

Current and Emerging Themes in Higher Education and GIS Education

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Introduction

- # Higher education (HE) embodies a variety of post-secondary institutions including among others, universities, polytechniques, colleges, specialized professional schools and technical training institutions whether private or public (Assie-Lumumba, 2006; The International Bank for Reconstructions and Development, 2000; The World Bank, 2002).
- # GIS, offered in HE, has an international reputation as a tool for solving spatially referenced problems and an aid to decision making.
- # Is an academic and career field courted by almost every discipline, institution, organization, government departments and the industry.
- # Due to its vast application areas, its popularity in various higher education departments has continued to rise as many seek ways to design and integrate this module into their curriculum.

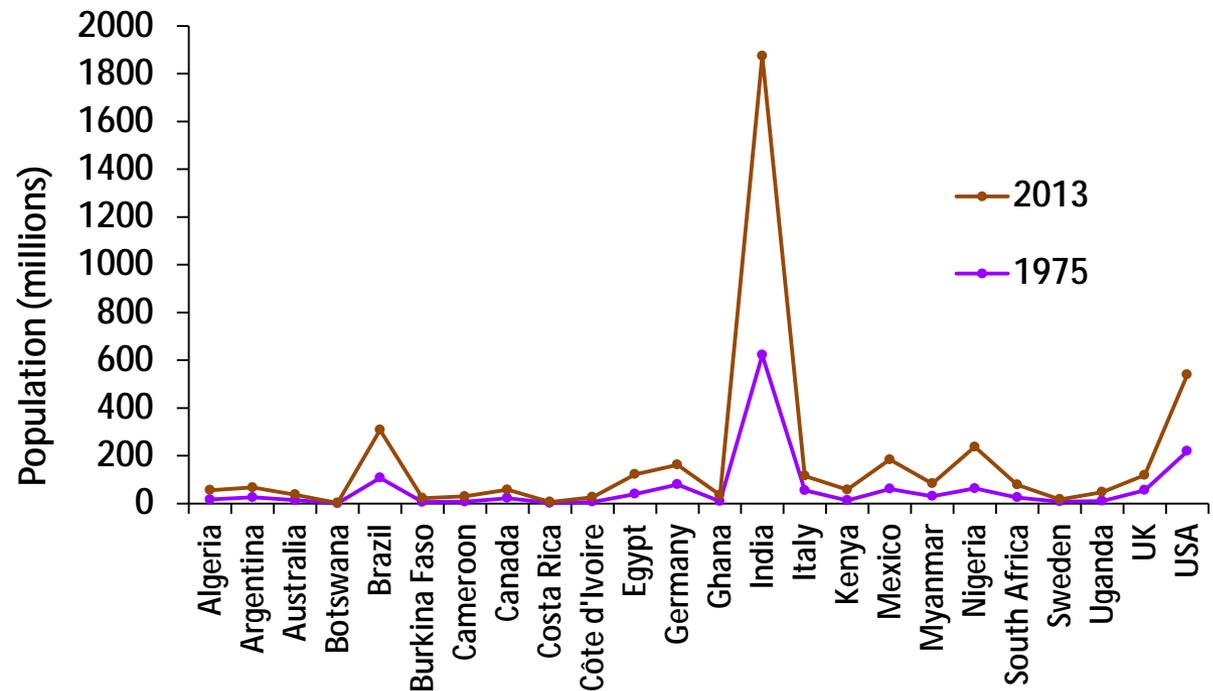
Introduction Continued

- # In some Higher Education institutions, traditional GIS pedagogy includes a theoretical component and a practical component in a computer laboratory where each student performs a set of practical tasks aligned with the curriculum objectives.
- # Hence, GIS accomplishes two mandates: provide students sound theoretical underpinning of the subject and practical problem solving skills (career development).
- # However, GIS educators and students need to be aware of current and emerging paradigms that has invaded higher education and their impacts on GIS education.
- # Some of these include: managerialism, entrepreneurialism, corporatization, massification, equity, language of instruction, and student employability.
- # They are impacting on the key identities of higher education namely teaching, learning and research but at the same time influencing pedagogy, the curriculum, assessment and quality.

Contextualization

Current and emerging themes in higher education can be contextualized within other broad agendas or processes.

- @ **Globalization**: Modern media, books, journals, international conferences, TV, internet, social networks and telecommunication has shrunk the world globally – easy and fast for new paradigms and practices to spread.
- @ **Population growth**: World's population continues to grow leading to increased enrolment in higher education – massification (discussed further in this presentation).



(Data source: United Nations, 2013).

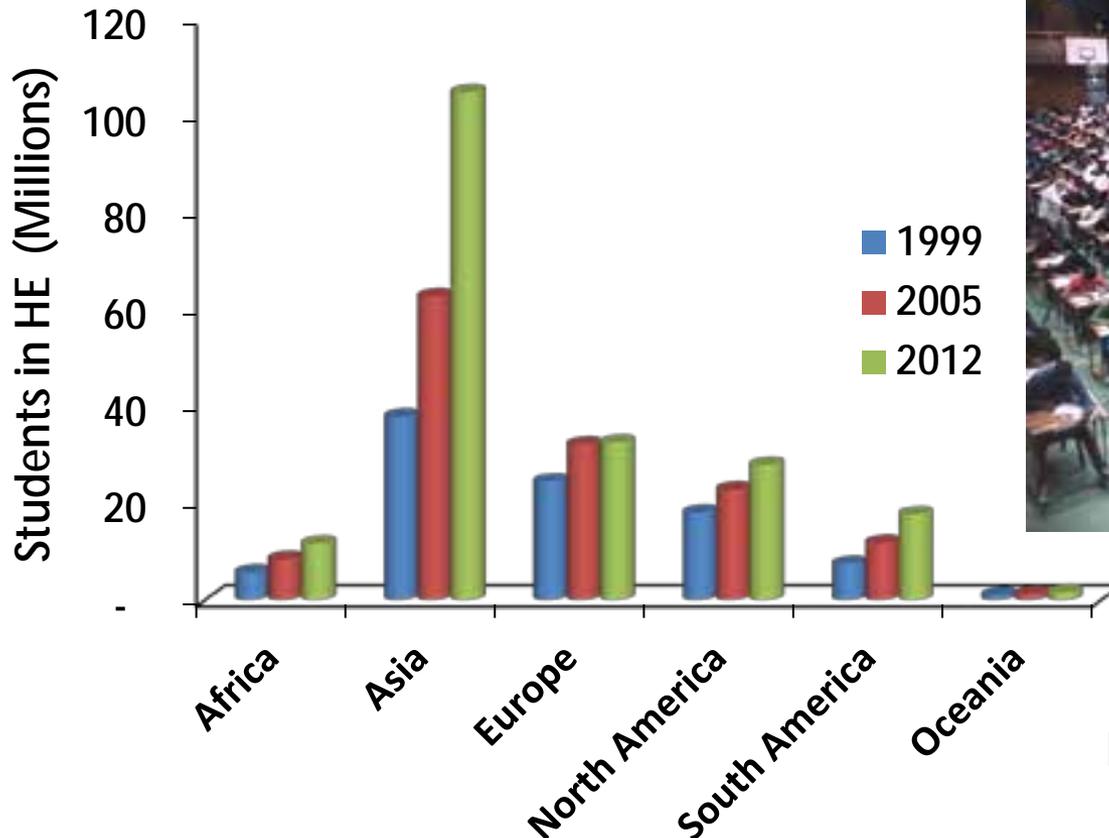
Contextualization Continued

- @ **Neo-liberalism**: Rooted in classical liberalism is linked to market economy and promotes free market forces, less government intervention, profit making and the rationalisation of individuals as economic actors (Harvey, 2005; Turner, 2008).
 - ± New because it is now infiltrating other sectors including higher education, a social sector (Apple, 2001; Aronowitz, 2000; Giroux, 2005).
 - ± Saunders (2010:44) ... **“neo-liberal ideology has assaulted colleges and universities around the world, ... radically changing higher education”**
 - ± Its presence in HE is evident by new terms e.g managerialism, entrepreneurship & commodification, marketization or commercialization.

- @ **Advances in information & communication technologies (ICTs)**: Are some of the greatest mutations in the 21st century.
 - ± Include the ever increasing labyrinth of social networks, mobile technologies and online channels that are revolutionising HE curriculum and pedagogy.

Current and Emerging Themes

1. **Massification**: A by-product of population growth resulting to rising student enrolments in HE (Boden and Nedeva, 2010; Machingambi, 2011).
 - ± Bolstered by educational policies and international discourses that promote student access and equity in higher education (Higgs, 2010; UNESCO, 2014).



Data source: UIS, 2014

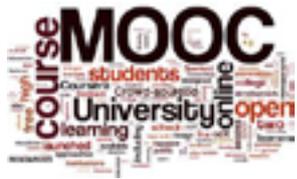
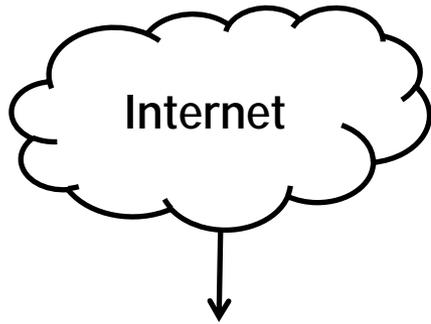
Current and Emerging Themes Continued

2. **Neo-liberal concepts:** Neo-liberalism has given birth to a number of concepts in HE, all related to the corporate world and the market economy characterized by profit making. These include:
 - æ **Corporatization & Managerialism:** Characterized by the transformation of faculties into super schools with a rigid hierarchical corporate-style management structure and top-down decision making.
 - æ **Entrepreneurism and Commercialization:** Programmes, disciplines and subjects are viewed as commodities, students as customers and lecturers as entrepreneurs
 - E Students (customers or clients) pay for courses and tuition adjusted yearly according to market forces.
 - E Lecturers satisfy the “customers” in various ways, engage in marketable research and other fundraising activities – have become fund raiser.
 - E Term “Knowledge economy” (Moravec, 2008) appropriately describes this economic transformation of HE.
 - E The rationale behind this transformation is that in the neo-liberal world, HE is viewed as an economic investment.

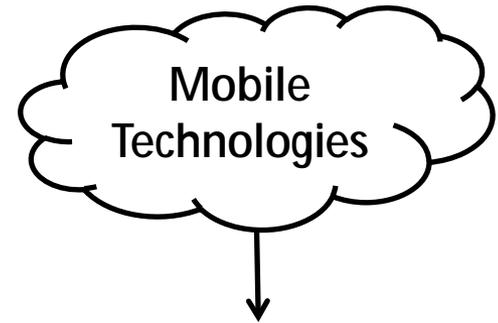
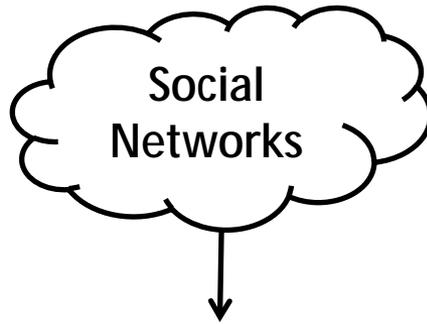
Current and Emerging Themes Continued

3. **Graduate employability:** Is another aspect of neo-liberalism, defined as “a set of ... skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations...” (Yorke, 2006).
 - æ Higher education institutions are thus being forced to take a new mandate to produce graduates who are not only knowledgeable but skilled and competent for the labour market (Barrie, 2004; Griesel and Parker, 2009).
 - æ To survive the invasion by neo-liberalism, students have to acquire the relevant skills and develop the required attributes to be employable.
 - æ Cognitive knowledge is not enough and the quest for knowledge alone (Tomlinson, 2008) is giving way to acquiring knowledge for economic reasons.
4. **Advances in information and communication technology:** Include a kaleidoscope of internet online innovations (some created by HE institutions), social networks and mobile technologies.
 - æ Some tertiary institutions are pioneering their use for lectures, constructive engagement with students and distant education (Fellion et al., 2009; Hew, 2011; Hough and Neuland, 2014; Yuan and Powell, 2013).

Sample ICTs



Wikis



Current and Emerging Themes Continued

5. **Academic Language of instruction:** Debate continue in some countries as to the correct language of academic instruction.
 - ? Though not a worldwide phenomena, this is particularly the case in some African countries where there is an insidious and mild revolt against what is termed “the language of colonization” (Brock-Utne, 2003; Alexander, 2007).
 - ? There is thus a cautious drive towards curricularizing indigenous languages as mediums of academic instructions.
 - ? An example is South Africa where the local languages have been legislated to be languages of academic instruction equal to English and Afrikaans (Van der Walt, 2004).
 - ? Conferences have been held and various initiatives including the establishment of linguistic schools to actualize this emerging paradigm exists (Brock-Utne, 2003; Alexander, 2007).
 - ? The rationale is that students best understand concepts in their local languages of birth.
 - ? The current challenge is to translate or write fresh text in these local languages in various fields of the academic curriculum at all levels.

Impacts on GIS education

1. **Massification in HE:** It presents a challenge for Educators and learners in terms of resource and infrastructural availability.
 - ⌋ Requires more equipment (computers, software licenses) and venues to accommodate massive enrolments.
 - ⌋ Sometimes necessitates repeat lectures & practical sessions to accommodate all.
 - ⌋ Often a challenge to pay proper attention to all, especially the academically disadvantaged due to linguistic backgrounds and computer literacy.
 - ⌋ This means setting up more consultation times for students by the educator who must also assess a massive student population (mark tests, assignments and exams).
 - ⌋ In addition, he must also assist in some administrative duties, engage in community outreach and conduct research to meet his output productivity as required by the corporatized university.

Impacts on GIS education Continued

2. **Corporatization, Managerialism, entrepreneurialism and commodification:** It presents a challenge for Educators and learners in terms of resource and infrastructural availability.
 - ⌋ Top down decision making deconstructs academic freedom for the GIS educator.
 - ⌋ Decisions sometimes take long to make due to the corporate power structure, and sometimes when made, may not align with the needs of the GIS department.
 - ⌋ The GIS educators must be aware that he/she is an entrepreneur, he must produce good students (Undergrads & Postgrads) and raise funds through marketable research.
 - ⌋ GIS students must be ware that they as customers are paying for a product.
 - ⌋ Hence they also have the responsibility to get value for money.

Impacts on GIS education Continued

3. **Graduate Employability:** Engenders responsibility for GIS students and educators.
 - ⌋ GIS students must be aware that learning theoretical concepts and acquiring data processing and spatial modeling skills (intellectual ability, competency) is not enough.
 - ⌋ They must be employable: Among others, think independently, solve problems, apply knowledge, network, leadership, teamwork and deal with cultural differences (Griesel and Parker, 2009).
 - ⌋ GIS educators must design and administer a GIS curriculum that enables students to acquire these employable attributes mentioned.
 - ⌋ The challenge is that most students tend to be corrupted by the neo-liberal philosophy.
 - ⌋ They have paid for the course and want the credits to the detriment of graduate attributes.

Impacts on GIS education Continued

4. **Information and Communication Technologies (ICTs):** By its nature, GIS is related to ICT.
 - ⊐ However, GIS educators may explore the use of social and mobile networks to further engage with students e.g facebook, MySpace for discussions and feedbacks even off campus.
 - ⊐ Explore podcasting a lecture or post on Youtube or similar online facility.
 - ⊐ These may help where student numbers are large (massification) to avoid repeated lectures.
 - ⊐ Caution:
 - @ Material should be pedagogically constructive/interactive (Herrington et al., 2009)
 - @ Use of ICTs should not replace face-to-face engagement with students
 - ⊐ Adopt the mixed mode/blended learning approach (Garrison and Kanuka, 2004; Ginns and Ellis, 2007; Staker and Hons, 2012).
 - ⊐ Challenges: Affordability of mobile technology by disadvantaged students

Impacts on GIS education Continued

5. **Academic Language of instruction:** In universities where the language of academic instruction is contested:
 - ⌋ Put in place initiatives to assist students from different language groups.
 - ⌋ Some universities e.g the University of KwaZulu-Natal in South Africa have created Supplemental instructions (SI).
 - ⌋ Tutors from various linguistic backgrounds explain GIS concepts in the local language to students struggling with English language (currently the main language of instruction).
 - ⌋ Digitally transform existing materials into local languages or encourage local GIS experts to writing new materials in local languages altogether.
 - ⌋ Compose a team of experts to achieve this objective (linguists, GIS and other GIS application fields).
 - ⌋ Challenge: Internationalization and globalization has brought students for different nationalities and linguistic backgrounds.
 - ⌋ This complicates the language of instruction argument.

Conclusion

- Globalization, world population growth, neo-liberalism and advances in information and communication technology have given birth to a new paradigms in higher education.
- As part of the higher education curriculum, the teaching and learning of GIS is affected to an extent.
- GIS educators and students should be aware of these current and emerging themes so as to adjust to these global changes.

Thank You

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