ICT in Teaching and Learning

ICT

It is an umbrella term that includes

any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning.

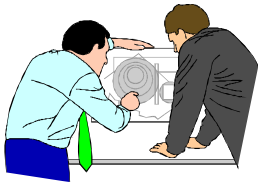
What is effective ICT

- Engage & enthuse learner
- Raise achievement
- Enable better understanding
- Foster improved communication
- Have a positive impact on workload

Necessity of ICTs

- Globalization of
  - Economy
  - Information
- Tech Innovations
- Knowledge-based
  - Economy
  - Society
- Escalating Demand for Education

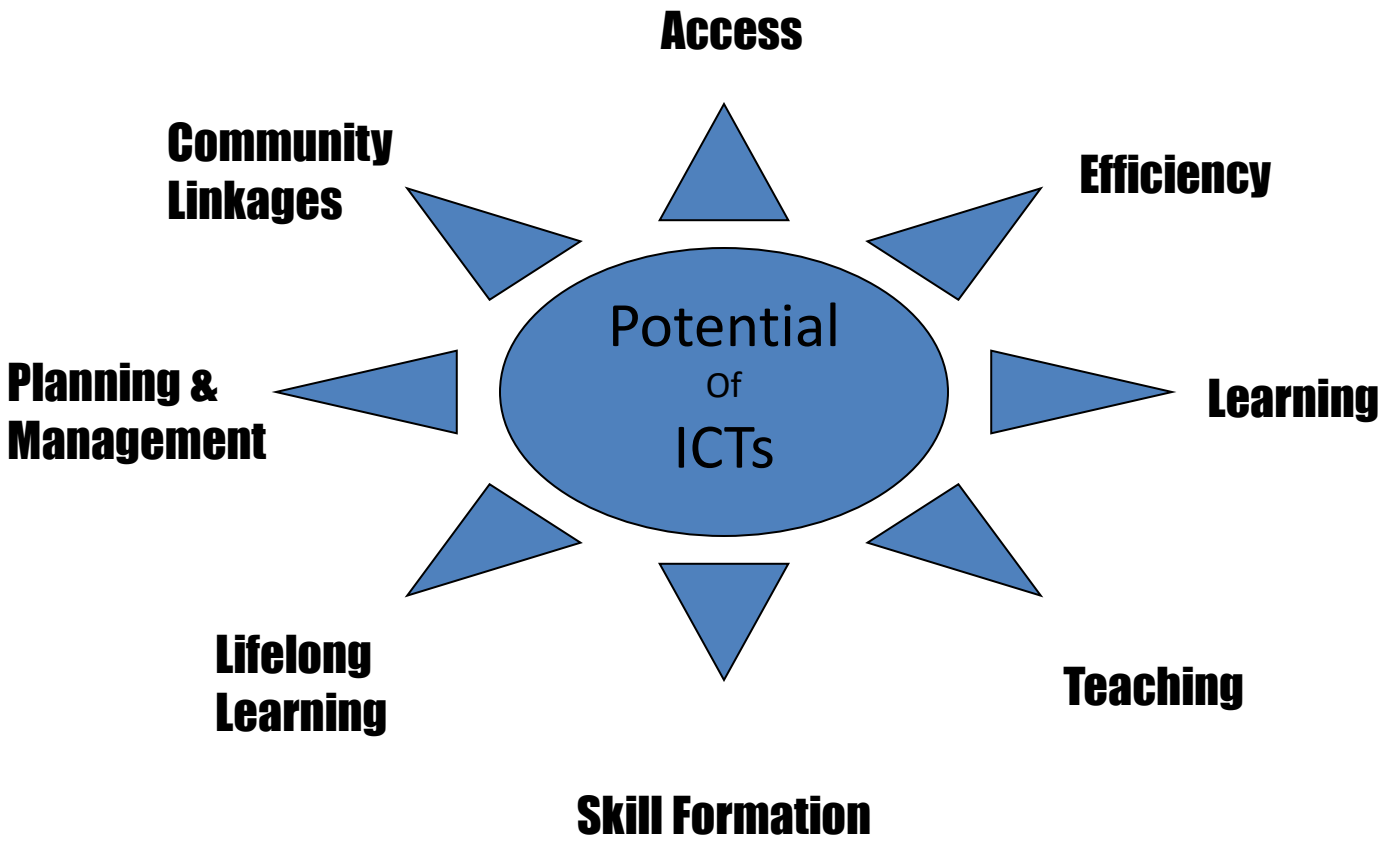
Effective Learning



For All

Anytime

Anywhere


Access
Efficiency
Learning
Teaching
Skill Formation
Lifelong Learning
Planning & Management
Community Linkages
Potential
Of
ICTs

VIRTUAL EDUCATION

It is instruction in a learning environment where learners & teachers are separated by time & space and teachers provide course content through internet

- VIRTUAL CLASSROOM
- AUDIO BASED COURSE
- VIDEO BASED COURSE
- ANIMATED COURSE
- WEB SUPPORTED TEXTBOOKS
- PEER TO PEER COURSE

The Role of Teachers in ICT Education

- Teachers are indispensable for successful learning about ICT, and learning and teaching through ICT.
- Empirical studies have established that teachers' ability and willingness to use ICT and integrate ICT into their teaching is largely dependent on the professional development they receive
- Teaching through ICT entails the development of nationally relevant context software for school use.

Functions of ICT

- Speed and automatic functions:
  monitoring, controlling and feedback,
- Capacity and Range:
  richness of resources, the power of communication
- Interactivity:
  dynamic feedback and immediate response to changing inputs
- Learners to progress at their own pace
- Motivate learners
- Solve the problem that where you live may determine what you can study
- Reduce teachers' workload
- Link schools/teachers with parents
- Line students to world experts

Emerging Methods of ICT Integration

I. **E-learning**: - Is a learning program that makes use of an information network- such as the internet, an intranet (LAN) or extranet (WAN) whether wholly or in part, for course delivery, interaction and/or facilitation. Web-based learning is a subset of e learning and refers to learning using an internet browser such as the model, blackboard or internet explorer (Tinio, 2002).

II. **Blended Learning:** - Refers to learning models that combines the face-to-face classroom practice with e-learning solutions. For example, a teacher may facilitate student learning in class contact and uses the model (modular object-oriented dynamic learning environment) to facilitate out of class learning.

III. **Active learning**: - ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information in order to provide a platform for student inquiry, analysis and construction of new information. The learners therefore, learn as they do and, whenever appropriate work on real-life problems in-depth. Moreover, ICT makes the learning less abstract and more relevant to their life situations. In contrast to memorization-based or rote learning, that is the feature of traditional

pedagogy; ICT-enhanced learning promotes increased learner engagement. ICT-enhanced learning can also be 'just-intime' learning that the learners choose what to learn when they need.

IV. **Collaborative learning: -** ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. Apart from modeling real world interactions, ICT-supported learning provides opportunity to work with students from different cultures, thereby helping to enhance learners teaming and communication skills as well as their global awareness. It models learning done throughout the learner's lifetime by expanding the learning pace to include not just peers but also mentors and experts from different fields.

V. **Creative learning:** - ICT-supported learning promotes the manipulation of existing information and the creation of real-world products rather than the duplication of received information

VI. **Integrative learning:** - ICT-enhanced learning promotes a thematic integrative approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice, which characterizes the traditional approach.

VII. **Evaluative learning:** - ICT-enhanced learning is student-directed and diagnostic. Unlike static, text or print-based education, ICT-enhanced learning recognizes the presence of different learning pathways to explore and discover rather than merely listen and remember.

VIII. **U-Learning:-**Ubiquitous learning, also known as u- learning is based on ubiquitous technology. The most significant role of ubiquitous computing learning in u- learning is to construct a ubiquitous learning environment, which enables anyone to learn at any place at anytime. Some says that the evolution of ubiquitous learning has been accelerated by the improvement of wireless telecommunication capabilities, open network, continued increases in computing power, improved battery technology, and the emergence of flexible software architectures. This leads to u –learning that allow individual learning activities embedded in daily life. However it is clear that there is clear definition of u- learning due to rapid changes of learning environments.

Advantages of ICT for Teaching

- Presenting information and ideas in a dynamic, attractive and exciting way.
- Explaining some difficult concepts and knowledge easily.
- Ensuring clear delivery of teaching points.
- Assisting in the preparation of teaching materials.
- Assisting with time management in class.
- Helping to cater for students with difficult abilities.
- Helping to develop students' co-operative learning skills.
- Assessing students and using the information gained to extend their learning.
- Sharing ideas, communicating with the outside world and getting new information about the subject being taught.

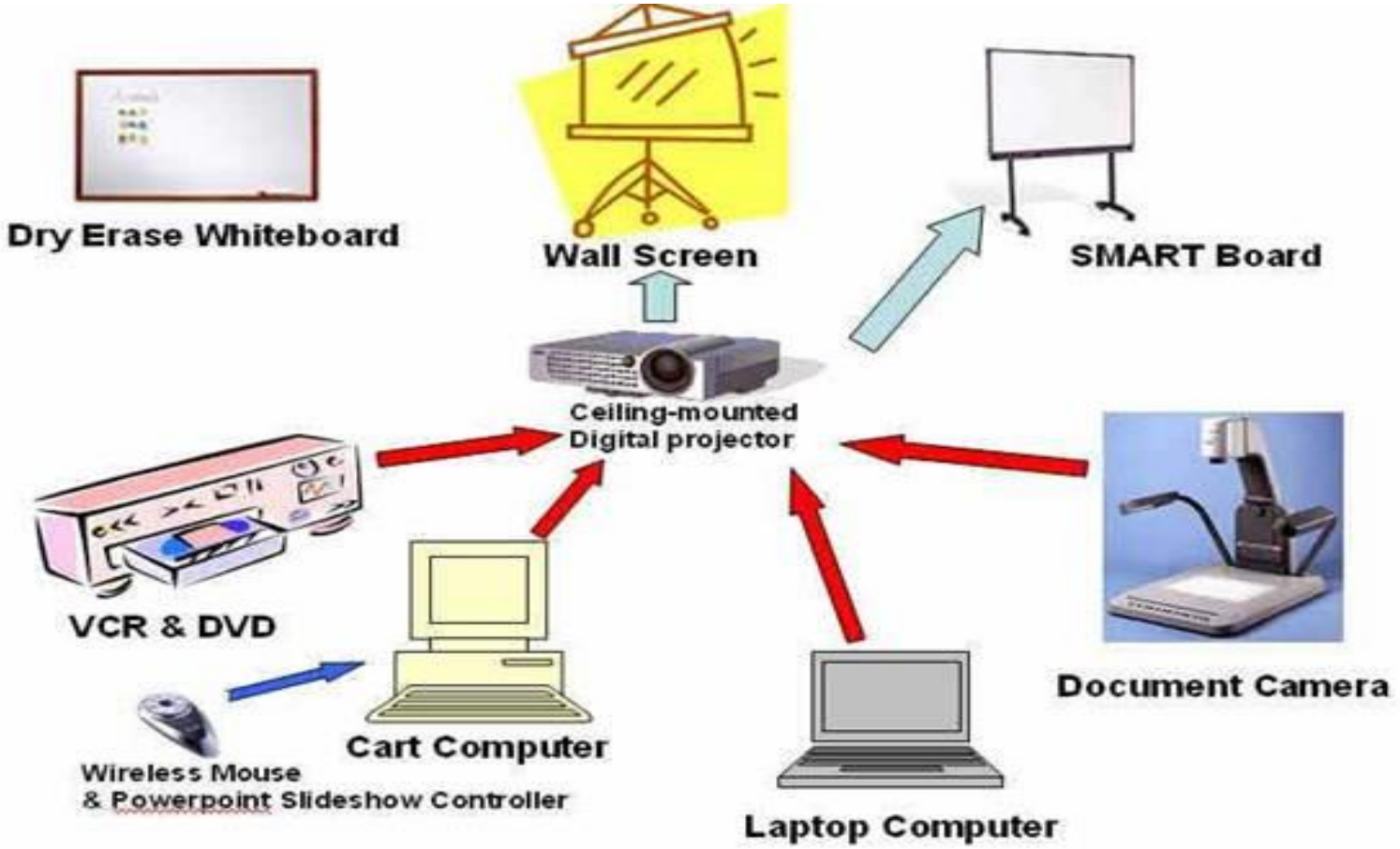
- reinforcing students' learning in a variety of ways.
- Allowing students to change things easily if they make mistakes, want to add or delete something, try out ideas or make improvements.
- Enabling them to learn by themselves at their own pace.
- Saving time.
- Allowing students easy access to a wide range of information.
- Helping them to interpret data and communicate what they have found out.
- Enabling them to learn subjects that are difficult or dangerous to teach.
- Enabling them to connect with the outside world.
- Being patient with students when they make mistakes or do not understand.
- Improving their thinking.

Smart Classrooms

Smart Classroom contain the following items such as:

- ✓ Furniture (Collaborative furniture),
- ✓ Computers,
- ✓ Photocopiers,
- ✓ Scanners,
- ✓ Lighting Accessories,
- ✓ Projectors,
- ✓ Speaker,
- ✓ Screens, etc.

Examples of the Typical Smart School/Classrooms



Typical contents of a Smart Classroom

Examples of the Typical Smart School/Classrooms

Typical Teaching and Learning session in a Smart Classroom

Examples of the Typical Smart School/Classrooms

Sample of Collaborative Furniture

Examples of the Typical Smart School/Classrooms

Lighting in a Smart Classroom

Examples of the Typical Smart School/Classrooms

Projectors and Screens locationsin a Smart Classroom

Challenges

the significant advantages, adoption and integration of technology into our educational system make a positive change but still very low. In institutions where technological facilities are provided, for several reasons are either not functioning or functioning below expectation.

Thank you