**6.3 SMART CLASSES**

**What is a smart class?**

* Smart class is nothing, but a unique and latest way to teach children.
* Smart class is an advanced technology for implementation in schools.
* It gives tools and other contents for students’ learning, using latest media presentations.
* A smart classroom contains an instructor equipped with computer along with internet facility, in addition of having CDs/DVDs and audio-visual equipments.
* A white board screen is used instead of a black-board.
* A projector is fixed on the roof so that its rays are reflected upon the screen.
* In addition, white-board acts as a replacement of black-board. A teacher can write over the screen of it with the help of a specially designed pen called stylus.
* In this new era of technology smart-class is a step toward the development of education.
* It is a solution designed to help teachers in meeting with new challenges and developing students’ abilities and performance.
* It helps the teachers to access multimedia contents and information that can be used for teaching students more effectively.

**Need to adopt creative pedagogy**

* Adopting technology in education will enable both students and teachers to create an enhanced learning experience.
* Teachers will communicate and transfer knowledge more effectively and students will have a better experience and promised knowledge retention.
* Use of digital tools ensures better digital literacy allowing more collaboration and innovation among students.
* Digital tools enable teachers and educators to foster a creative learning environment to turn passive learners into active participants, ignite innovation and make education more compelling, personalized and accessible.
* E-learning plays a crucial role in making education interactive and interesting.
* It is for the teachers, to learn and adapt their teaching methodology to control digital tools.
* The focus needs to be on enabling teachers to integrate the tools into their curricula.
* They are required to develop a desire to facilitate a creative pedagogy with the use of right tools and technology.
* The word *“creativity”* should invoke in them certain imagery, joyfulness, productiveness.
* If the teachers are ill equipped in using the technology, they may not be able to stimulate creativity.

*They are therefore required to make their lessons planned and have practice in advance for making their lectures interesting, stimulating, full of relevant information gathered from all resources, including internet, in order to deliver it without waste of time in the class-room.*

**Essential smart class tools**

* Digital classrooms are modern-day pedagogy method that brings the concepts to virtual reality.
* This method of teaching helps students to break out of their shells and become good communicators.
* Listed below are a few classroom tools/websites those are essential for a transformational learning experience.

**1. Desk top or a laptop**

* In a digital classroom a desktop or a laptop acts as the central system that stores information and also essential for managing lessons.

**2. Visualizer**

* A visualizer or document camera is a simple to use and flexible digital learning tool that allows teachers to project on large screens.
* This tool helps to display a wide variety of information ranging from a page in a book, a scientific diagram, a flower in all its glorious colors, or any other specimen and gives a cleverer view to help students understand complex features.

**3. Interactive whiteboard**

* Whiteboards have replaced the traditional blackboards and a digital classroom without an interactive whiteboard is incomplete.
* A teacher can project any subject on the touch-sensitive whiteboard surface with the help of a projector and a computer.
* They can conduct lessons using their finger or with a pen or stylus.
* Made to match with the growing exposure of children to smart phone and other technology, the whiteboard comes with an exciting range of features that add a sense of excitement to each classroom session.

**4. Interactive Projector**

* It is portable solution that helps convert any surface (existing projector screens, whiteboards or wall surface) into an interactive surface.
* An interactive pen is required to draw point or click just by touching the screen directly.

**5. Simple Projector**

* We can turn any plain flat surface into an interactive one with a simple projector.
* A projector connected to a computer or laptop can display the content on a computer’s screen, on to a whiteboard or a screen.

**6. Digital camera**

* It can be used to enhance education inside or outside of a classroom.
* It makes learning a fun.
* Students can take pictures during the visit of a place (which their lesson requires to visit), field trips, events, historical places or geographical areas of importance and more, thus improving their learning experience.

**7. Speakers**

* Speakers ensure that the teacher is audible to the whole class and no one misses out on important point.

**8. Graphic Tables**

* Tables and e-readers are very popular with students. These devices not only encourage reading, but also give students the option to refresh their lessons any time.

**9. Big interactive LED/LCD Panels**

* Children love interactive screens.
* It does not matter if it is TV, video console or computer screen.
* Digital learning involves 2D and 3D animations, graphics, audio and video presentations for every subject.
* A smart classroom that is digitally equipped with big interactive LED or LCD panels can better project these graphic representations.

**10. Multimedia Pen/stylus**

* A multimedia pen or stylus is a great tool to support a child’s creative genius.
* These handy tools can be used to create art work or to add more precise text or drawings to an image or diagram.
* These innovative tools keep children engaged for hours and enable learning at the same time.

**11. Wireless microphones for convenience**

* A wireless microphone eliminates the shackles of dealing with long coils of electric wires which often lead to children tripping and falling. Wireless microphones give us more freedom for movement with free hands.

**12. Student Response System**

* Save time and cut down on paper cost with a student response system.
* Great for a classroom with large number of students.
* These systems help evaluate students’ aptitude accurately within few seconds.

**13. Feedback Assessment Tools**

* AnswerGarden, Ask3, and Animoto are popular feedback assessment tools which are ideal for online brain storming or polling.
* Teachers can use these Apps to analyze a student’s thoughts or review answers to specific question.

**14. Educational Software**

* There are so many educational soft wares which support major academic curriculum.
* These soft wares also enable educators to streamline the students’ admission process, automate attendance, set exam schedules and many such activities.

**15. Digital Podium**

* A digital podium is a modern day lecture stand that comes equipped with various media components/devices that enable an uninterrupted learning session.
* Some of the components are, a public address system fitted with amplifier, speaker and microphone.
* The podium also comes with integrated UPS for uninterrupted power supply, a lecture recording system, and ample storage space for visualize, keyboard drawer and more.

**16. Printer**

* A printer is an important part of creating colorful assignments, reports or crafts and students are more enthusiastic about seeing their work in all its colorful glory.

**17. OMR (Optical Mark Reader) Scanner**

* These OMR scanners can also save scanned images on computer which are then processed by OMR software.
* OMR Scanners are used for scanning OMR sheets or forms, especially useful while conducting examinations for a large group of students.

**18. Cloud Based Communication System**

* The use of cloud based communication system in a digital classroom through video conferencing and unified communication platforms that can transform students to **virtual field trips** they wouldn’t be able to take otherwise.

**19. Skype**

* Skype has revolutionized the world of video conferencing and it’s **“in the classroom”** program enable teachers to expand their curricula beyond classroom.
* Skype also acts as a platform that allows students to interact with international speakers and educators.
* The fun **’Mystery Skype’**, educational game involves two classrooms that must guess the location of their Skype partner by asking each other questions.

**20. iThoughts**

* iThoughts is Apple’s mind-mapping App that allows educators to visualize, see and understand how students think while discussing ideas or coming up with solutions.

**21, Kahoot**

* Teachers can combine fun and learning by designing questionnaires, surveys, quizzes and other interactive games with **Kahoot.**
* Students can appreciate or answer questions using a range of devices.
* It is also popular among teachers across the globe as it helps in spreading up the learning process especially that of a foreign language.

**22. Google Knowledge Graph**

* Google Knowledge Graph live online tutorials, lesson plans, interactive class materials and many resources
* New developments in Google Knowledge Graph, such as voice search and Carousel have made this product even more user-friendly.
* The ‘Google A Day’ daily trivia challenge is a great way for educators to incorporate research-skill practice into a fun daily activity.

**23. Empressr**

* It is a free online application that allows students/teachers to create visually rich presentations.

**24. Socreative**

* Socreative supports educators with a range of useful tools like student performance tracker, speedy and automatic tools, real time information reports, personal learning community and more. Link of the App is
* <http://www.socrative.com/apps.phb>

**25. Present.me Edu**

* Present.me offers a fun way to encourage students to get involved in their own learning by creating visually rich presentations.

**26. Wikispaces**

* It is social writing platform that makes it easy for students and teachers to work side by side
* Can be used to measure student contribution and engagement in real time.

**27. Yammer**

* Works in groups, share files, co-edit content and more with yammer.com’s free basic plan.

**28. haikuLearning**

* haikuLearning is a free cloud-based education site for teachers that provides content sharing assignments, feedback, grading and other rich tools for the classroom.

**29. Cacoo (cacoo.com)**

* It is very useful in a wide variety of academic disciplines.
* We can collaboratively create and edit flowcharts and diagrams online real time with this very useful tool

**Concerns about smart classes**

**1. Costly affair**

* There is a concern among various schools about the pace of changing technology. After every few months new programming language, new software are being developed. A substantial amount is required for getting the technology upgraded, so the technology is hard to maintain in financial terms.

**2. Unmanageable**

* Upgraded technology requires upgraded equipments. This task is highly pocket punching. It is not possible every time to upgrade according to the need of the hour.
* Man power is also needed to maintain the whole infra-structure.
* The more there are students, the more a school needs internet band width. All these facts act as stumbling blocks.

**3. Handling issues by parents**

* Many a times parents face problems in handling the school work because of technology, familiarity becomes an issue.
* The last generation is comparatively slow in catching new technology in comparison to Generation X.

**4. Interactions and social issues**

* The social dynamics gets altered in a smart class. There is no face to face that is real time interactions among the peers in tech-driven classroom.
* Social interaction forms an integral part of human society, without it, human morals and ethos become hard to develop.
* There is a need to inculcate these values among the students.

**5. Dependency on technology**

* Technology makes a person highly dependent
* When it comes to the students, it acts as a crutch.
* Everything comes in handy.
* A child needs not to bother much about completing any task, hence problem solving capacity declines.

**6. Actual learning process**

* Smart class lowers the test standardization scores.
* It is found that many pupils lack the basic knowledge of Math and English while competing for creativeness in a tech-driven class.
* A smart class also does not ensure that whether a child is improving in his/her smartness or creativity. It becomes quite mechanical while working on and with a gadget in a particular direction.

**7. Lessening human values**

* A child using technology lowers the importance of a teacher.
* The child becomes used to the theory that *“it is the computer or the gadget that is teaching”*, the teacher is merely a medium.

**8. Efficient infra structure**

* To setup a smart class, it is highly crucial that the instruction has enough facility to carry on with the project.
* Technology requires long term investment, both monetary and mental.

**9. Understanding**

* There is no doubt that an understanding between two human beings is much more than a machine and its user. After all manmade the machines, machines did not made man.

**10. The ultimate analysis**

* All these opinions and arguments point to a pertinent question that “whether a smart class is actually beneficial for a child or not”?
* Is it really making an educational growth in the life of students, or making it easy for a child to go hand in hand in this fast moving world?
* There are many questions that prick our conscience. We need to get out of the dilemma and work towards making education more accessible and feasible to all in whatever way we can.

**11. View points**

* It is justified, if we say, “smart-classes are not the only way of learning”?
* Similarly making comments like “smart classes are fruitless and a total waste of time’ is also not acceptable”.
* It is suggested that a blend should be kept between the two.
* Ethical and moral enrich values should be merged with modern techniques and the result should be delivered to the students.
* This experiment will result in a subjective solution to many problems.
* It is also suggested that first of all mark the subject with difficulties, then arrange smart classes for it, and feel the different experience.

***A classroom has students with varied power of understanding and learning, and studying from notes and other materials becomes difficult for some students. Get the use of smart classes and modern technology eases the learning process for all students.***