each other's content and system for digital education. Convergence of such efforts may reduce duplication of efforts and parallel structures.
- State specific web portals, TV channels, radio channels etc may be planned (in line with UP, Assam, Punjab, Haryana) to reach all stakeholders.
- A common online platform should be created statewise to enable students, teachers and parents to access or share information including posting queries and questions. Use of IVRS and chatbot based solutions may be more useful to address commonly raised concerns/ issues by students, teachers and parents.

5.3 Scheduling

- The Alternative Academic Calendars (AAC) developed by NCERT for primary, upper primary, secondary and senior secondary levels of education may be adapted/ adopted/customized as per the State/local curriculum and may be aligned to the specified learning outcomes.
- Time schedules for digital programmes may be planned keeping mind that there may be more than one child in a family, where digital gadgets may be limited and resources may not be easily shared among each child. A teacher can also be a parent and require time for her children. The teachers should not be overburdened in the name of digital education.
- While preparing a time table for television/radio programs, convenient time for children may be taken into consideration. Different time slots may be given for different classes
- The live/broadcasting and screen time must be level specific with regard to physical and mental health of the learner. However each session should not exceed 45 mins.

- Live classes may be scheduled on the weekdays only; the weekend can be utilised for the assimilation of learning on part of students & parents and planning on part of teachers, and unwinding themselves for the coming week.
- During the lockdown period usual vacation may be allocated for students and teachers.
- Besides following the digital education plan, students may be encouraged to do some creative assignments and learn some life skills. State board may plan the academic calendar in consultation with teachers.

5.4 Assessment

- Assessment may be made an integral part of online learning programs in order to ensure achievement of learning outcomes at each level.
- Schools can follow a process of continuous formative online assessment to enable students to learn and succeed. However, institutions like school boards and SCERTs may discuss the one-time offline school based exit examination system as well.
- Concept inventories (diagnostic question banks) for all subjects may be created and published widely so that teachers can make best use of them while administering formative assessments.
- Develop curriculum based online courses and create mechanisms to recognise and provide credits for such courses completed by secondary and senior secondary students .

Section-VI National Initiatives for Digital Education and Teacher Preparation

6.1 PM e-Vidya Program

Realizing the importance of digital education and its ability to ensure continuity of school education even in the current scenario, a programme for multi-mode access to digital/online education was launched on 17th May, 2020 under the PM eVidya Program. As a comprehensive initiative, PM eVIDYA envisions to unify all efforts related to digital/online/on-air education, benefitting nearly 25 crore school going children across the country. The initiative includes:

- DIKSHA- The nation's digital infrastructure for states/UTs for providing QR coded Energized Textbooks for all grades, MOOCs courses, and quality e-content for school education for students, teachers (One Nation, One Digital Platform)
- SWAYAM PRABHA- One earmarked TV channel per class from 1 to 12 (One Class, One Channel)
- SWAYAM- Online courses in MOOCs format for Open school or NIOS
- On Air- Extensive use of Radio, Community radio and CBSE Podcast - Shiksha Vani
- Special e-content for visually and hearing impaired: Developed on Digitally Accessible Information System (DAISY) and in sign language on NIOS website/YouTube
- Online Coaching: ITPAL for IITJEE/NEET preparation

6.1.1 DIKSHA- One Nation One Digital Platform

DIKSHA, a globally unique, made in India initiative for effective teaching and administration has increased its footprints manifold since the time of its inception. As on date, almost every States/UT utilizes DIKSHA for augmenting teaching and learning processes via curriculum linked curated content and provides access to 80,000+ content pieces across grades, mediums and subjects. In a span of less than 3 years, DIKSHA has gained unparalleled momentum and is gaining prominence amongst end-users.

The primary audience of DIKSHA are students, teachers and parent communities due to the ability of DIKSHA to break the barrier of access and provide contextualized content in 18 languages. Moreover, the digital content on DIKSHA is freely accessible and can be further distributed without incurring any cost. Even the consumption of content does not require the users to invest in proprietary tools or technology, ensuring that the content on DIKSHA can be used by one and all and even at the grass root levels. DIKSHA can be accessed at <https://diksha.gov.in/>

- The QR codes imposed in textbooks provide a ready gateway for any new/modified content pieces being uploaded on DIKSHA. E-content tagged to 1900 QR coded Energized Textbooks of 27 states/UTs are on DIKSHA.

- Due to ability of DIKSHA to provide contextualized and engaging digital content, the number of page hits on DIKSHA increased 11 times to 70.4 crore page hits from 5.6 crore hits in span of less than 2 months from 23rd March'20 to 17th May'20
- The extensive usage of DIKSHA across the nation has resulted in DIKSHA App emerging as one of the top education apps, on Google's app store, in India, ahead of leading long-time players such as google classroom and others.
- Realizing the scale and potential of DIKSHA, multiple institutions, organizations and individuals over the years have expressed their interest in contributing digital resources on DIKSHA. During DIKSHA review meetings by Government of India also the use of crowdsourcing tools to obtain high quality content under VidyaDaan from expert teachers/individuals and organizations has been stressed upon. Hon'ble HRM has launched VidyaDaan program on 22nd April 2020 for inviting e-learning contributions.

6.1.2 TV Channels- SWAYAM PRABHA

SWAYAM PRABHA is a group of 32 DTH channels devoted to telecasting high quality educational programmes. The programmes cover school education across grades providing modules for teacher's training as well as teaching and learning aids for children of India through 4 channels to help them understand the subjects better and help them in preparing for competitive examinations for admissions to professional degree programmes.

It focuses on providing one channel per grade with a sample weekly schedule to help teachers and students understand the modules to be emphasized upon during the week. The schedule will be available on <https://www.swayamprabha.gov.in/>. Moreover, to maximise the reach of the content, SWAYAM PRABHA is available in Hindi, English and Urdu.

6.1.3 SWAYAM

Under the Digital India Initiative of Government of India, NIOS has been identified as one of the partners for the National MOOC initiatives for "Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)". The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged.

- NCERT has launched 34 online courses for students (Classes XI-XII) and teachers on the SWAYAM portal.
- NIOS offers 18 MOOCs courses at Secondary level and 20 courses at Senior Secondary level.
- The MOOCs are developed using the four-quadrant approach – text in PDF, a teaching video, self-assessment exercises; and discussion forum.

- These can be accessed at www.swayam.gov.in

Students and teachers can access all the course modules (text, videos and assessment questions) for free by logging on to: <https://swayam.gov.in/>

6.1.4 Radio and Community Radio

- Internet radio is an audio service that is accessible from anywhere in the world. Mukt Vidya Vani (MVV) i.e. Open Education Radio facility will provision educational and informational content for better learning. The web radio will ensure learners with a stream of audio that can be paused/replayed. NIOS organizes live interactive web-streaming of Personal Contact Programmes (PCPs) for various subjects of Secondary, Senior Secondary and Vocational courses for its learners through MVV. The recordings of these audio PCPs are available 24x7 on NIOS website at <https://nios.iradioindia.in>
- **Radio Vahini** FM 91.2 MHz, the Community Radio Station of NIOS is a means of extending education to school dropouts, learners enrolled through ODL, urban women and to marginalized sections of the society with access to radio. Radio Vahini broadcast is available 24x7 and reaches up to 6-10 kilometers covering approximately 10 lakh listeners including learners.
- **CBSE Podcasts: Shiksha Vaani** is an audio-based learning initiative of CBSE and is available via Android App store. The podcasts cover various subjects of secondary and senior secondary level and are available in English and Hindi. As on date, more than 400 audio files mapped to NCERT curriculum are available on Shiksha Vaani.

6.1.5 Special eContent for Visually and Hearing Impaired

- NIOS offers content for specially abled students such as content in Indian sign language for hearing impaired learners and ePUB and DAISY enabled 'talking books' for visually impaired learners.
- NIOS has developed more than 270 videos in sign language across 7 subjects to provide educational access to learners at secondary level and Yoga courses. Videos can be accessed at <https://www.youtube.com/playlist?list=PLUuOqp8QaNB1SkqZURX0RGcaomsPfkDsl>

6.1.6 Online Coaching

The Department of Higher Education has provisioned for online learning for preparation of competitive examinations to bridge the divide among the students due to private coaching.

- IITPAL (IIT Professor Assisted Learning) is a series of lectures prepared by IIT professors to help students prepare for IIT JEE. IITPAL videos are broadcasted on Swayam Prabha channels

- National Test Abhyaas is a personalized adaptive learning application for students enrolling in competitive examinations conducted by the National testing agency.

However, across these channels, third party e-content and digital content are available through different You-Tube channels which should be avoided to ensure availability of highly curated and age-appropriate content for the overall development of students and teachers.

Conclusion

In a country like India characterised by multifarious diversity and constraints in terms of availability of resources (ICT infrastructure, electricity, budget, skilled manpower), switching over to digital modes of education is full of challenges. A local, decentralised planning and implementation is the need of the hour for which various States/ UTs level organization such as SCERTs, School Boards, DIETs, BIETs, CTEs, IASEs and National level organisations such as NCERT, CBSE, NIOS, KVS, NVS need to join hands for a change that will sustain post COVID-19 also. Such collaboration will help to continuously enhance the quality of education and skill development of the large student population and we can leverage the demographic dividend in coming years.

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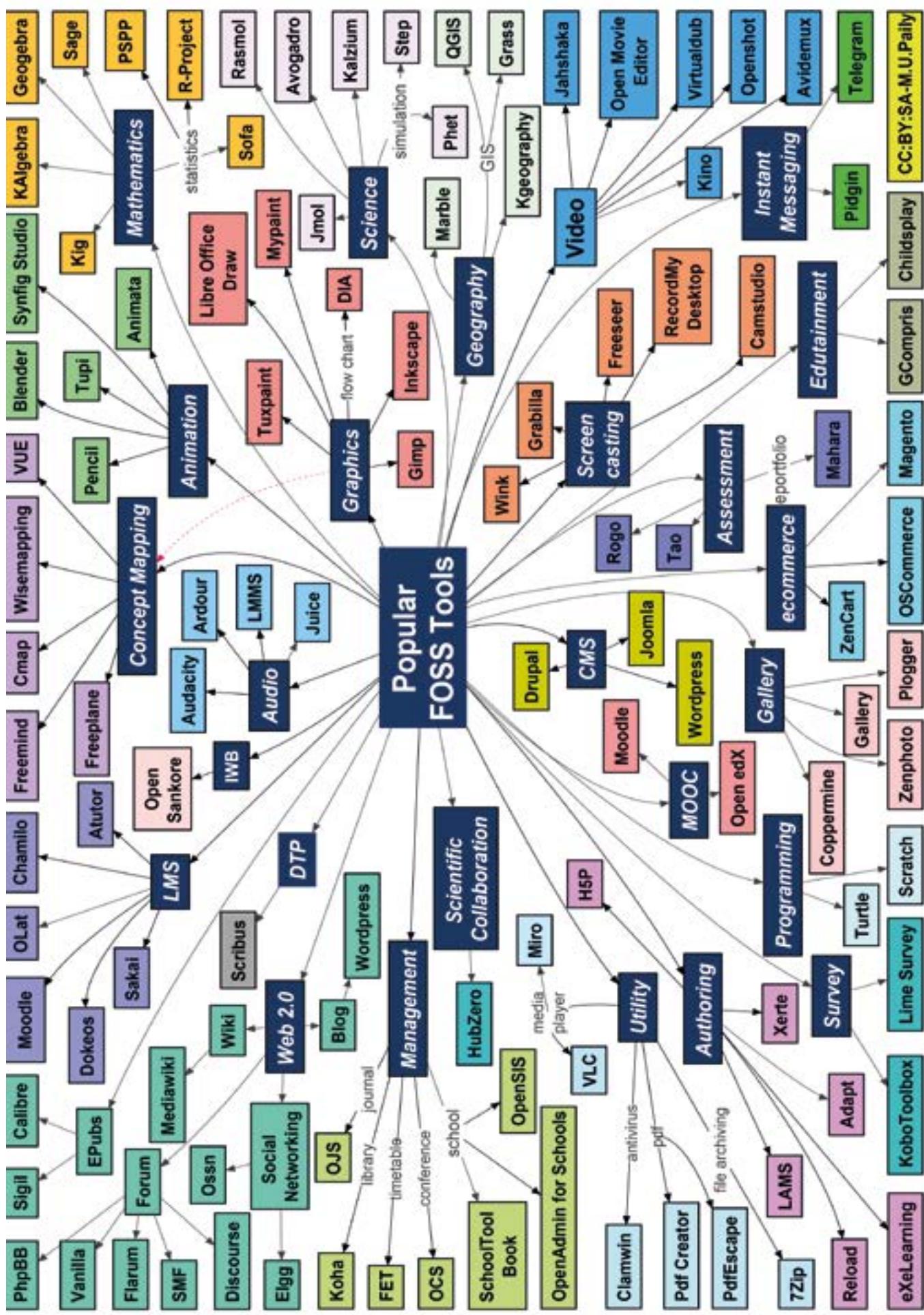
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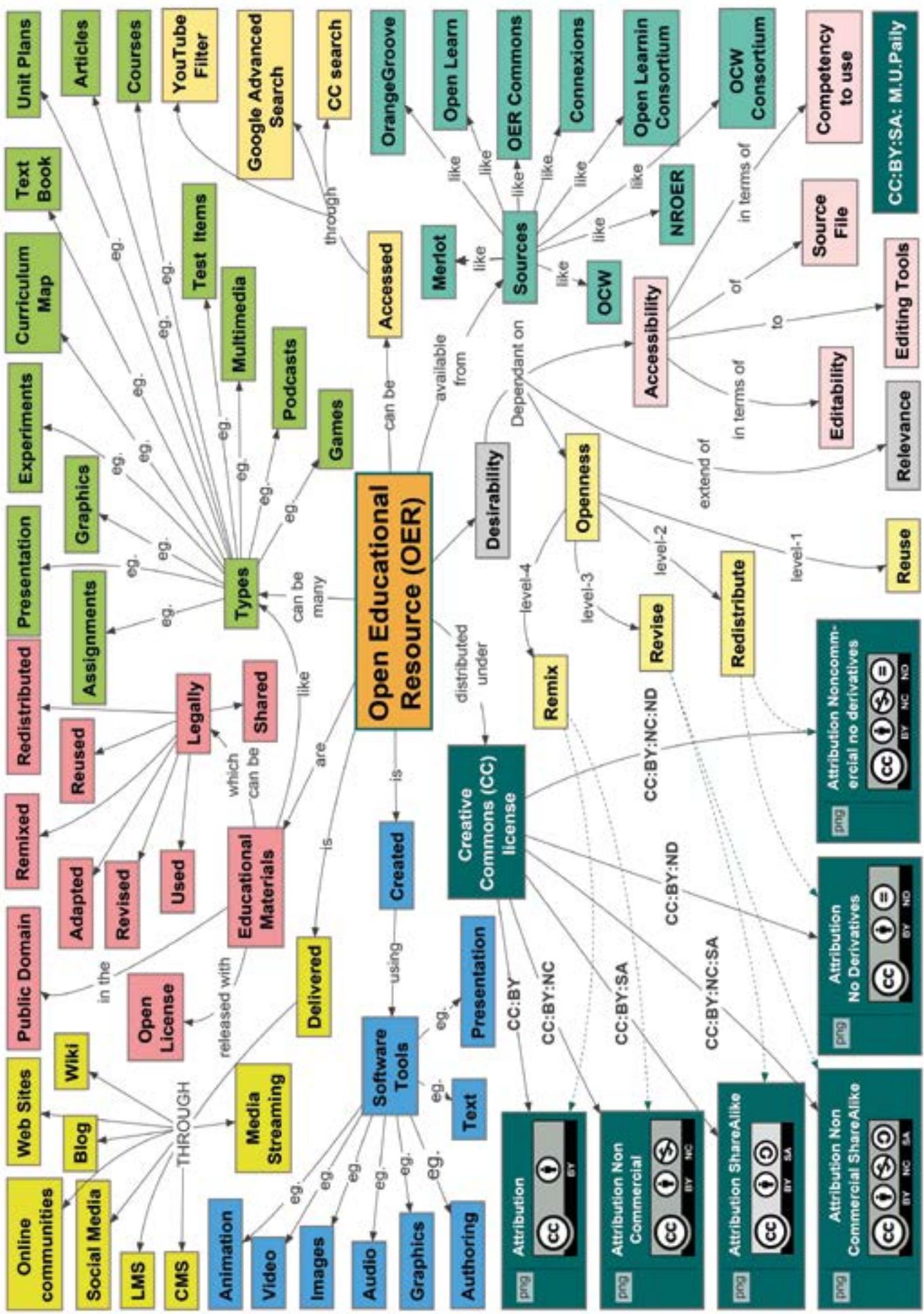
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