

Analysis of Leaving Cert: Level of ESD assessment

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Aims of study

- ▶ Investigate current state of ESD assessment
- ▶ Identify trends in ESD assessment
- ▶ Make recommendations for ESD improvement



Methodology

- ▶ LC subjects discussed, 8 subjects selected:

Agricultural Economics	Agricultural Science
Biology	Construction Studies
Engineering	History
Geography	Technology

- ▶ Higher and Ordinary papers were examined
- ▶ 3 years of papers: 2017-2015

- ▶ All ESD topic questions compiled
- ▶ Classified under 18 headings
e.g. Climate change, Renewable energy, Waste disposal



- ▶ Long answer vs short answer questions

Data Handling

- ▶ Organised log of all questions kept
- ▶ Table of topic frequencies made

Biology - Higher Level-Leaving Cert	2017		2016	
	Short Question	Long Question	Short Question	Long Question
Air & Water pollution	Q10B	Q10B		
Appreciation of Nature				
Biodiversity & Conservation	Q10A			
Climate Science/ Climate Change				
Ecological surveying	Q7A, Q7B		Q10A	Q10B
Ecology	Q7B, Q10A	Q10C	Q1, Q10A,	Q10C
Energy Efficiency				
Environmental/Agricultural Policies				
Fossil Fuels				
Greenhouse Gas emissions				
Habitats				
Invasive Species				
Nitrogen Cycle	Q2			
Recycleable Materials				
Renewable energy				
Resource Efficiency & Waste				
Sustainable Development Goals				
Waste Disposal	Q10B	Q10B		

Biology exams- Higher Level

Results

▶ Agricultural Economics:

- ▶ Infrequent reference to ESD topics
- ▶ Main topics: Cross compliance, environmental policy

▶ Agricultural Science:

- ▶ Frequent reference to ESD topics
- ▶ Main topics: fertiliser and pesticide use
- ▶ A sense of responsibility



Results

► Biology

- Very frequent reference to ESD topics
- Main topics: Ecology, ecological surveying

► Construction Studies:

- Very frequent reference to ESD topics
- Main topics: Energy efficiency
- Often calculations, not rationale



Results

▶ Engineering:

- ▶ Infrequent reference to ESD topics
- ▶ Main topics: Renewable energy, recyclable materials

▶ Geography:

- ▶ Most frequent reference to ESD topics
- ▶ Main topics: Human impact on biomes, fossil fuels
- ▶ Other questions discuss human impacts - reinforce awareness



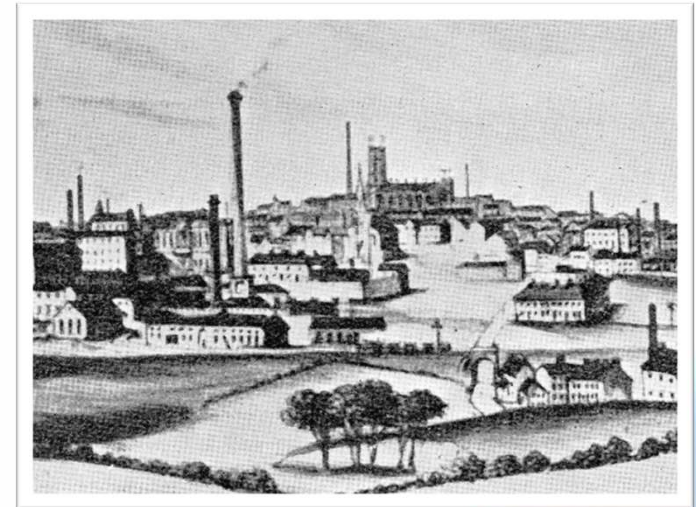
Results

▶ Modern History:

- ▶ Infrequent reference to ESD topics
- ▶ Main topics: Industrialisation

▶ Technology:

- ▶ Very frequent reference to ESD topics
- ▶ Main topics: Renewable energy, Recyclable materials
- ▶ Year-on-year increase.



Overall trends

► Often topics raised, no understanding required.

- (d) Carbon dioxide levels in the atmosphere have become the subject of international concern in recent years, as demonstrated by the United Nations Climate Change Conference held in Paris in December 2015.
- (i) What happens to carbon dioxide during photosynthesis in green plants?
 - (ii) Name the major pigment needed by plants for photosynthesis.
 - (iii) Describe, with the aid of a labelled diagram, a laboratory experiment to show that carbon dioxide is needed for photosynthesis.

Overall trends

- ▶ More focus on “solution topics” - Renewables etc.
 - ▶ Less focus on potential dangers
- ▶ Slow Increase in ESD over 3 years studied

