



Engaging Teaching, inspiring learning: Universities after Industry 4.0

Trudi Cooper,
Australian Learning and Teaching Fellow
Edith Cowan University, Australia

This presentation

- Is about the **social and educational** implications of the 4th Industrial Revolution for the purposes of Higher Education.
 - **How it changes current assumptions about university and the role of university in society.**
- The presentation will be short to leave space for discussion.

Industry 1.0-3.0

- Industry 1.0 –mechanisation, **machines assist humans**, -emergence of factories –Social unrest Luddites (19th Century)
- Industry 2.0 –mass production, **humans as extension of machines** –Taylorism/division of labour/ mass low skill work –beginning of consumerism (early 20th century)
- Industry 3.0 –computing and knowledge economy –**humans manage machines** –decline of the working class/Rise of service industries/ decline in unskilled work /–(late 20th century)

Industry 4.0

- Industry 4.0 –Internet of Things, intelligent machines/ robots –**machines replace humans OR machines manage humans?**
- Implications for **purpose of university education**
- Robots to sexbots –Social implications? Work, relationships? Loss of centrality of work for identity? New humanism? Humans redundant?
 - Mass unemployment or new forms of work?
 - Mass leisure? Opportunities for creativity?
 - Rise in inequality, climate collapse
 - Ethical complexity increases in everyday life
 - Strengthening or weakening of democracy?
 - Utopia or Dystopia?

Education and industrial revolutions

- Industry 1.0 –rural/urban migration –the beginning of formal education for the masses, **education as moral authority / discipline the workforce**
- Industry 2.0 –compulsory primary, **education for social reproduction, cultural control/ basic literacy**, introduction of compulsory secondary education, university for elite only
- Industry 3.0 –extension of compulsory secondary and post-secondary education, massification of higher education, **focus on skills and employability**

Education and Industry 4.0

- Industry 4.0 –move away from employment focus
- What role for university education?
- Technology is not socially deterministic – enmeshed with socio-politico-economic choices

Education and Industry 4.0

- Some Utopian/ Dytopian challenges
 - **Education for critical literacy to strengthen democracy** –to protect against indoctrination and new forms of targeted, propaganda (article forthcoming)
 - **Education to protect against machines/robots** –to prevent humans becoming controlled by machines, about science in social context
 - **Education to realise creativity and develop human potential** – to support people to become truly human
 - **Education to strengthen ethical awareness** –as technology raises new dilemmas, science in ethical context
 - **Education for conviviality** –post-individualism, social solidarity, SDGs, peace, equality
 - **Education for meaning and identity** –post-work
 - **Education for post neo-liberalism/ post-capitalism??**

Consequences

- Change in purpose changes **curriculum** -
 - End of behavioural learning outcomes -
 - Holistic education learning for the sake of wisdom -becoming more fully human
- Change in purposes changes **student motivation** -
 - shifting focus from instrumental/ transactional
 - to ethical, empathetic and creative human development
- Change in **role of teacher** -
 - knowledge creation and supporting human ethical and creative development
- Change in purpose **implications for policy** -
 - move away from employment focus,
 - towards holistic 'becoming' and wisdom



Summary

- Higher education as if humans mattered
- Barnett and Coate's domain of 'being/becoming'
- Re-emergence of older purposes, but reinvented

Becoming truly human

Wisdom is nothing but a preparation of the soul, a capacity, a secret art of thinking, feeling and breathing thoughts of unity at every moment of life.

Hermann Hesse, Siddhartha

Contact

A/ Prof Trudi Cooper PhD

Edith Cowan University

Social Program Research and Evaluation (SPIRE)

+61 (08) 6304-5637 Work

+61 (0) 431734519 Mobile

t.cooper@ecu.edu.au

270, Joondalup Drive

Joondalup WA 6027