

THE USE OF ICT IN GEOGRAPHICAL STUDY

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ABSTRACT

In our traditional teaching work, teachers always expect that what they taught would last their students. But, in 21st century because of rapid development in technology our students are already digitally aware and they need not to learn more things in their mind by traditional methods. Now digital literacy is more than a skill for the young people and it plays a pivot role in their lives. Therefore, ICT becomes a very effective tool in teaching and learning process. ICT is very useful for imparting geographical knowledge and encouraging geographical thinking. It provides access to a wide range of online digital maps of different types and satellite imageries to the teacher as well as learners. ICT helps its uses to understand physical and human geographical patterns, distributions and processes in a better way. In this paper, role of ICT will be described to finding of major tools to be used in the study of Geography; ICT applicability in the teaching of Geography subject; its benefit to the learners and researchers; cartography and other practical work of Geography.

Key words: ICT, e-resources, A/V Lecture, RS and GIS, GPS, Sensors, Cartography.

❖ Introduction

Geography is the study of Earth and environment with respect to the Human beings and describes the Human-environment relationship. It provides valuable and complete information about the places of entire world. Maps, diagrams, tables, charts and graphs are the main tools of Geography. It modifies also its tools and methodologies as per the requirements to understand geographical scenario in better way. But there are always more than maps and diagrams to study the real world. Field surveys and educational tours fill this requirement since a long period. But it is not always possible to perform this type of study work. In 21st century ICT is a powerful tool to fill this requirement to the study of Geography.

ICT stands for “Information and communication technology”. It means we acquire information and communicate our ideas to the people with the help of digital data, computer and gazettes. Use of ICT provides a real world experiences to the learners with updated information. It enhances the effectiveness of classroom teaching. It also provides a limitless learning to the learning in his friendly environment. It provides a wide platform for the collection of an extensive range of primary and secondary geographical data also. Today, because of rapid technology change we have many tools to ease our work and save time. ICT can be used in the field of Geography in the following way-

❖ **ICT: Major tools to be used in Geography Study**

1. Hardware Based

- Computer
- Mobiles and Gazettes
- Satellite
- 3-D Printers
- Camera
- Scanner
- Interactive Boards
- Google Glass
- Photo-sensitive Glass
- Storage Devices

2. Software Based

- Microsoft Word and Excel
- Statistical Software
- Graphic Software
- GIS and Cartography Software
- 3-D Mapping and Model Making Software
- Educational Games

3. Process Based

- Remote Sensing
- GPS
- Sensors

4. Internet Based

- E-Resources
- E-Journals
- E-Books
- Online Teaching and Learning, moodle
- Google Map
- Google Earth
- Bhuvan
- Google Cloud
- You tube Audio/Video Lecture

❖ ICT: In Teaching of Geography

There is a large scope of ICT in the teaching of Geography subject. Through Microsoft word and excel a Geography teacher can present statistical data in well managed tables. Even Chart and diagram making become easier and effective in Microsoft excel. Teacher can search e-resources, e-books, e-journal online to enrich and update his knowledge. He can download A/V lecture for his students. A Geography teacher can explore the world map with the help of Google- Map, Bhuvan and Google-earth in his classroom teaching. He can create the online groups of his students on 'moodle' and launch many short courses time to time. Group teaching is also possible and he can engage a large number of students in their study. Social network websites can play a nice role in the field of teaching. It is very easy to teach Cartography on computer with the help of many GIS (Geographical Information System) and Cartography softwares. He can link his teaching to student's mobiles/PCs. Google-glass, interactive-boards and photo-sensitive glasses can make teaching very interesting. Satellite data can be explored very effectively and its analysis is quite easy on this computer based ICT. Teacher can evaluate his students online in many ways and see the progress of each student separately with the help of ICT.

❖ ICT: In Learning of Geography

As Geography is the science of places, so students can explore and compare the world's places online through Google-map, Google-earth and Bhuvan with their updated information. They can listen and watch online audio/video lectures which they missed in their classes or they need more information. Books, Journals and chapters are now in their approach through e-Library or e-Resources. They can play educational games available on internet to learn a particular subject/topic in an effective manner. Many Geographical courses are approachable with

the help of ICT in which a Geography student can take admission online hundreds of kilometers away from his native place. In his practical classes he can draw graphs and diagrams on his computer even though he is not good in drawing. ICT is also helpful to clear ideas of sensing technology in Remote Sensing (RS) and Global Positioning System (GPS) to the students. Arc-GIS, ERDAS imagine, grass etc. computer softwares help the students to understand the satellite image processing and enhancing. Models and Modeling in GIS, Digital terrain mapping, Visualization, Geospatial analysis etc. work can be done in cartography class of Geography practical through ICT only. The students can share their data/information to others and store online/offline also.

❖ **ICT: In Geographical Research work**

ICT provides a very good platform of primary and secondary geographical data collection for research also. Many statistical websites collect various types of Geographical data worldwide. Some Govt. websites also store their data on their portal for users. It may be available free or geographers can purchase these data from these websites by providing his authentic information. Some types of surveys are also available online. This type of online data collection saves the researcher's time and money. Some websites are known for data arrangements and analysis works. These are very helpful in research process. Through ICT a geographer can generate and compare maps of different areas easily. He can find bibliography, other person's research work in his area, e-journals, e-books etc. online without going anywhere. He can check the suitable platform also to publish his research work.

❖ **Conclusion**

ICT provides easy and up to date access of geographical information. Teachers and students have highly inter-connected, rapidly changing world at their fingertips. The use of ICT in geography teaching is becoming very essential. Many students have high skill levels and they are familiar to the applications of new technology. These skills must be fully utilized wherever possible. This digital Learning allows access to a wide range of e-Resources (i.e. audio/video/images/animations) about the real world. These tools help students to visualize a place. Thus, ICT is a supportive and effective tool for both approaches qualitative as well as quantitative for the study of Geography and it should be called ICT as a heart of geographical knowledge in present scenario.

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