Assessing the work readiness skills of ICT graduates:

Developing a SFIA-based ICT Curriculum

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ACS CBOK ICT Building Blocks

**SKILL** - Graduate/Career Skill Sets
(e.g. as defined in SFIA)

**CORE**
Core Body of Knowledge

**SPEC**
ICT Role Specific Knowledge

**COMP**
Complementary Knowledge
Could include knowledge from:
- Business
- Science
- Engineering
- Mathematics
- Health
- Psychology
- Education
- Government
- Economics
- Statistics
- Humanities
- Arts


ACS CBOK ICT Building Blocks

**Focus Groups**
Best practice?
Stakeholder interaction?
Common nomenclature
and framework?

Activity 1
SFIA Assessment
Green IT

Activity 2
SFIA Role Description
from PD

Transcription
and Thematic Analysis

Case Studies and Resources

**Information management**
- design
- analyse
- implement
- support
- service
- manage
- plan
- control
- ensure
Findings

• SFIA to define ICT Career Roles
  - Good examples in Industry
  - Academic examples largely aspirational or limited to mapping exercises

• Cognition, Experience and Authentic Learning
  - SFIA skill sets readily identified for given role
  - Assumptions necessary to identifying higher levels
  - Practicum, WILL, Industry-placements important
  - Various factors can lead to varying outcomes

Findings

• Soft Skills
  - Focus on technical skills over soft skills
  - Experienced SFIA practitioners able to identify soft skills in context of technical skills
  - Less experienced struggled to develop shared meaning regarding the implicit connection

• Processes and Related Frameworks
  - Mappings to other frameworks needed
  - Available but not widely disseminated

Findings

• Closing the Loop
  - Case studies a common approach taken in relation to Green IT example
  - E-Portfolios to collect and reflect on evidence of SFIA skill attainment

SFIA-Bloom’s-AQF Mappings

<table>
<thead>
<tr>
<th>SFIA Level</th>
<th>SFIA Automony</th>
<th>Bloom’s Level</th>
<th>Bloom’s Cognition</th>
<th>AQF Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Follow</td>
<td>1</td>
<td>Remembering</td>
<td>Remember</td>
</tr>
<tr>
<td>2</td>
<td>Assist</td>
<td>2</td>
<td>Understanding</td>
<td>Understand</td>
</tr>
<tr>
<td>3</td>
<td>Apply</td>
<td>3</td>
<td>Applying</td>
<td>Apply</td>
</tr>
<tr>
<td>4</td>
<td>Enable</td>
<td>5</td>
<td>Analysing</td>
<td>Critical reflection, evaluate</td>
</tr>
<tr>
<td>5</td>
<td>Ensure, advise</td>
<td>6</td>
<td>Evaluating</td>
<td>Create</td>
</tr>
<tr>
<td>6</td>
<td>Instantiate, Influence</td>
<td>6</td>
<td>Creating</td>
<td>Create</td>
</tr>
<tr>
<td>7</td>
<td>Set strategy, inspire, mobilise</td>
<td>6</td>
<td></td>
<td>These SFIA skills are generally achievable through experience in the ICT industry</td>
</tr>
</tbody>
</table>

Richardson, J., and Henschke, K., RMIT
The ICT Profession Body of Knowledge

- Identify roles, skills, level of autonomy & responsibility
- Identify role-specific knowledge
- Identify complementary knowledge
- Design course structure as part of a holistic program
- Collect artefacts to demonstrate skill attainment


Queensland Government SFIA-based position descriptions


ACS survey of SFIA skills reported by members in various job roles


ACS Data Skills

Relative node size based on degree
Case Studies

- University of Tasmania Bachelor of ICT
- RMIT Bachelor of Business
- ACS Computer Professional Education Program (CPeP)
- Hypothetical Data Science Position
Recommendations

- Use published sources to inform discussions with Industry Advisor Boards regarding ICT career roles
- Use network analysis to consider related skills and roles based on real data, not opinion and personal views
- Use SFIA Skill descriptors to inform assessment design
- Visualise SFIA skills and responsibilities for benchmarking and documentation purposes
- Don’t reinvent the wheel and leverage existing mappings and case studies (e.g. SFIA-Bloom’s AQF Mappings)

Focus Groups: Brisbane, Melbourne, Perth, Sydney
Workshops: Melbourne Conventicle, ACSW ACE Conference Workshop

Published Papers:


Papers in Preparation:

