Articulation & Learning Pathways

A sustainable development learning pathways perspective

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The wider research context

- Social-ecological change: risk and opportunity
- Water scarcity
- Climate change
- Green Economy
- New skills demands
The research programme

• A particular focus: New, transversal field of practice and how the NQF responds / makes provision

• A rapidly growing field of practice: first ‘count’ –
  Approximately 250 000 environmental employees
  (500 000 with water jobs) (DEA 2010)

• Green Job Projections (300 000+ possible new jobs in the longer term – DBSA study 2011 / ILO study)

Do adequate learning pathways exist for these new green jobs?
A small research programme

• Focus in depth on identified scarce skills:
  • Environmental Engineers
  • Environmental Scientists

• Identified neglected occupations: where little skills development is taking place, yet the roles and responsibilities are critical for sustainable development and quality of life
  • Environmental Practitioners (local government) – waste, water and sanitation, greening, graveyard management etc.

• New skills areas (little known about how these skills are developed)
  • Rehabilitation Practitioner in Mining
Our research lenses ...

How are learning pathways into critical and scarce skills for sustainable development of society currently being constrained or enabled?

What is present and what is absent? How are things working?

Where articulation discussions are most necessary and worthwhile for this emerging field of practice? (not a blanket concept)
3 ways of researching articulation issues

1) Qualifications structures, links and management
2) Differentiating discourses and boundaries (i.e. how the internal logic of the sub-frameworks emerge and become structured, and what cross-over issues need to be navigated (epistemological, structural etc.)
3) Learning pathway understandings of articulation from a systemic perspective

Our research does not focus on qualifications and discourses only, but on the systemic aspects of learning pathways development in a field of practice

(of which qualifications provisioning and articulation is one important element)
Some examples
EXAMPLE 1: Learning pathway into being an environmental practitioner / worker in local government

Most employed as workers with pre-existing qualifications at levels 1-5 on the NQF (most dropped out / did not complete school)

Some have 30-40 years experience in the same job, doing the same thing (e.g. cleaning toilets, or collecting rubbish). There are options for progression – supervisor – waste manager etc. Not actualised.
In general, hardly any learning pathway exists for these workers due, not to qualifications availability or articulation potential, but rather to systemic failures to make the qualifications work in practice (e.g. ABET not functioning well, skills planning not functioning well, nor are relevant and available (Env.Practices Levels 1-5) occupational qualifications being offered in a structured manner; few / no qualifications exist for these occupations in FET college system or in learnership formats, and if they are do they are seemingly poorly actualised. RPL not operational in this context yet).

*This provides a systemic perspective on ‘articulation issues’ i.e. how are articulated qualifications to work in practice in relation to other systemic factors?*
EXAMPLE 2: Learning pathways into being an ecologist (scarce skill)

• In SA you can only become a botanist / ecologist in one way – there is only one route ... If you don’t have the access requirements into BSc in HEIs you can’t get in; access only for the ‘privileged learner’ that we are used to

• Possibilities of parallel pathways do not exist that COULD POTENTIALLY BE based on occupational progression (e.g through for example a horticulture route into botany / ecology practices)

• No articulation linkages at present, and we need a better understanding of these learning pathways to fully understand if these should / could actually exist ...
• It is difficult to identify what articulation possibilities are most necessary and feasible to pursue .... Needs further in-depth research into labour market issues, occupation, tasks, knowledge structures, skills, competences and practices, modes of delivery, qualifications types and structures, levels, inclusion and exclusion patterns, international benchmarking and so on ...

• New sectors need research competence ...

EXAMPLE 3: Learning pathways into environmental engineering (scarce skill)

... Well organised (up to a point ...)

3 pathway routes that are well defined and articulated:

- engineering (traditional) (From NSC to university)
- technical into B.Tech into M.Tech
- engineering technology qualifications (FET colleges), bridge into UoT

PLUS ... a professional association that understands the skills needs of the sector (well quantified – good skills intelligence from a demand-side perspective)

ALSO ... have clear occupational differentiation which balance of skills mix in the sector
Within this, environmental engineers emerge at post-graduate level, not integrated into other levels (although piloting is occurring); support for specialised field is ad hoc (engineers stumble into this route in the workplace); difficult to find/do extra courses for upskilling; some of the Masters courses too specialised in one area (e.g. waste and water)

What is the role of articulation in upskilling/reskilling/specialisation development? (LLL)
3 aspects stand out (so far)

1. The importance of the workplace and its ability to play a mediating role in facilitating learning pathways (for new skills and practices to be learned)

2. There are important system elements that need to be in place to facilitate the emergence of new learning pathways (e.g. occupational differentiation; labour market information; skills planning; effective provisioning etc.)

3. Examining the actual (real) progression of learners (through learning pathways studies) in relation to critical, scarce and marginalised skills for sustainable development is raising boundary making and boundary crossing concerns that are indicative of articulation issues that need to be probed in more detail
Conclusion: 2 key questions

• Where is articulation most needed in creating new learning pathways into scarce / new / emerging occupations?

AND

• What other system elements need attention if an ‘articulated system’ in its broadest sense is to emerge?