Digital & Data Literacies for Inclusion of Marginalised Citizens in Learning Cities

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Multi-method Inclusion Research

- Social Identity & Social Capital frames
- Symphonic Social Science
- Blurring Boundaries
- City Information Modelling approaches
Lifewide Literacies

“Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society.”

(UNESCO 2003, 1)
Our Briefing Paper

- Learning City (LC) & Smart City Frameworks: Digital skills agendas
- Operationalising Digital and Data Literacies?
  - Roots in info. & Media literacies
  - Shifting from competencies to empowerment/enfranchisement
  - Data literacy symbiotically linked w/ digital literacy (IoT, mobile apps, social media, open programming/coding, hacktivism)
- Inclusion in Digital & Data Literacies
  - Digital Divides: Current issues & What next?
Our DL Recommendations

Digital Literacies (DL) be further embedded in Learning Cities:

1. DL for promoting inclusively designed technology
2. DL to contribute to inclusive education for all
3. DL to employ a rights-based approach
4. DL as lifewide literacies leading to data empowered citizens
   (e.g. emphasising data security, online protection & privacy)
5. DL as participatory, participant-led & accessible

-DL does NOT require an ‘upgrade’ of skills, but a CRITICAL understanding
-ENGAGE citizens co-creating the digital thru less formal learning
Vulnerabilities: Fourth Industrial Revolution

- Demographic & Intersectional Marginalisation
- We present risks along 4 critical lines:
  (V1) of access & poor technical infrastructures;
  (V2) of digitally marginalised groups & communities;
  (V3) related to digital knowledge, literacies & practice;
  (V4) vulnerabilities related to political will, policy development & economic priorities.
Case Study V1: Giza governorate, Egypt (Dr Ghaith Fariz, UNESCO)

Research Project: Innovative technology-enabled program

- 443 female participants (Microsoft funded)
- 200 girls & women (Weidong Group funded)

- **Literacy**: Integrated curriculum (Arabic/ Maths) cross-platform digital app

- **Empowerment**: Social, cultural & economic growth activities

- **REACH**: In mosques, NGOs, Health units, Youth centres, Schools

- **IMPACT**: 92% passed Adult Education Authority exam

www.ubdc.ac.uk
Case Study V2: Sanandaj, Iran & Manila, Philippines (Workers by Self-Design Team)

- International Network of academic/non stakeholders
- Entrepreneurial training when threatened by unstable environments
- ID Gaps, needs & potential interventions for women’s digital literacies
- Facilitating women’s active participation in workplace markets
- Tech brings women-inventors together to share experiences*
- DL can impact aspirations & production (from traditional crafts/homemade products to tech-embedded clothing & eco-tourism)
Case Study V3: Glasgow & Stirling, Scotland
(Dr Greg Singh, U.of Stirling, Ms. Joe Hall, Creative Stirling w/ Urban Big Data Centre, Glasgow)

- UBDC Research Centre promoting novel data usage to improve lives (e.g. tech streams)

- #LifeinDataStir Research Network- map data literacy, policy & open data innovation (e.g. Wikimedia UK; Data Lab; Cities Alliance...)

- Creative Stirling Social Enterprise evolving practice & new digital needs of creative industries (e.g. Coder Dojo, Maker Labs & STEAM)

- Paradigm-shifting: Policy for robust, learnable Open Data infrastructure in UK (Singh, 2019)
**Case Study V4: Singapore’s SkillsFuture Movement** *(Dr Michael Fung & Team)*

- **UNESCO UIL- IAL Singapore** workshop: Monitoring lifelong learning in face of transforming skills globally
- **SkillsFuture** national skills strategy (2015 [http://skillsfuture.sg](http://skillsfuture.sg))
- Workforce develop./ enterprise transformation in face of disruption
- **MySkillsFuture portal**: individualised learning/career profiles, labour market information, training aligned w/ local industry needs
- **Predictive recommendations**: training courses, job openings*
Digital & Data Literacy Lessons we are learning…

• Digital Literacy = Data Empowerment 😊

  Beyond ‘competencies’, simple access issues & formal structures

• Who is left out?: Need to capture less formal learning

• Reaching IN: Locally- Libraries, museums, communities, WBL, online

• Participation metrics & more holistic pictures;
  • Triangulation, Interdisciplinarity, Stakeholders, Flexibility & Impact

• Need citizens to WANT to engage, feel heard, be included in decisions & implementation of tech- WITH not ON!

• Privacy/ security tensions w. push for openness/transparency