

ISSN : 2321- 9831
Issue-X, Volume-I, January - July 2017

International Research Journal of Commerce, Management & Social Sciences

IRJCMSS

Department of Commerce & Research Centre

Special Issue on

“Role of IQAC : Academic & Administrative
Audit for TQM in Higher Education”

National Seminar Proceeding
January 2017



Gramonnati Mandal's
Arts, Commerce & Science College

Narayangaon, Tal. Junnar, Dist. Pune

NAAC- Re- accredited 'A' Grade College Affiliated to Pune University ID. No. PU/PN/AC/100(1993)

Website : acscnarayangaon.com

email : acsc232@gmail.com

GIS IN HIGHER EDUCATION: PROBLEM, INNOVATION AND DEVELOPMENT

MAHENDRA S. KORADE

Assistant Professor, Department of
Geography, S.S.C College, Junnar

ASHOK DUSHING

Assistant Professor, Department of
Geography, S.S.C College, Junnar

SHARAD B. KAPHALE

Assistant Professor, Department of Geography, ACS College, Narayangaon

Abstract

Geographic Information System (GIS) is a Spatial Information Science. Which deals with space and used in number of subject as tool to analyse varying data sets. Present paper tries to understand current problems associated with GIS in higher education. Which involve various aspects of GIS like subject matter, theories, technology, educational system, mode of education, methods of education and innovations.

Key words: GIS, Higher Education, problem, innovation, development etc.

Introduction-

Basic problems in the detailing and implementation of rationalization projects as well as activities among higher education institutions (HEIs) are data. Such database could be gathered and compiled under the profiling and typologies of public HEIs projects. However, the data elements for HEIs were initially established by the Commission on Higher Education or CHED (CHED, 1996), and such important database need to be fully operationalized and lacks geo-referencing for spatial analysis. Moreover, the spatial distribution of HEIs, programs and facilities cannot be fully appreciated without visual representation of said database. Maps would enable planners to relate such data and information to the geographic, physical characteristics, infrastructures, feeder population and education needs of the service area of the HEIs. Often researchers are interested in identifying areas where certain thresholds of population, income, or other demographics within a specific proximity are present. For example, many franchises require a certain level of population before they consider

opening a branch in a particular area. This effort commonly uses geographic information system (GIS) or related ubiquitous, mobile mapping technology to display the demographic data and to generate summaries or reports based on the proximity measures and demographics of interest anytime and anywhere. Therefore mapping is a useful tool for environmental scanning and planning.

Innovation especially science technology and culture is an eternal theme in relation to national survival. In a knowledge-based economy. If a nation has no capability of innovation, then she will lose good opportunity of survival and development, and be eliminated and marginalised by times. The level of IT education has been a most distinct symbol of overall national strength of a country. As the kernel of digital earth, GIS, Global Position System and Remote Sensing are integration of spatial information technology, representative of IT, and concentrated expression of digital culture. The level of our GIS higher education have gap to America and Europe, but entered advanced rank as a whole. Problem, innovation and development of GIS

higher education have a bearing on our development strategy for science and technology.

Objectives

1. To understand problems, innovations and developments of GIS in Higher Education.

Database and Methodology

The entire study is based on secondary data and the information related to subject was collected from different reports and literatures. Based on the understanding of published literature and observations, the problems, innovations and development of GIS in higher education were discussed.

Discussion & Analysis

1 Current problems of GIS in higher education

GIS is an integrated and cross spatial information science, and have maintained manifold links with the oldest geography science. An unique and relatively complete system of GIS education have already created in our country the GIS technique have gone through the enlightenment in the 1970s-1980s, the development in the 1980s, and the promotion in the 1990s and comprehensive application in the 21st Century. The concept of geographic information has gone deep into people's minds. The overall information science qualities of entire people of the nation have been raised greatly. More and more talented people of GIS major are required. It is worrying that how the quality of GIS education is? How their living condition is? How to monitor and control the quality of teaching? So fast development pace is whether really help promote the developments of the subject or not? By other's faults, wise men correct their own. Given the GIS education at home and abroad, the essence of the difference reflected in the

teaching system and the mode of teaching. GIS is a new frontier subject integrated of computer science, geography, mapping of remote sensing science, environmental science, urban science, space science and management science. Most GIS professional in our colleges and universities rely on the related professionals, such as agriculture, forestry, geology, which characteristics is obviously. So that there are still a major integration issues between the curriculum course and the related professional courses (characteristic courses), the purpose is to allow students to have specific GIS application to every trade. In this respect, the foreign done better, we should learn from their experience. Second, the integrate issue of the theory education and the technical education. GIS is a highly technical subject. This should be the reasons for GIS education has the goal-oriented applications and skills on the operation at home and abroad. However, theory and technology are not contradictory; we cannot neglect the GIS basic theory. If we have no solid theoretical foundation, we can't acquire deep-level applications. A GIS qualified person should have both perfect technology and theory. GIS is a subject has very widely applications. We do not expect all the students become a senior GIS person. Scientific approach should be to enable students independently choose the relevant theoretical and technical courses according to their own situation and interests. For some students have good mathematics base and interest in GIS basic theory, we can let them to study more advanced knowledge and encourage them to take a postgraduate; For some students have good programming ability, we can let them deeply study some related software technique, and engaged them devise and develop GIS systems. In short, the above-mentioned problems may be the

general representative problem of China's higher education. The problems of education system and mode covering a wide range need the educationalists to make a effort together.

2 Innovations of GIS in Higher Education

In the developed countries of Europe and the United States, due to their relatively early start, both in the GIS theory, technology, scientific research, education, populazition, institutions, organizations are more mature, each form a complete and scientific system.

We should learn from the successful experience of foreign countries to establish and improve GIS education system at all levels based on different GIS personnel levels, such as higher professional education, science popularization, certification training, and so on. Integrating various educational resources (teaching equipment, teaching software environment, teachers, etc.) , developing new modes of multimedia and network education, conducting classroom teaching and extra-curricular training extensively, participating in research projects and training, combining professional education and quality education, combining production and research study is effective teaching form. To promote independent learning, personality development, encourage students to self-designed, self-creation, and stimulate their interest in learning and innovative thinking, to provide students with superior and relaxed (not relax) learning conditions and environment is good measure too.

Of course, GIS education innovation also involves the country's education principles, policies. In 2002, in the meeting of "21st Century University GIS development strategy seminar" the Ministry of Education

pointed out our country should vigorously develop homemade GIS software, and actively promote the development of the GIS industry.

The University should become the main force in the development of GIS industry. The state should promulgated relevant policies to vigorously develop college GIS education. State departments should be enacted the relevant laws and regulations as soon as early, including the basic database, standardization, data sharing, data-paid services, system security, and so on. The government should invest the basis data as a social welfare undertaking. Companies to should be responsible for the data management to avoid monopoly, should make full use of information resources.

3 Development of GIS in Higher Education

Explosive development of GIS education should arouse our attention, research and rational thinking. The national should provide appropriate macro-control, and be given the more right guidance, regulations and support. As GIS educators, we should seriously study their own development discipline, increase the scientific quality, and actively cooperate with the reform of state education system, discuss new ideas, new modes and new methods, be good at encouraging students interest in learning and innovation, train qualified of GIS innovative talents for the country, promoting our hi-tech development strategy. I think the future of the GIS in higher education should be: efficient system, scientific policy, liberal environment, advanced model, appropriate level, the excellent quality.

Conclusion

Though the GIS is well developed field with respect to the technology, the development of GIS in higher education is still less. Therefore it is required to understand the problems and its probable solutions to overcome the problems. It is also important to do some innovations in higher education to improve number of GIS users. It is only possible when the scope of GIS is widening in higher educations. There is need to spread advantages of GIS applications as well as job opportunities in GIS field, it will help to attract number of students toward GIS.

References

1. Prather, James E., & Carlson, Christina E. (1994). Geographical Information System : A tool for institutional research. Program description (ED372723).
2. Barron, Daniel D. (1995). Brining the World and Information together: Geographic Information System for Education. School Library Media Activities Monthly, 11(5), 49-50
3. Ramirez, Monica. (1996). A driving force in technology education : Geographic Information System (GIS). TechTrends, 41(2), 34-36. Alibrandi, Marsha.
4. www.esri.com