

Digital Society, Inclusion and Community Service Learning



“The Case of ICT4D in the Field”



What is Community Service Learning?

- A new approach to education - societally oriented educational programs
- Active learning while serving society/community
- Practical and problem-solving for community
- Trans-disciplinary and reflective
- An *Inclusive* approach



An increasing interest in (or fear for?) Community Service Learning ?

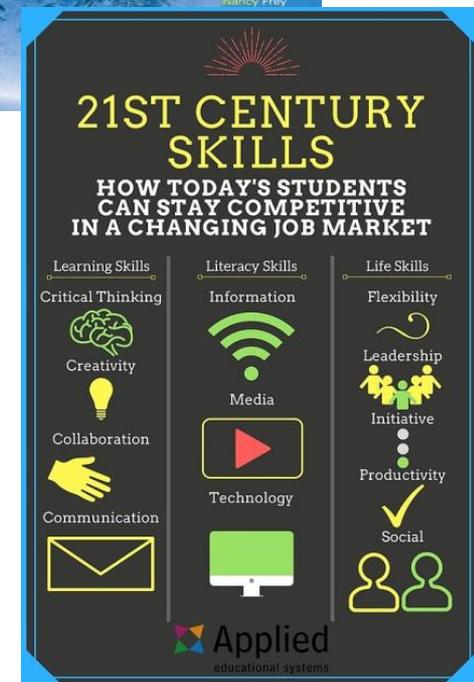
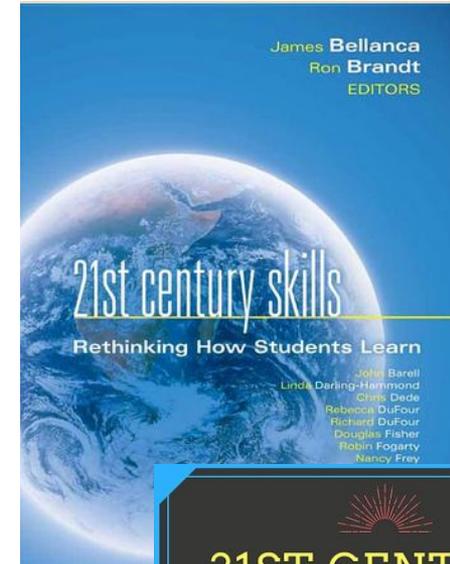
- Increasing academic orientation toward Society (Digital Humanism, Sustainable Science, SDGs);
- Interdisciplinary/transdisciplinary field-oriented real world research;
- Call for more *reflexivity* in exact and engineering sciences
- Internationalization: also North-South;
- Awareness of the importance of *Global Challenges* (Climate, Food, Health, Digital Society etc.)
- Real world research & education
- Need for: “21st century skills”



- Science is moving into the “**agora**” of society
 - (“mode 2” knowledge production, Nowotny, Gibbons et al., 2001, 1994)
- Reasoned public debate/deliberation
- Design Thinking; Real World research
 - regarding complex dynamic social network systems
 - commons, states and markets

What are 21st Century skills ?

- Collaboration and teamwork
- Creativity and imagination
- Critical thinking
- Problem solving
- Flexibility and adaptability
- Global and cultural awareness
- Civic engagement and citizenship
- Social responsibility and ethics
- Oral and written communication skills
- Information and Technology literacy
- Initiative and leadership



Should we include “CSL” in Computer Science Education?

- Technology & society in co-evolution and Society is rapidly changing,
 - Meanwhile most CS curricula mostly technology-oriented
- Advances in ICT and AI is calling for an ethical/societal perspective
- Digital Divide is not only a social problem --> more interdisciplinary approaches needed.
 - Technological challenges are not only “high performance”: need for small, decentralized, green, fair, inclusive, tech solutions
 - not just EU-US oriented – also Digital Divide/Global South/Inclusion
- Students are often requesting more society-oriented education (*“we don’t want just to learn how to earn big money with technology”*)

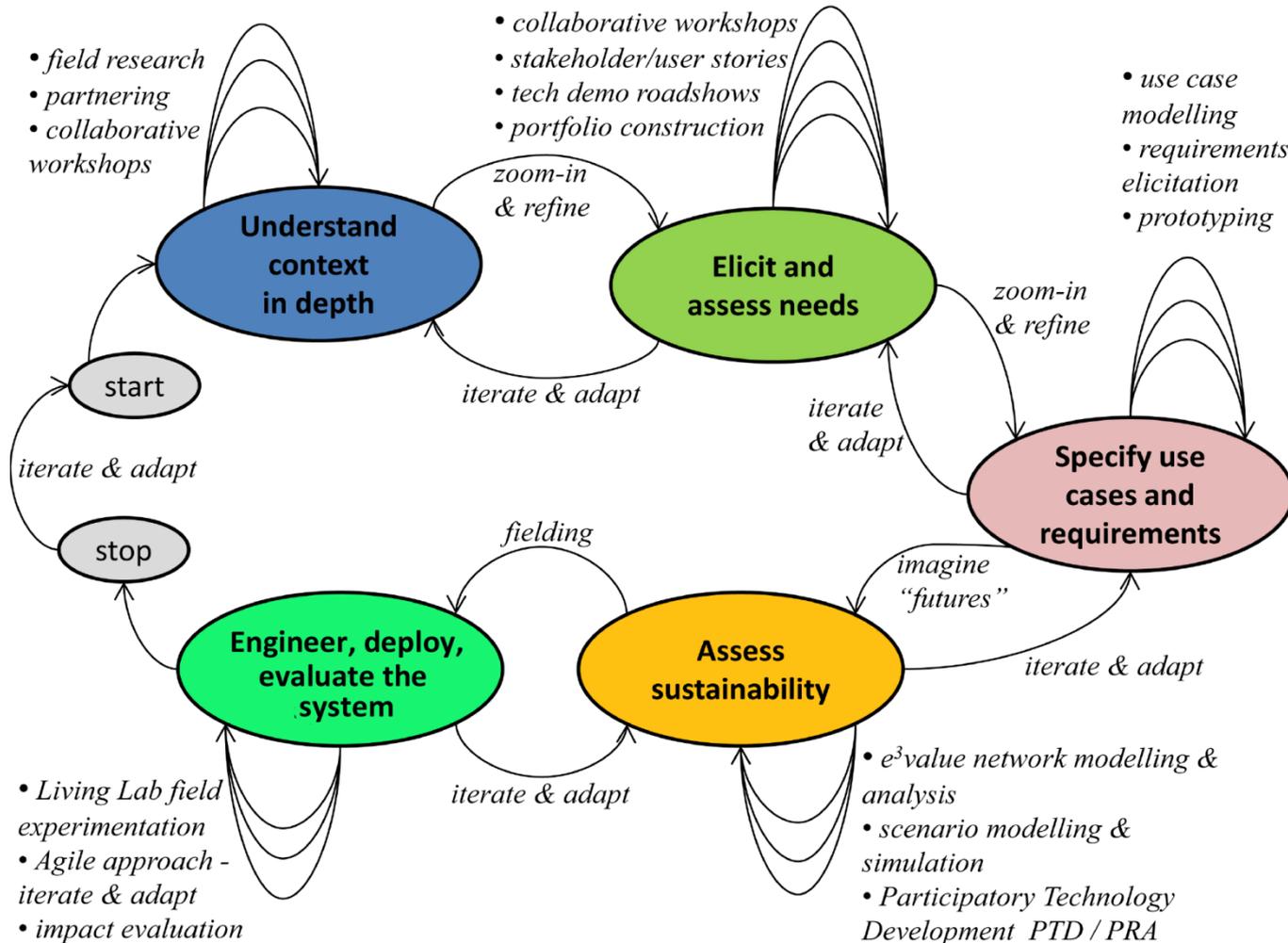
ICT4D

- An ongoing research program since 2009:
- Focused at **servicing communities** in low resource environments
- Collaborative, iterative, adaptive
- Combined methodology: design science & action research
- Respects/combines other “*knowledges*”
- Reflective, ethical in a collaborative way



Combining CSL and ICT4D 3.0

a good match



Case of CSL in Computer Science master: *“ICT4D in the Field”*

- One month intensive field-based course
- Collaboration between lecturers and students with UDS, Ghana, UNIMAS (University of Malaysia in Sarawak)
- Project-based course, community-oriented
- Agile development of practical solutions for/with community
- Trans-disciplinary: combining academic and non-academic knowledge/people
- UDS, UNIMAS experienced in community-oriented learning approaches in mainstream education.



Evaluating this educational approach

Skills and attitudes acquired through this approach:

- Analytical: Experience with complex context, “messy” information
- Social: communication, deliberation, reflective attitude, Collaborating in trans-disciplinarity, community-oriented, purposefull projects.
- Technical: design & solution thinking and acting
- Organizational: Presentation, project management skills, planning, project management.
- Reflective : ethics in practice, exposure to multiple perspectives, trans-disciplinary teams, deliberation.
- Open, personal, responsible: awareness of the problematics of the Digital Divide/ to new problems/knowledge domains/ cultures



W4RA



Conclusion & challenges for CSL in Computer Science/AI/IS education

- Need for intense supervision by lecturing team.
- Community involvement: long-lasting partnerships
- Embedding CSL in *Real World Research*
- Maintaining existing partnerships
- Showing/evaluating its effectiveness (PR)
- Find support for it in your own institution

Thank you !