



BELFAST ■ COLERAINE ■ JORDANSTOWN ■ MAGEE

Integrating Built Environment Studies through 'Education for Sustainable Development'

By

W Alan Strong & Lesley Hemphill

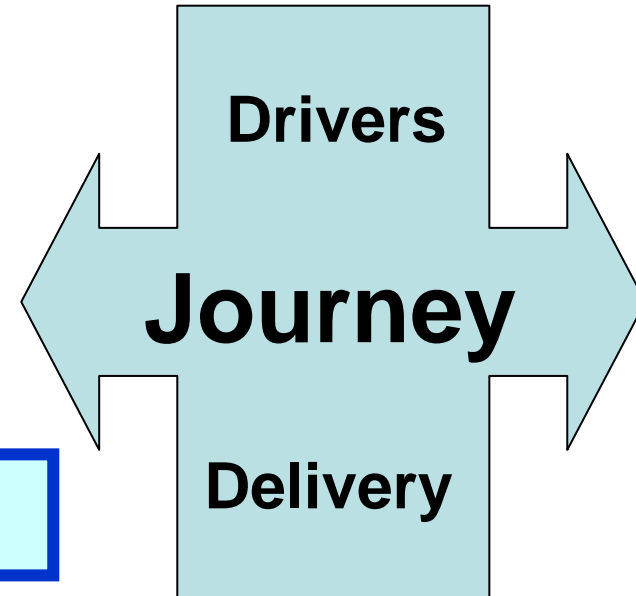
International Perspective

Environmental Context

U N ~ Brundtland, Rio, RSA

Millennium Development Goals

Decade of Education for Sustainable Development



Why/How to Communicate SD ?

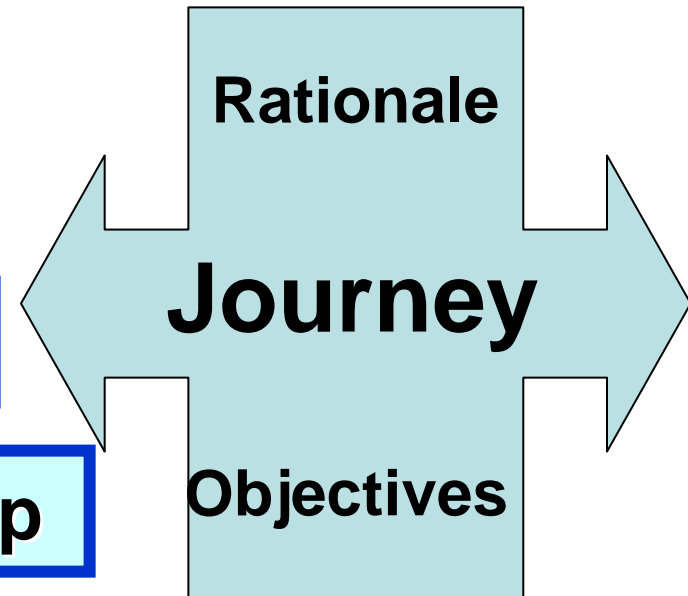
Inter-disciplinary Opportunity

Government Regulation

Royal Academy of Engineers

Sustainable Development Group

Sustainability Visiting Panel & Visiting Professors



Integrating SD into T, R & AE?

	Energy Institute	ICE	CIEH	BIAT	
CIBSE	B.S.E. Energy Engineering	Civil Engineering	Environmental Health	Architecture	RIBA
ILT	Transport Studies	SUSTAINABLE DEVELOPMENT		Housing Studies	CIH
CIOB	Construction	Building & Quantity Surveying	Urban Planning	Property Investment	RICS
	CIOB	RICS			

Built Environment Discipline & Professional Body Context

SD Drivers & Strategies > Outputs



ROAMEF Approach for elements of Programme (Publication, Case Study, Module, Research, Academic Enterprise)

Rationale – Purpose of ESD application, Triple Bottom Line;

Objectives - Account of: Before & After, SD appraisal, pedagogy, future development

Appraisal – Justification for Project; including Data capture, synthesis & analysis addressing objectives

Monitoring – Review(s); Engage Staff, SPAT + Stakeholders

Evaluation – Post project by Stakeholders + SVP

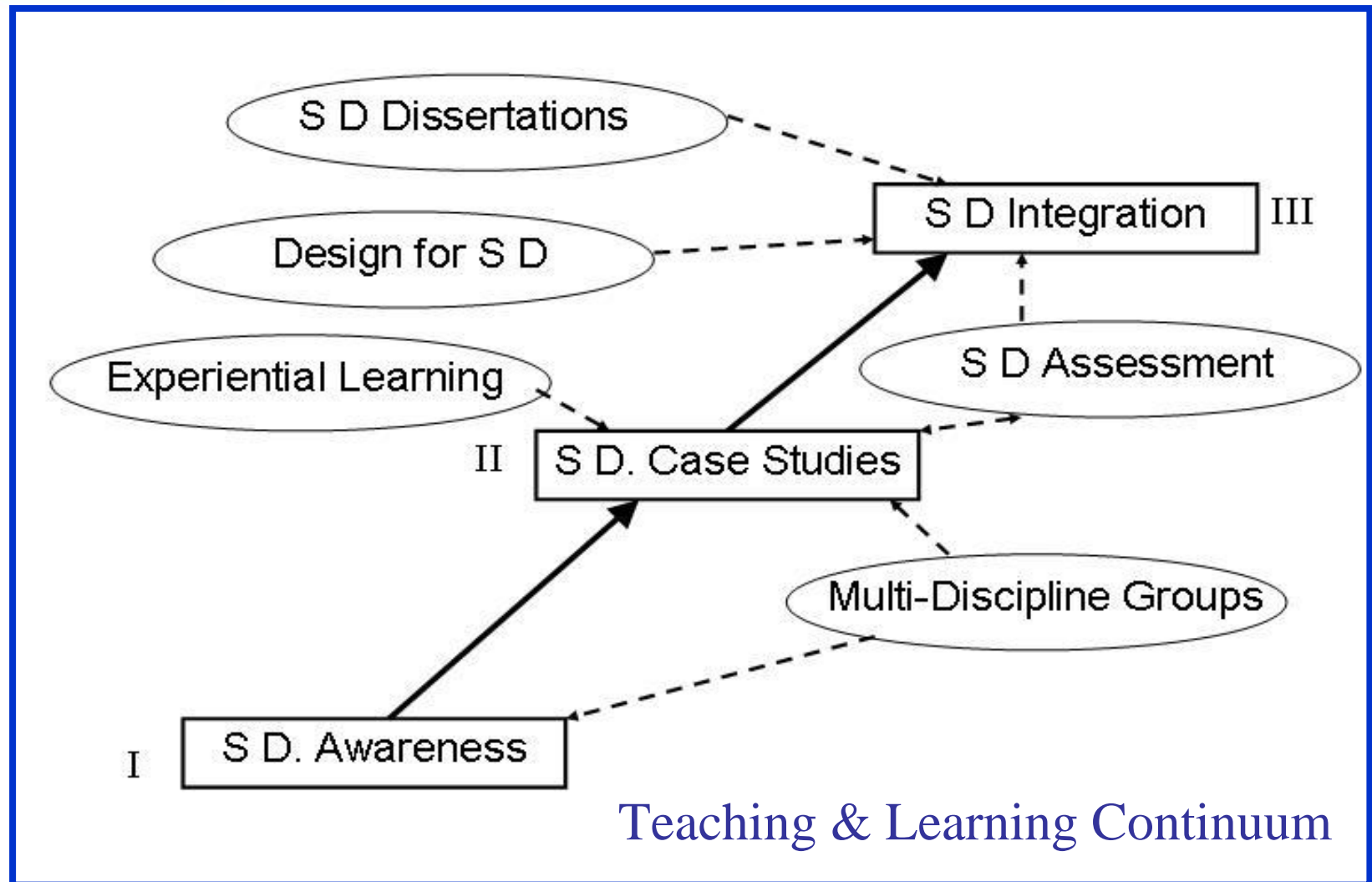
Feedback - Inform future work.

SD Pedagogical Issues: – Deeper Thinking – Connections – Correlations – Integration - TBL – Assessment - Audience?

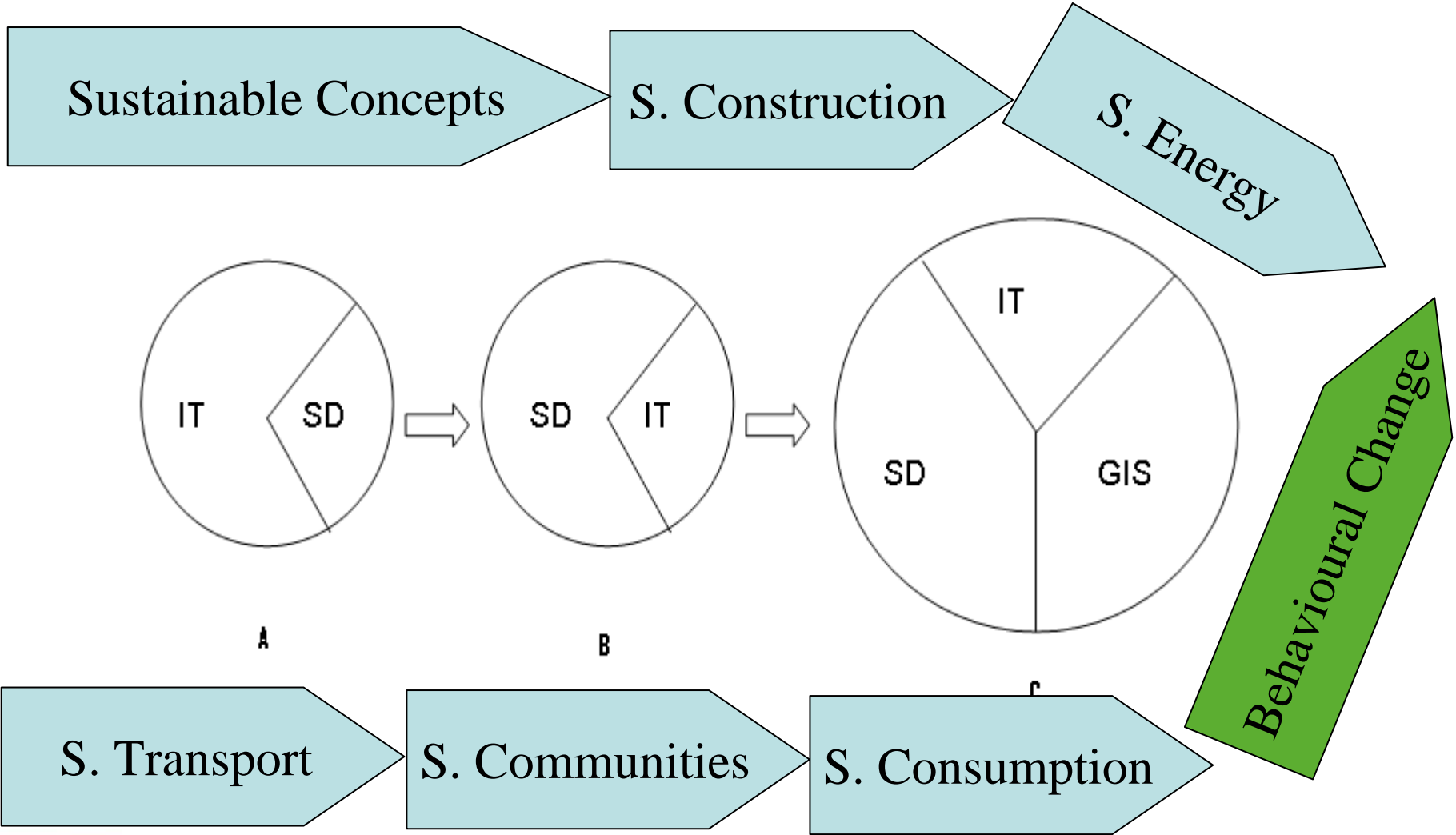


- **Experiential Learning** * **Decision Making**
- **Process v. Product** * **Complex Issues**
- **WHY v. HOW** * **Balanced solutions**

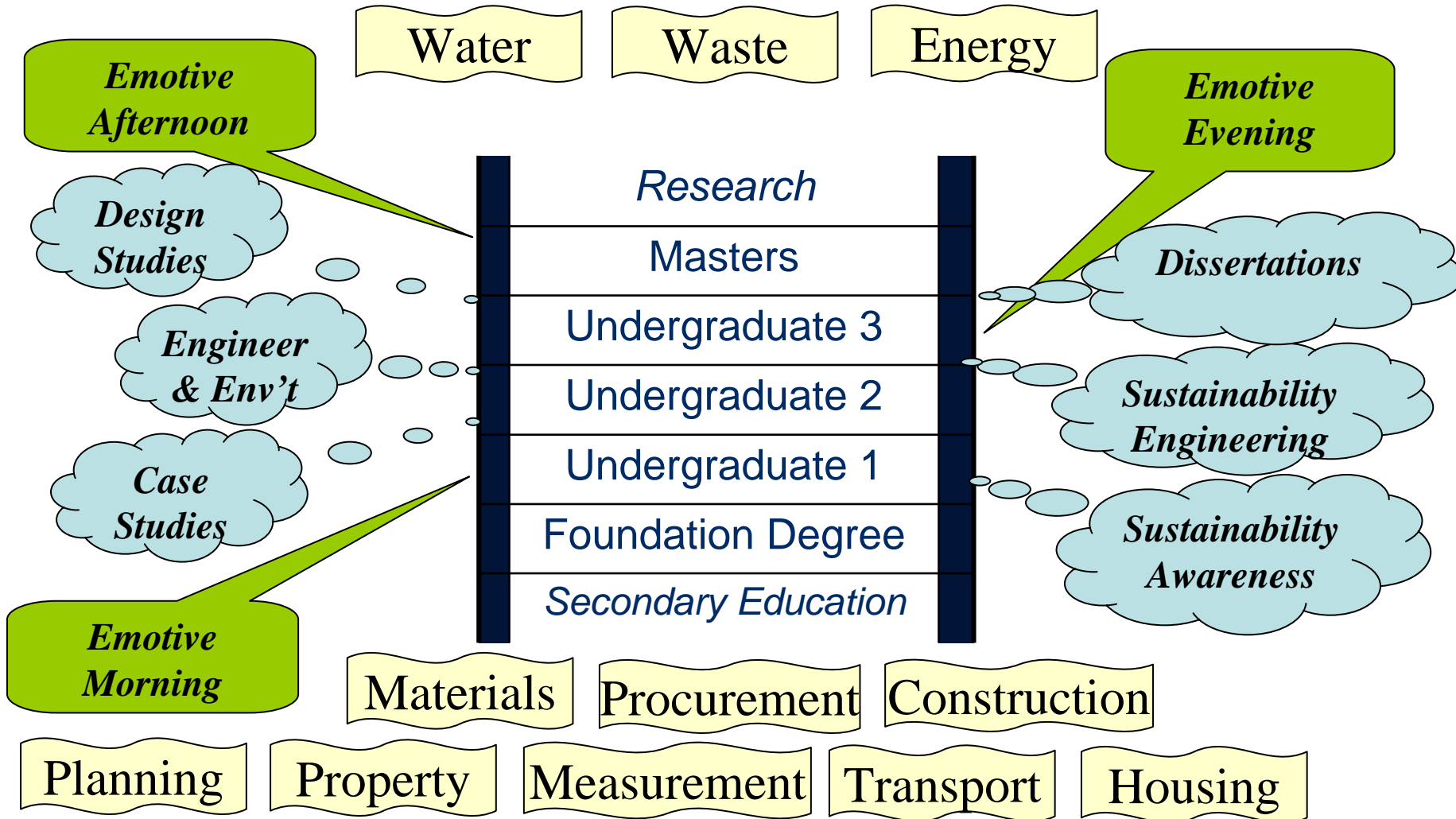




SD Awareness Module Development



SD Progression Ladder



- Cross & multi-disciplinary work works!
- Complex is more Challenging than Complicated!
- Teaching-led Research < > Research-led Teaching!
- Teamwork exceeds Workteams!
- External links are vital in both directions!
- Sustainable Engineering is transferrable across HE!
- SD maturity supports professional activity & ethics!
- Support by allied bodies: ‘the world is your oyster’!
-
- Where next? – IISE? ESDR? SDiG?
- The new SD is ‘Security of Services’!

To debate, challenge, develop, link with this paper –
contact: W Alan Strong: wa.strong@ulster.ac.uk



Miles to Run .. Promises to Keep .. People to Help

THANK YOU

W Alan Strong Chartered Engineer, Chartered Environmentalist