Micro-credentials for NZDE graduate attribute tracking

Morgan Look – Unitec Institute of Technology
Micro-credentials

Small is good
Issuer backed credentials
Achievable
Similar to existing unit/achievement standards
Receiving significant attention

Verifiable
Linked back to issuer
Employers and moderators
All or nothing?

A gentle approach to achieve a specific result
Proposals already exist
Full or partial NZDE programme
Supplementary or bridging credentials

Another possibility
Not mutually exclusive to other proposals
Outcomes beneficial to staff, students, institutes
Graduate Attributes

Dublin accord:

<table>
<thead>
<tr>
<th>Differentiating Characteristic</th>
<th>Dublin Accord – NZDE Graduate</th>
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<tbody>
<tr>
<td>1. Engineering Knowledge</td>
<td>Apply knowledge of mathematics, natural science, engineering fundamentals, within specialist discipline to wide practical procedures and practices</td>
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<tr>
<td>2. Problem Analysis</td>
<td>Identify and analyse well-defined problems reaching substantiated conclusions using codified methods of analysis specific to specialist field</td>
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<tr>
<td>3. Design development of solutions</td>
<td>Design solutions for well-defined technical problems and assist with design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural and societal and environmental considerations</td>
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<tr>
<td>4. Investigation</td>
<td>Conduct investigations of well-defined problems, locate and search relevant codes and catalogues, conduct standard tests and measurements</td>
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<tr>
<td>5. Modern Tool Usage</td>
<td>Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems with an awareness of the limitations</td>
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All courses contribute

But explicit assessment through two courses

Evidence collection
The burden of recording and assessing evidence of student attributes falls on course coordinators

Micro-credentials could shift the focus to the student
Shared burden of assessment
Students carrying more responsibility

<table>
<thead>
<tr>
<th>ENGENEERING NZ TECHNICIAN ATTRIBUTES</th>
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<tbody>
<tr>
<td><strong>IEA Graduate Attributes</strong></td>
</tr>
<tr>
<td>1. Engineering Knowledge</td>
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<tr>
<td>2. Problem Solving</td>
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<tr>
<td>3. Design /Development of Solutions</td>
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</table>
Student ownership of progress

Progress visible to students
Course work contributes to attribute (micro?) portfolios
Links from courses for students to contribute material to portfolios
Portfolio is assessed and credential awarded

All credentials must be awarded for student to graduate
Progress through each attribute visible to students
Students are aware that they must complete them all
Implications

Micro-credentials imply certification
We are already certifying these capabilities
• Dublin Accord
• Graduate Profile
• Curriculum Document

Evidence will be easier to moderate
Each attribute has an assessed portfolio of evidence

Additional assessment effort required?
More explicit than embedding all evidence into two courses

Technology requirements
Learning management systems must have capability to issue, store, retrieve
Discussion

Could this work?

Disadvantages and challenges
What difficulties might be faced?

Advantages
How could this help: staff, students, admin?

Further discussion
Questions?