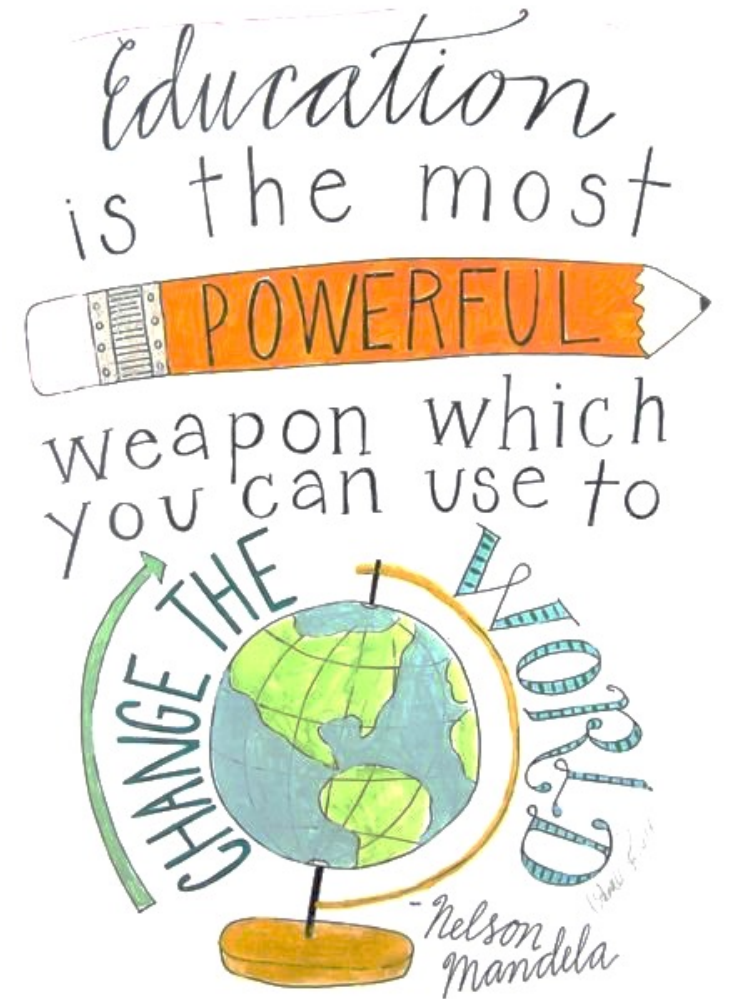


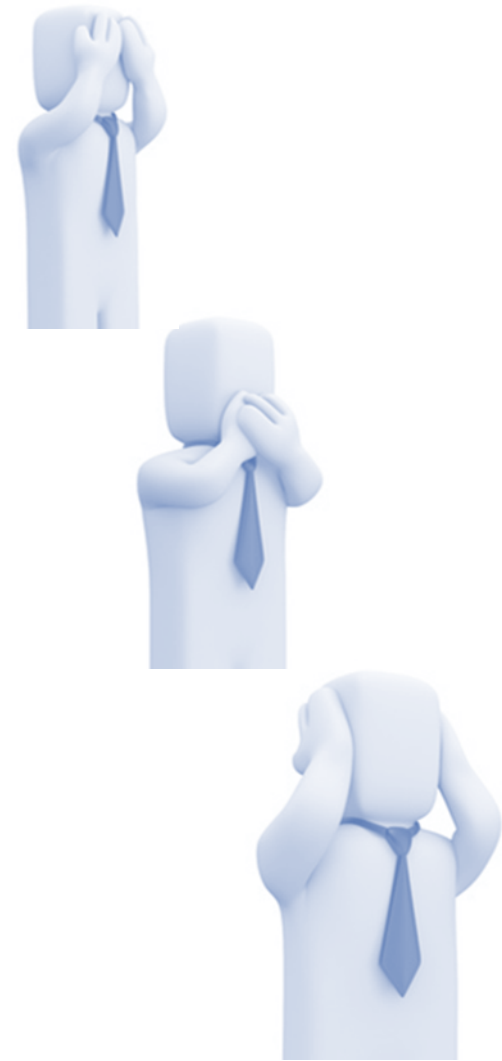
Presentation Contents

- EfS context - sustainable business; responsible education
- Students' context
- Audit-based Learning
- Audit based Learning in practice – using the example of BUSM2039
- Outcomes of Audit-based Learning



External Context of Sustainable Business

- Organisations can affect the environment, climate change and society through day-to-day operations - therefore need to minimise environmental and social impacts (Carbon Trust 2015; Finke, Gilchrist & Mouzas, 2016)
 - ❖ Positive proactive response not been forthcoming across all UK commercial sectors
- Larger organisations generally recognise and act on environmental and social impacts
 - ❖ SMEs generally have an ad-hoc approach to environmental and social incidents (Panwar et al., 2016) and lack engagement with sustainability management strategies (Cassells and Lewis, 2017)



External Demands for Responsible Education

United Nations 2030 Agenda for Sustainable Development - a 'plan of action for people, planet and prosperity'



Student Context

EfS takes place within an environment in which

- Students are consumers possessing:
 - ✓ Preferences for interactive, experiential learning
 - ✓ Expectations of being taught employment skills
 - ✓ Desire for 'just-in-time learning' for successful assessment – a degree is a passport to employment
 - ✓ Low levels of lecture engagement
- Employers expect HE to provide employment ready graduates
 - ✓ Sustainability knowledge and skills
 - ✓ Employment skills such as collaboration, negotiation and influencing (higher order cognitive skills)
- Educators hope to engage students as change agents for sustainable futures
- Sustainability performance of a university is a key factor in many students' choice of where to study (Nuwer, 2014)



Employability Context: Competencies Expected of Sustainability Professionals

- 5 core sustainability competencies expected of professional graduates (Wiek et al., 2011):
 1. **Systems-thinking competence** - the ability to analyse complex systems across differing scopes and scales of sustainability
 2. **Anticipatory competence** - the ability to understand future (un)sustainable scenarios
 3. **Normative competence** - the ability to create sustainable vision for future sustainability
 4. **Strategic competence** - the ability to design and implement strategic interventions
 5. **Interpersonal competence** - the ability to work collaboratively to solve problems
- EfS lagged behind needs of businesses so sustainability, employability and higher order cognitive skills gaps now widely recognised (Benn and Dunphy, 2009; Drayson, 2014; Edie, 2015; Laurinkari and Tarvainen, 2017)

“Only 13% of organisations are confident they have the skills they need to compete in a sustainable economy”.

Institute of Environmental Management & Assessment
(2016)

“85% of employers require graduates to have knowledge of sustainability”

NUS Survey: Employer attitudes towards, and skills for, sustainable development (2015)

Audit-based Learning: Definition

- Sustainability Audit:
 - ✓ Methodical examination of a business's procedures and practices that determine or influence environmental, social or economic impacts
 - ✓ A voluntary, essential management procedure that allows an organisation to detect problems before they affect operations (Hillary, 2004)
 - ✓ Systematic approach to improving sustainability performance whilst improving economic performance (Viegas et al., 2013)
- Audit -based Learning
 - ✓ Learning achieved through preparing and undertaking an audit and reflecting on its' outcomes
 - ✓ The audit is both an outcome and a process of learning through which students recognise and take ownership of their learning needs



Audit-based Learning: Opportunities to Enhance LTA

- Audit based learning is designed to engage students in :
 - ✓ EfS through active, experiential and collaborative learning, teaching and assessment
 - ✓ Higher order cognitive skills development
 - ✓ Complexities of integrating social, environmental and economic responsibilities in a business environment
 - ✓ Knowledge and employment skills development through realistic and relevant experiences in contexts they find meaningful e.g. real world settings
 - ✓ Self-directed learning including consideration of what information is useful and what can be discarded



Audit-based Learning: Auditing the University (BUSM2039)

- BUSM2039 LTA designed around completion of an assessed sustainability audit of UW, which engages students with sustainability through:
 - ❖ University of Worcester (UW) as a Live Case Study
 - ❖ The module as a Living Lab
- Assignment in 3 parts: 1) Audit of UW 2) Evaluation of findings 3) Recommend strategic improvements
- Taught sessions used to support students in completing their audit



Auditing the University: Practical Details of the Module

- Taught content interwoven with active, participative live case study based practical activities e.g. games, creative activities, EIA, making films, etc.
 - ❖ Engages students in UW and audit process
 - ❖ Promotes ongoing support and guidance, peer-to-peer learning, reflection-on- action
 - ❖ Provides academic content, sustainability knowledge skills and values and employment skills
- Innovative support and guidance provided through guest lectures from sustainability practitioners e.g. UW Sustainability Director, Purchasing Department, Energy Consultant:
 - Students discuss UW sustainability performance, check understanding, ask questions related to audit assignment.



Auditing the University: Practical Details of the Assignment

BUSM2039 - Sustainability Audit Checklist

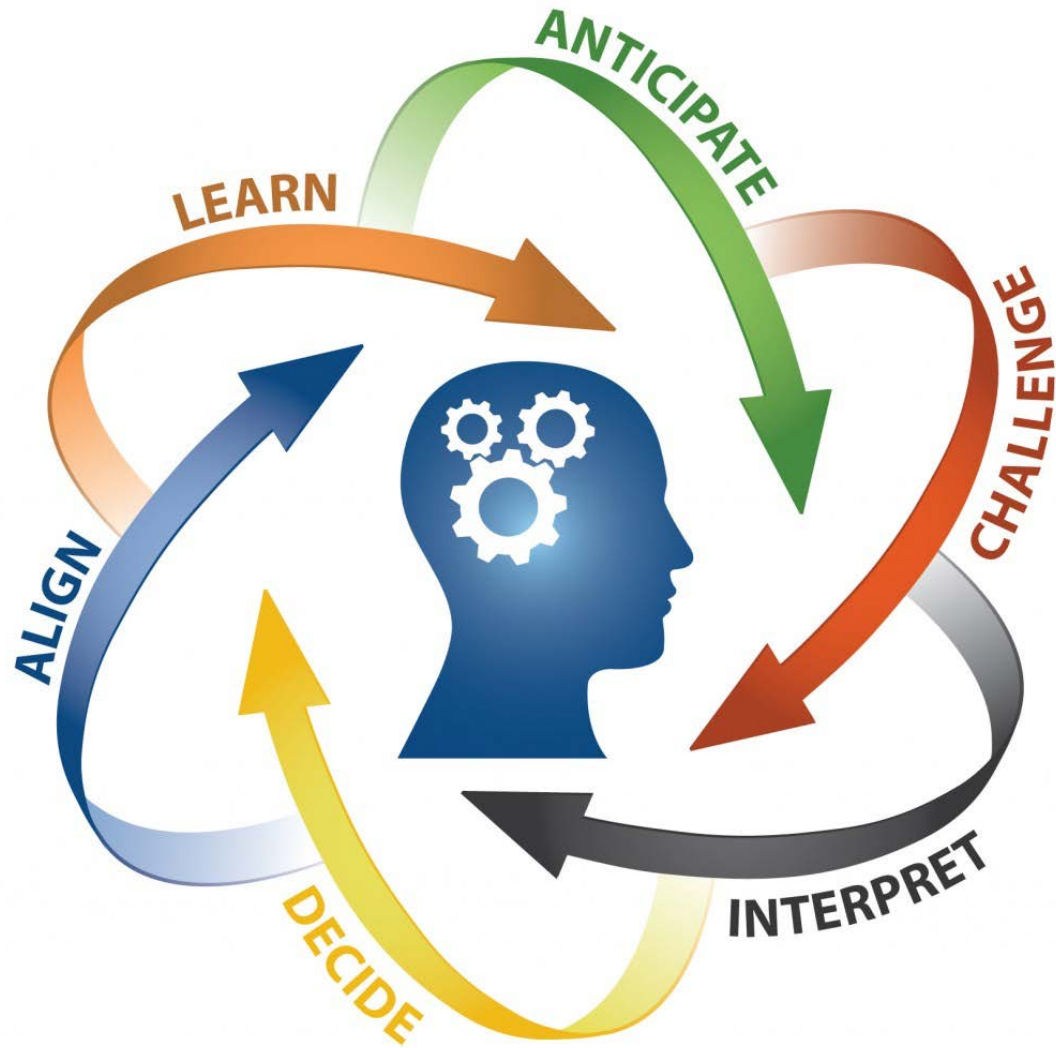
Score Audit Findings

This section should include targets, latest status and planned actions, along with the **evidence** used to create this audit finding. Include other information as appropriate e.g. names of those responsible, awards won, etc.) NB this
should provide an answer to the question "how is this item delivered and what evidence proves this?"

Policy: Human Resources for Sustainability		73.00%
Which members of the University of Worcester staff are responsible for sustainability activities within the university? (Include those with operational responsibility and those with management responsibility)	5	There are a number of staff involved with sustainability at the University. There is also a sustainability Committee including a number of pinitol members of the University, and students themselves. The Director of Sustainability is Katy Boom, who is a focal point for all aspects of sustainability within the University Heather Barrett; Academic Lead for Sustainability. Phil Mole; Waste Supervisor. Matt Smith; Sustainability Coordinator. All of these members of staff are operational and work full time. Katie Amey works part time as a Green Impact Project Supervisor. (https://www.worcester.ac.uk/discover/sustainability-priorities.html)
Are there sufficient, appropriately trained, environmental sustainability staff?	5	Yes, the staff at the University are very well trained, and it is claimed that 'all have enhancing environmental sustainability within their job roles.' (https://www.worcester.ac.uk/discover/sustainability-priorities.html) When a new member of staff joins the University, the are given a mandatory induction regarding sustainability at the University. There are also 3 ISO 14001 trained auditors, full-time energy and waste manager posts supporting the sustainability department.
Well resourced staff:		
What ongoing staff development activities for Sustainability Staff are implemented. Is a framework provided which allows for the review and provision of training, peer support, life-long learning etc?	3	As previously mentioned, all new staff are subjected to a sustainability induction, and whilst working at the University, all staff have enhancing environmental sustainability within their job roles. However, there is a lack of evidence to be found regarding the on going training of current staff in relation to sustainability issues. The Sustainability Committee are in charge of prioritising sustainability projects, and whilst they contain many members of staff and students, there are hundreds of other members of staff who are not on this committee and could not have anything to do with the sustainability aspect of the University. (https://www.worcester.ac.uk/discover/sustainability-priorities.html)
How well are Sustainability Staff resourced with a budget, appropriate tools and access to shared approaches/ space for networks/partner organisations?	4	The department has an annual budget of around £125,000. Where the budget is spent is decided by the Sustainability Committee. The sustainability department at the University work within local, regional, national and international networks to further the sustainability agenda. For example, 53 students, board members, senior management, academic and support staff at the University were invited to vision Sustainability; a conference held at the University regarding Sustainability. (https://www.worcester.ac.uk/documents/future_connect_report_-_Domas_Jackevicious.pdf)
How effective is the staff engagement scheme to involve staff in improving the environmental performance of the university e.g. departmental eco-champions or NUS Green Impact Universities and Colleges?	2	There is very little evidence to suggest that staff are engaged and involved in environmental sustainability improvement at the university. In the 2015-2016 Annual Sustainability Report it states that ' We are continuously evaluating and developing metrics to monitor the sustainability culture to ensure we are 'making a difference'. I have struggled to find any information suggesting there is ongoing training or involvement for staff regarding environmental performance.

Policy: Ethical Investment		76.00%
How does University of Worcester ensure it has a robust and publicly available ethical investment policy?		
How effectively does it cover the essential criteria? (basic information expected)	5	The Ethical Investment Policy covers all the basics very well. It outlines 5 key bullet points that are concise and informative.
How effectively does it cover additional information? (beyond the basic information expected)	4	The two page document covers a great deal more than just ethical investment, there is information regarding potential issues that could be raised, such as overseas operations, the environmental management and political activity. It also references the University's general Environmental Policy and its Carbon Management Strategy, which could be considered valuable information for anyone interested with the Ethical Investment Policy. (https://www.worcester.ac.uk/documents/Ethical_Investment_Policy_agreed_March_2011.pdf)
How has the institution evaluated implementation of then ethical investment policy and progress towards its ethical investment policy objectives in the last financial year?	3	After reading the Report to the Sustainability Committee regarding the current investment position for the financial year ended 31st July 2016, it was evaluated that there was ' no share investments made in the year and hence there was no need to consider any ethical dimension to any investment decision'. This obviously meets the ethical investment policy, however, because there were no share investments made, there were no investments to ensure that were ethical. (https://www.worcester.ac.uk/documents/Paper_re_Ethical_Investment_Policy_June_2017(1).pdf)
What ongoing opportunities are there for staff, students and other stakeholders to engage with the ethical investment policy ? How effective are these?	1	The Ethical Investment Policy is easily accessible, and through reading it I cannot find information as to how staff, students and other stakeholders are able to engage with it. It clearly states that donations are welcome from alumni etc, however there is no mention of other engagement either on the policy itself, or the University page linking to the policy.

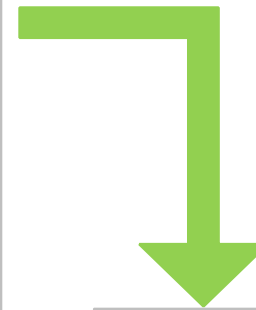
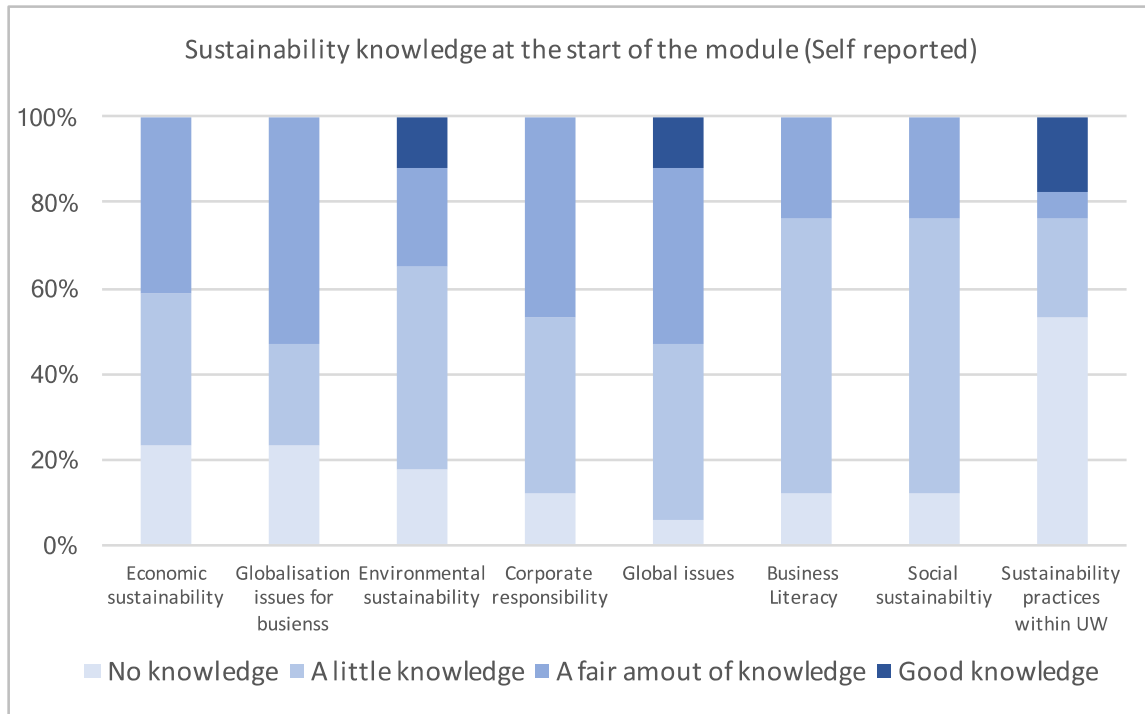
Research Process



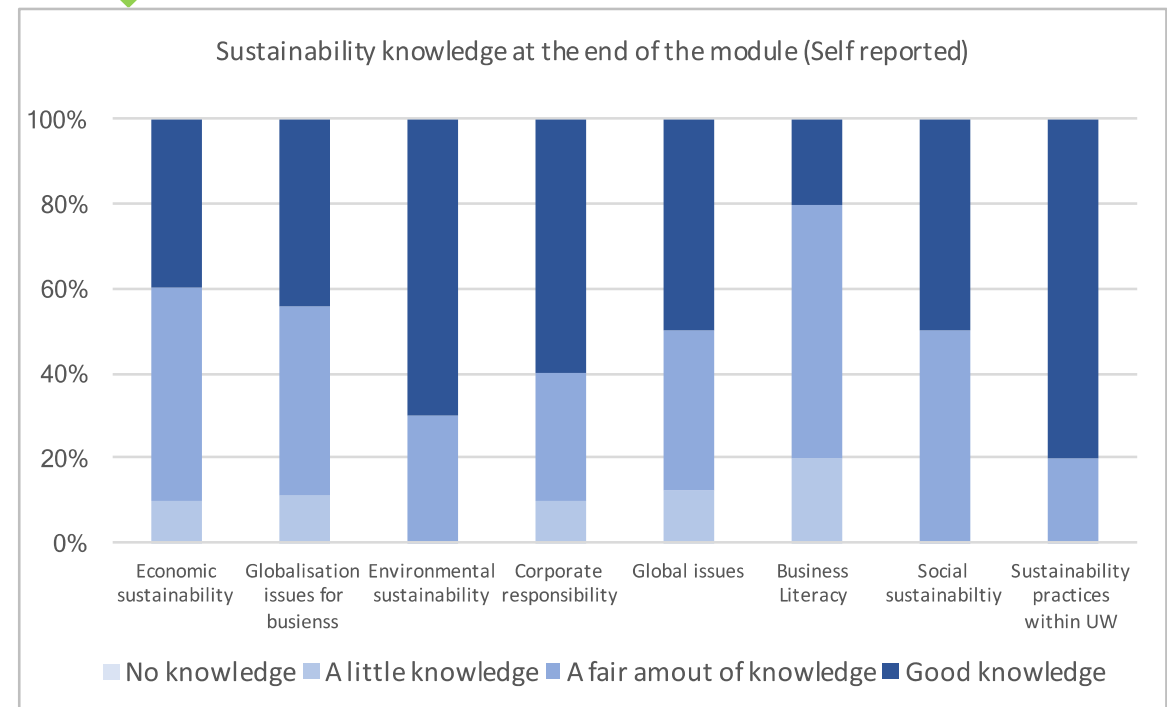
- Pre and post module surveys completed by students to establish development of :
 - ✓ Sustainability knowledge
 - ✓ Information, Media and Technology Skills
 - ✓ Higher Order Cognitive Skills
- Quantitative responses collated graphically
- Qualitative responses analysed against 21st Century Learning Skills Model

Outcomes: Development of Sustainability Knowledge?

BUSM2039 WEEK 1

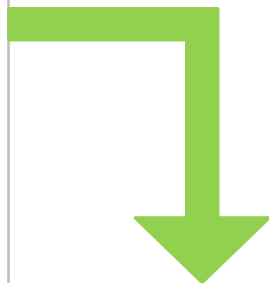
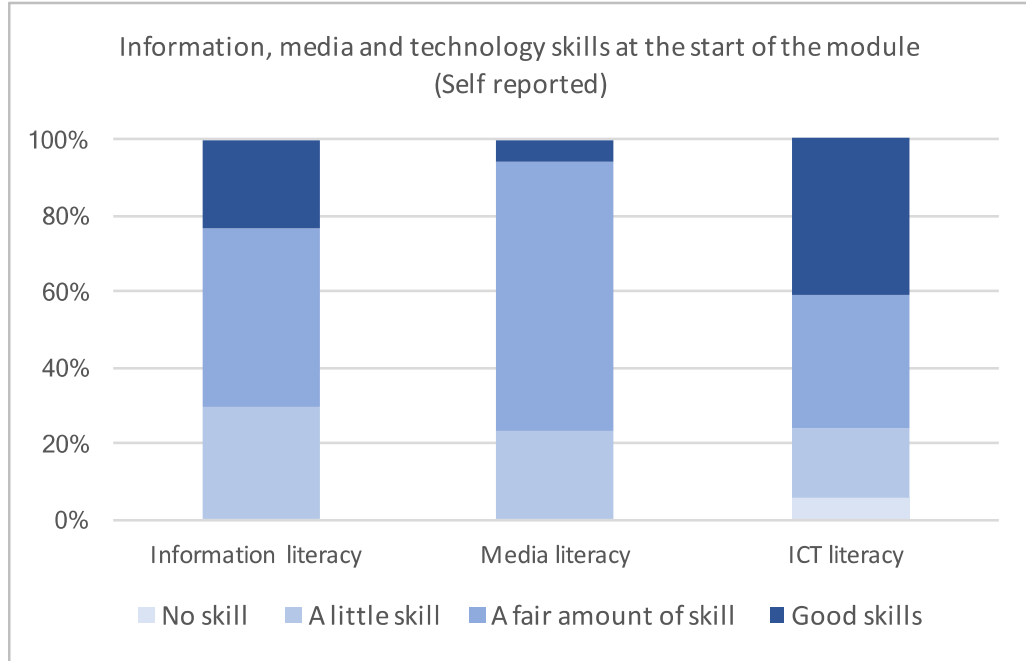


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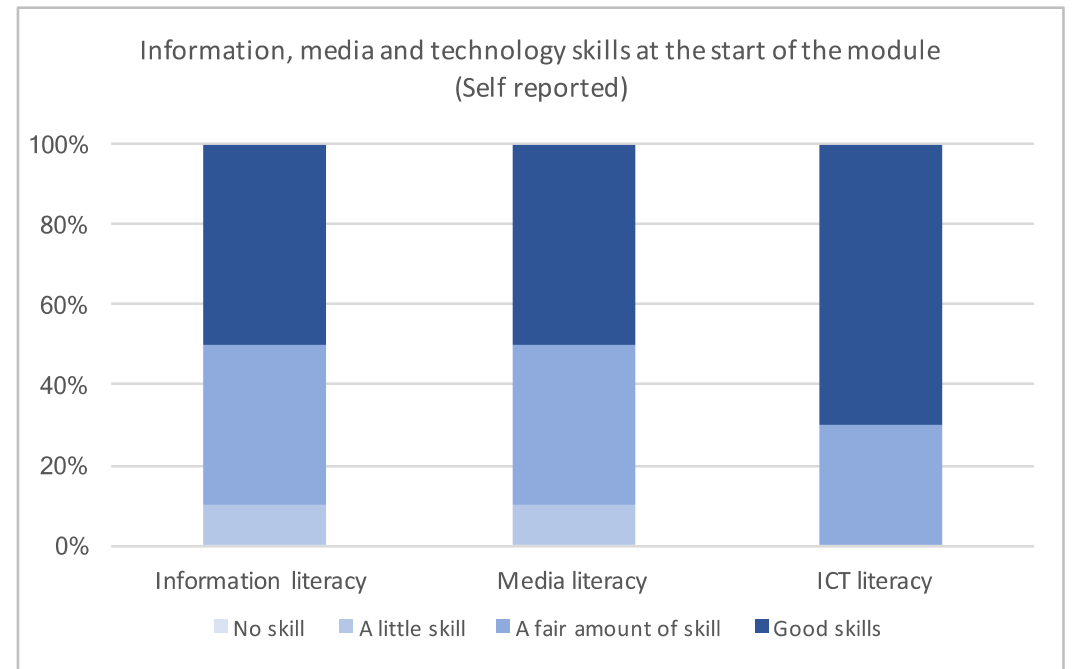


Outcomes: Improvement to Information, Media and Technology Skills?

BUSM2039 WEEK 1

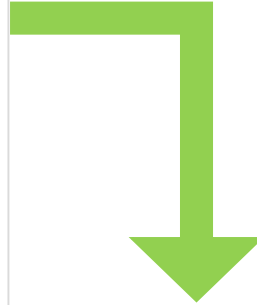
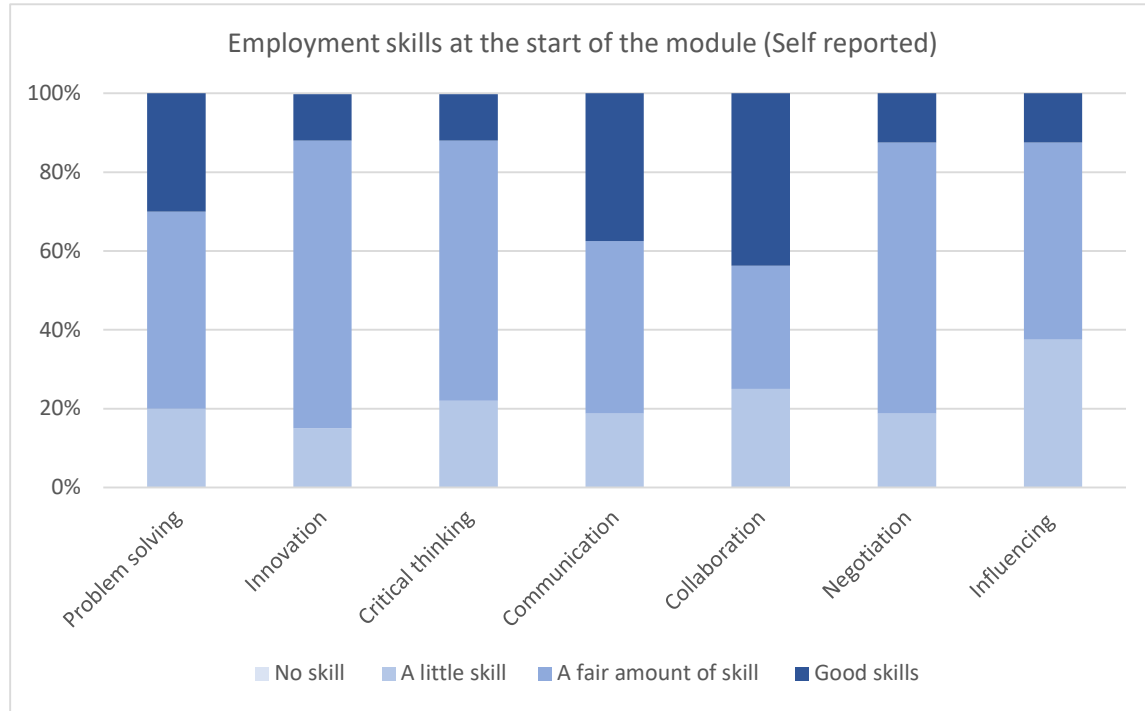


BUSM2039 WEEK 12

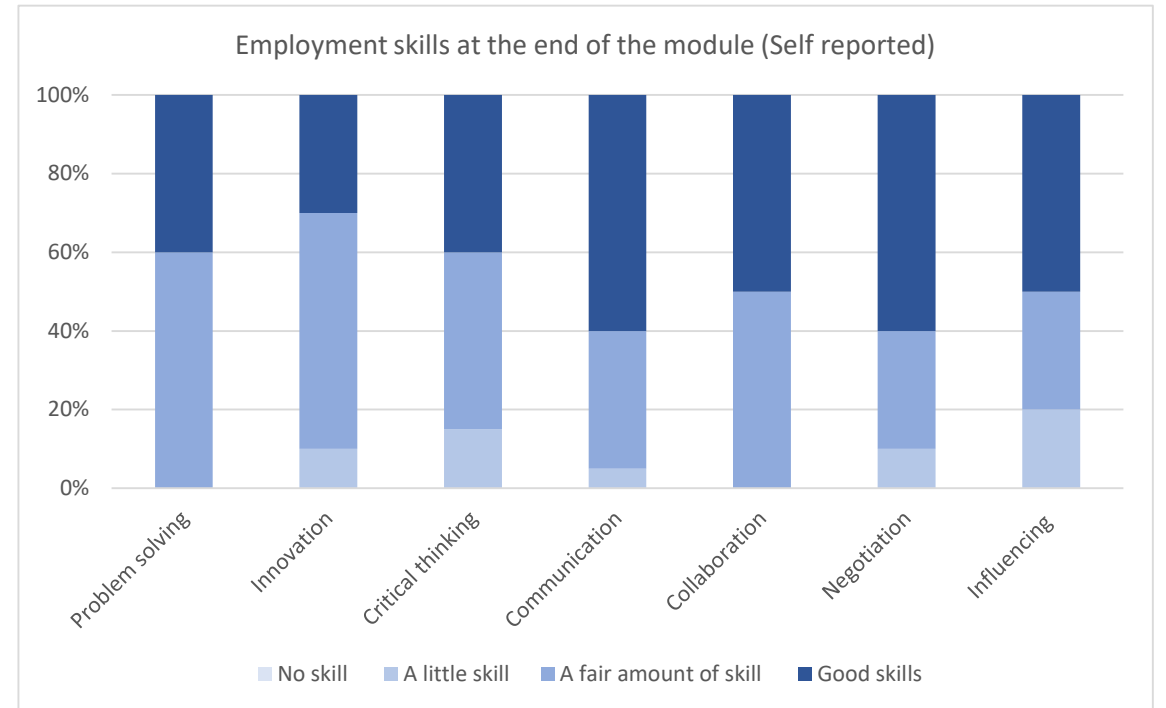


Outcomes: Development of Employment Skills?

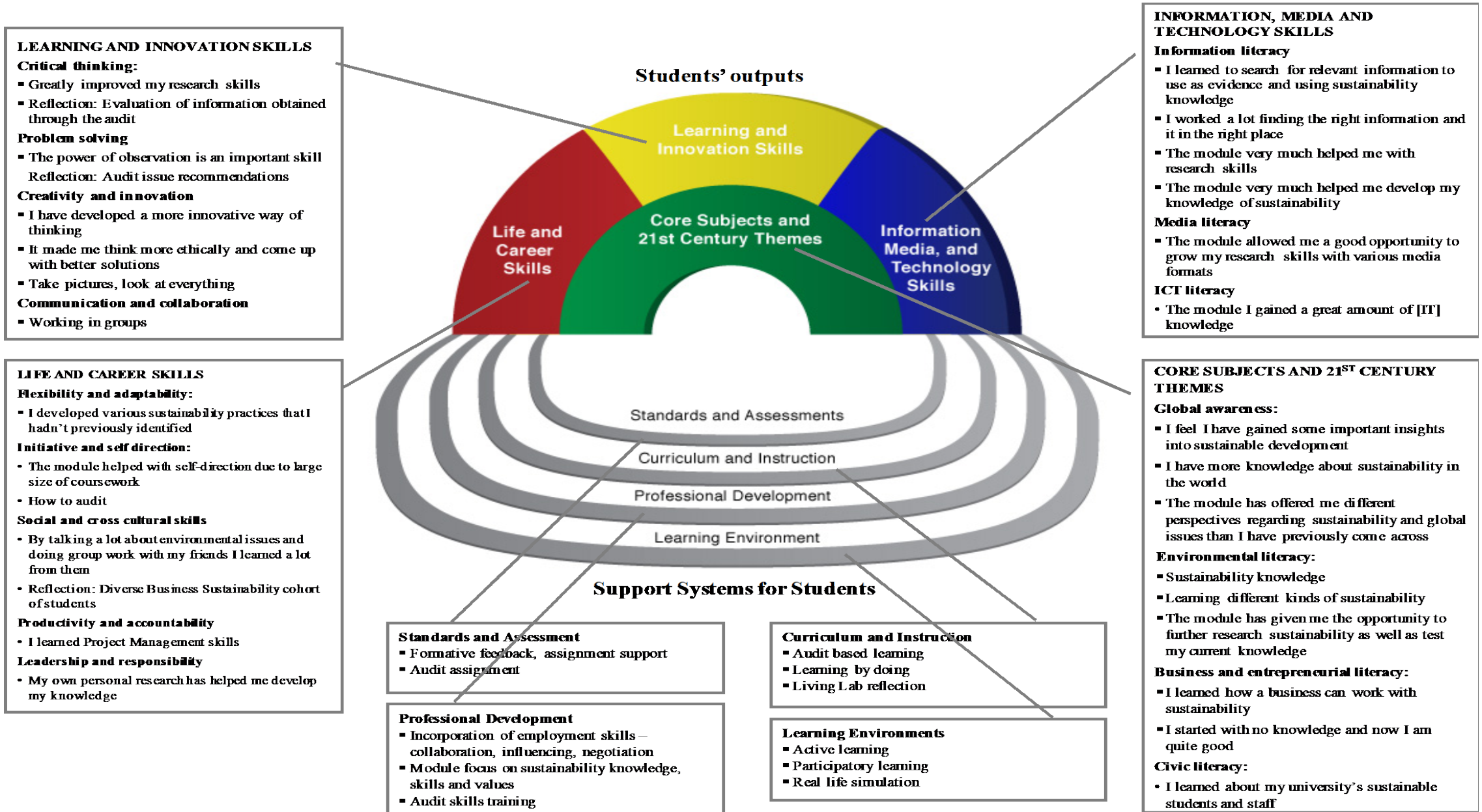
BUSM2039 WEEK 1



BUSM2039 WEEK 12



Outcomes of Audit-based Learning



Conclusions

- Audit-based Learning on BUSM2039 has delivered:
 - ✓ Interactive, experiential learning experiences
 - ✓ Active, real-world LTA methodology for EfS
 - ✓ Sustainability knowledge, skills and values
 - ✓ Challenges to thinking and behaviours of individuals
 - ✓ Engagement of future sustainability professionals
- Audit-based Learning supports development of employment ready graduates with:
 - ✓ Knowledge and skills needed to promote sustainable futures
 - ✓ Employment skills for successful careers
 - ✓ Tools to feed forward into future (or current) workplace





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