Enhancing Employability Attributes for Environmental Science graduates

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Pedagogic Research Institute and Observatory
Environmental Science graduate employability

Interplay of subject-specific knowledge and skills with transferrable and life skills

Change Leadership is central to environmental scientists through behaviour, persuasion, motivation, responsibility and management.
Plymouth University Compass

While you're at Plymouth, we hope you'll gain more than just your degree.

The Plymouth University Compass helps you to navigate your way through your whole university experience, in both your taught curriculum and your extra-curricular activities. What you learn at university prepares you for more than a career, so the Compass identifies key attributes in four broad areas of your life – academic, civic, professional, and personal. During your time here, you'll have plenty of opportunities to practice and develop these attributes, helping you gain experiences, improve skills, and build networks for your life beyond graduation. The Compass also supports us, as a community, to coordinate our efforts to offer you as broad an education as possible. It clarifies what the University values and what it anticipates will help you, as a graduate, in a future that is hard to predict.

The Critical and Creative Learner

As a Plymouth graduate, you will be able to learn independently, explore new avenues with confidence, and think in a critical, creative, and enterprising manner, enabling you to function effectively in a complex and ever-changing society. There will be opportunities to develop and practice your:

1. Specialist subject knowledge and expertise
2. Critical thinking
3. Creativity and enterprise
4. Research skills and information literacy
5. Learning and study skills

The Sustainable and Global Citizen

As a Plymouth graduate, you will be able to contribute to a more sustainable future as an informed, responsible, and active citizen, both locally and globally. There will be opportunities to develop and practice your:

1. Sustainability awareness
2. Systems thinking
3. Openness to cultural encounters
4. Responsibility
5. Change-leadership

The Competent and Confident Professional

As a Plymouth graduate, you will be ready to play an active role in shaping a sustainable society and economy; understand the importance of managing your own career, and promote a positive work-life balance. There will be opportunities to develop and practice your:

1. Self-organisation and management
2. Team-work and collaboration
3. Professional and ethical manner
4. Negotiation and persuasion
5. Effective verbal and written communication

The Resilient and Thriving Individual

As a Plymouth graduate, you will value and develop the wellbeing of yourself and others, and appreciate the role of evidence-based ways towards a flourishing life. There will be opportunities for you to:

1. Connect with others
2. Be active
3. Be empowered – you can make a difference
4. Keep learning
5. Give back in social and community life
Research-led curriculum innovation to enhance core employability attributes for Environmental Science graduates

Aims
To enhance employability and cultivate professionalism, resilience and global citizenship through research-led curriculum innovation.

Objectives
• To evaluate the impact of leadership training on graduate skills.
• To identify training gaps within the curriculum.
• To develop, based on evidence, a coordinated, effective and curriculum-embedded employability skills training programme.

Methods
• Student self-evaluation before and after leadership training
• Employability questionnaires
• Development of framework for resilience training
‘The ETE Leadership award is a challenging course designed to develop and enhance self-confidence, project management skills and leadership styles in preparation for future work and study.’

Programme:

- Four 2 h workshops on topics including:
  - understanding self and others, motivation
  - communication, behaviour and perception
  - teamwork, leadership and leadership styles
  - project planning and risk assessment
- Two days camping on Dartmoor:
  - practicing leadership in challenging situations
- One 2 h workshop:
  - relating the learned to academic life and career
'The ETE Leadership award is a challenging course designed to develop and enhance self-confidence, project management skills and leadership styles in preparation for future work and study.'
Student self-assessment: Top 10 employability skills
years 2015, 2016, 2017; n = 136

All data: 2015, 2016, 2017; n=136
Mood Median Test: median are significantly different for all skills (95%)
Student self-assessment: Top 10 employability skills

Learner gain = after LT score – before LT score

All data: 2015, 2016, 2017; n=136
Learner gain = after LT score – before LT score

Skill score re-classification:

Low score (1) = before score 1 – 3  (skills n=139 → students n=11)
Mid score (2) = before score 4 – 6  (skills n=1243 → students n=134)
High score (3) = before score 7 – 9  (skills n=129 → students n=8)
Employability Questionnaire 2017

- **Importance of leadership credentials for professionals in environmental sector**: Agree, strongly agree (60 respondents), Agree (20 respondents), Neutral (10 respondents), Disagree, strongly disagree (10 respondents)

- **Leadership training should be included in the Environmental Science UG curriculum**: Agree, strongly agree (40 respondents), Agree (20 respondents), Neutral (10 respondents), Disagree, strongly disagree (10 respondents)

- **Employability and career development should be compulsory within the UG curriculum**: Agree, strongly agree (60 respondents), Agree (20 respondents), Neutral (10 respondents), Disagree, strongly disagree (10 respondents)
Employability Questionnaire 2017

As a result of the leadership training, have you been motivated to seek or take up opportunities that you would not otherwise have considered?

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Katie Baxter, BSc (Hons) Environmental Science

“... I have been selected to be a Climate and Environment Blogging Intern for UNICEF's Voices of Youth department. It's a 3 month online internship posting weekly blog posts, networking with other interns from around the world and getting guidance and lessons from world experts in the environment and climate fields. I am really excited about it, and I just wanted to say thank you because if it wasn't for Alison’s and Charly’s enthusiasm for our blog posts in the ENVS2004 module last year I never would have taken an interest in blogging! ...”
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## Employability Questionnaire 2017

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<th>Career readiness statements</th>
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<td>I am aware of <strong>weaknesses</strong> that I need to work on to improve my career prospects</td>
<td>85%</td>
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<td>In order to choose a career pathway, I need to know myself</td>
<td>76%</td>
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<tr>
<td>I am confident about presenting my strengths and experience in my curriculum vitae</td>
<td>69%</td>
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<tr>
<td>Several career choices appeal to me, and I’m not sure how to decide between them</td>
<td>65%</td>
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<tr>
<td>I am concerned about committing to a particular career choice</td>
<td>56%</td>
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<tr>
<td>I don’t know enough about what people do in various occupations</td>
<td>53%</td>
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<td>I don’t know enough about career opportunities</td>
<td>44%</td>
</tr>
<tr>
<td><strong>I feel confident about securing a graduate position or go on to further study after I graduate</strong></td>
<td>42%</td>
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<td><strong>I feel confident when thinking about career-related decisions</strong></td>
<td>20%</td>
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Environmental Science
Student Training Framework

- Communication theory
  - Building rapport
  - Understanding emotions and physiology
  - Delivering feedback
  - Basics of human interaction
- Positive outcomes and goal setting
- Motivations for personal behaviour and performance improvement
- Impacts of stress and anxiety
- Nature and impact of depression
- State control tools
- Rational and irrational acting
- Impact of unresolved negative emotions
- Developing resilience
- Interactive presentation/workshop programme in 4 modules

Self-Awareness Development

- Theory of presenting
  - Physiological and psychological reactions to being 'exposed'
- Removal of anxiety
- Practice new tools
- Self-presentation at interview
- Interactive lecture programme

Presentation Skills

- Colours approach to leadership
  - Good boss bad boss
- Employability
  - Project planning
- Financial planning & entrepreneurship

Leadership Development

- Interactive Workshop Programme
- Outdoor leadership training practice and feedback

Coaching for ENVS Training Gaps
To complete PedRIO project...

PedRIO project team:
• Focus group with graduates of 2017 (LT 2016)
• Employability questionnaire with stage 2 students (LT 2017) and stage 4 students (LT 2016)

Hart & Mind consultancy
• Development of resilience training self-study pack for students
• Development and delivery of staff training to support student resilience training

Environmental Science personal tutors:
• Implementation of resilience training into curriculum (AY 2018/19)
Summary

• Leadership training has clear positive outcomes for employability skills and confidence

• Students who most needed to enhance their employability skills gained most from the training

• Leadership skills are viewed as important by most environmental science UG students

• Leadership training within the curriculum is valued highly

• We have identified training gaps related to related to resilience

• New programme of training in stage 1 of next academic year, focusing on managing stress and anxiety in communication not least to prevent some of the stress-related mental health issues we increasingly see in our students.
Student reflection:

"As nervous as I was for the expedition it certainly paid off, and the ETE workshops have worked miracles on my confidence.

Building confidence is a slow process that I am working on and I am starting to see improvements in myself.

From learning how to manage stress and anxiety to leading effectively, I have gained and consolidated new skills that I will implement in future careers, and ultimately help me thrive as an individual."