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# Academic Writing across Genres: Language Choices in Research Articles and Impact Case Studies

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## Context

- Different “academic” genres
- Funding council “Research Excellence Framework” (REF) (cf. VQR in Italy, SEP in the Netherlands, AERES in France, Rebora and Turri, 2013)
- 2014: included “Impact Case Studies”
- -> high stakes: attracts funding for universities!
- Impact: “**an effect** on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, **beyond academia**” (REF, 2011: 48)

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## Defining the Genre

1. What are linguistic differences between Impact Case Studies and Research Articles?
2. Are there differences between Impact Case Studies that received high and those that were given low scores?
3. How do these differences relate to Research Articles?



## Genre variation in student writing: A multi-dimensional analysis

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## ABSTRACT

EAP professionals often desire to better understand writing in the disciplines (WID) to inform their pedagogical materials and practices. While genre analysis has increased our understanding of academic writing, quantitative, corpus-based approaches can supplement the area (Siber, Connor, & Upton, 2007). To that end, a multi-dimensional (MD) analysis was conducted using dimensions extracted by Hardy and Ritter (2013). Paper types from the Michigan Corpus of Upper-Level Student Papers (MICLISP) were investigated along the following dimensions: (1) Involved, Academic Narrative vs. Descriptive, Informational Discourse; (2) Expression of Opinions and Mental Processes; (3) Situation-Dependent, Non-Procedural Evaluation vs. Procedural Discourse; and (4) Production of Possibility Statement and Argumentation. The MICLISP paper types were found to pattern similarly across all four dimensions, with the more personal genres (e.g., creative writing, critiques/evaluations, response papers) and the more objective genres (e.g., research papers, reports) consistently averaging dimension scores on opposing ends of the poles.

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An important tradition in English for Academic Purposes (EAP) programs is the pursuit of teachers, materials developers, and curriculum designers to better understand the written products expected of students outside of the language classroom. The tailor-made courses and materials associated with EAP, however, can be difficult to create because in many English classes, students have different areas of interest. This heterogeneity can be daunting when deciding what to incorporate. Not only do we have to decide which generic practices to emphasize, those of us who teach these courses may specialize in literature, composition, and/or second language teaching. There is thus a possibility of disconnect between the tasks familiar to and assigned by instructors and the writing requirements across the curriculum. For example, students in a biology course may need to write experimental reports: a task they may never have encountered in composition classes.

It would thus be useful for writing instructors to be familiar with the linguistic and rhetorical demands in their students' other courses, a belief long associated with EAP pedagogy. With this knowledge, instructors can help students build genre awareness and become more aware that the commonly assigned personal and argumentative writing tasks are only one part of the styles that will be expected of them throughout their academic and post-academic experiences. With that in mind, the current study hopes to better understand the multi-dimensional variation among paper types, or genres, of student writing across the curriculum.

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## Impact case study (REF3b)

Institution: University of Bristol

Unit of Assessment: 1 – Clinical Medicine

Title of case study: Delivering better birthdays: reducing perinatal and birth-related morbidity and mortality for babies and mothers across the world

Template, with word limits for each section

## 1. Summary of the Impact (indicative maximum 1000 words)

As a consequence of a research-based training programme, the rates of perinatal hypoxia and intrapartum fetal distress in the UK and the US are now among the lowest in the world. The UK and Australia have also been successfully achieved in a low resource setting in Zimbabwe.

In response to demand from maternity units across the world, the Bristol team has developed PROMPT – a Practical Obstetric Multi-Professional Training package, which has been successfully implemented in over 20 countries worldwide. PROMPT has had a major health and welfare impact on more than a million mothers and their babies, as well as bringing substantial economic benefits and supporting international development.

## 2. Underpinning research (indicative maximum 500 words)

Safety in maternity services is a priority for women, their families and health services. Obstetric emergencies are low-occurrence, high-stakes events that demand a coordinated and immediate response from expert teams.[1] The SaFE (Simulation and Fire-drill Evaluation) Study, funded by the UK Department of Health (2003-2005), was a multi-centre randomised controlled trial of obstetric emergencies training. The research was carried out by Bristol researchers (listed at the end of this section) in collaboration with maternity staff across the South West. This 2x2 factorial design randomised trial compared high-technology, simulation-centre training with the same intervention delivered in a low-technology, in-house hospital setting, with or without teamwork training.

The trial identified that the research-based training programme for obstetric emergencies developed by the Bristol team for the SaFE study improved knowledge, skills and attitudes for all staff and that these improvements lasted for at least 12 months.[2] Additional teamwork training and training in a simulation centre did not confer any additional benefit compared to training locally. These data were encouraging but the improvements were demonstrated only in simulations. At that time there was no robust research that demonstrated improvements in clinical outcomes for mothers and their babies associated with training. Indeed, there were two studies in the US and UK that demonstrated no change, or even deterioration in clinical outcomes post-training.

The training programme for the SaFE study was iteratively developed using information and data from the study. It was then implemented at Southmead Hospital in Bristol and its effect evaluated using a longitudinal review of clinical outcomes comparing five years' post-training with five years' pre-training data. Following the introduction of training the Bristol research team identified significant clinical benefits (published in landmark papers – see section 3 for six papers that collectively have more than 400 citations):

1. A 50% reduction in babies born in poor condition and a 50% reduction in birth-related neonatal brain injury.[3], [a, b]
2. A 70% reduction in brachial plexus injuries following a common complication of birth (shoulder dystocia).[4], [c, d]
3. A 50% reduction in the time taken to expedite birth in potentially life-threatening cases of umbilical cord prolapse.[5]
4. Improved composite neonatal outcomes, including a reduction in the rates of intensive care admission from 38% to 22%. [5]

## The Corpus

- Unit of Assessment “Psychology, Psychiatry, Neuroscience”
- 10 Impact Case Studies from 4 universities (guaranteed high scoring: 4\*)
  - “ICS-high”
- Research Articles cited as “underpinning research” in those case studies
  - “RA”
- 4 Impact Case Studies from 2 universities (guaranteed low scoring: 1\*/2\*)
  - “ICS-low”

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## The Corpus

|   | <b>Impact Case Studies (high)</b> | <b>Research Articles</b> |
|---|-----------------------------------|--------------------------|
| <b>Files</b>  | 10                                | 46                       |
| <b>Tokens (Lancsbox)</b>  | Ca. 16,000                        | Ca. 235,000              |
| <b>Types (Lancsbox)</b>   | Ca. 3,000                         | Ca. 14,000               |
| <b>Type-Token-Ratio<br/>(Standardised for 1,000,<br/>based on WS Tools)</b> | 38.6                              | 37.1                     |

## Searches

- Keyword searches (RA vs ICS-high, ICS-high vs ICS-low)
- 3-grams and 4-grams in RA, ICS-high and ICS-low (any string of 3 or 4 words)
- KWIC for each Keyword and 3/4-gram
- Tools used:
  - WordSmith Tools to extract keywords and normalised type-token ratio (Scott, 2013)
  - AntConc to extract n-grams (Anthony, 2014)
  - LancsBox for KWIC lines, range, collocations and normalised frequencies of types (Brezina et al., 2015)

## Results 1: Features of Impact Case Studies

- Names, **people**: “professor”, “institute”, “he”
    - Agency
  - **Time** frame: “September”, “2012”
- More explicit about who did what when

## Results 2: Features of Research Articles

- Details of the **research**
  - Methods, experimental design: “participants”, “sample”, “expected”
  - Results, analysis: “p”, “data”, “mean”
- **Epistemic modality** – how certain is the writer about their claim?
  - KW: “may”, “possible”
  - 4-grams (not in ICS!): “are likely to be”, “it is possible that”
  - Absence in ICS: Do funding-related ICS argue the case for impacts that have occurred more strongly than when addressing peers in RA?  
(see Watermeyer and Hedgecoe, 2016)

## Results 3: High-scoring ICS – Specificity

- 3-gram “**was the first** (... to)” (high) vs “the first to” (low)
  - “the first in the world to”
  - “the first, and to date only, prospective study to”
  - More specific with fewer words -> more persuasive within word limit
- KW “**European**”: 10x in 4/10 texts; 7/10 occurrences are institutions
  - European Commission, European Food Information Council

## Results 3: High-scoring ICS – Causal pathway

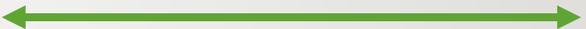
|             |          | frequency | per 10,000 words | range |
|-------------|----------|-----------|------------------|-------|
| “Led to”    | ICS high | 18        | <b>11.13</b>     | 9/10  |
|             | ICS low  | 3         | <b>5.37</b>      | 3/4   |
| “funded by” | ICS high | 6         | <b>3.17</b>      | 5/10  |
|             | ICS low  | 1         | <b>1.79</b>      | 1/4   |

- “led to”:
  - Insights, conclusions
  - policy recommendations, ministerial decisions, the introduction of legislation
- “funded by”:
  - UK and EU Research councils, government departments, company names
  - Prestige – proxies for importance and/or application

## Results 3: Low-scoring ICS – Less specificity

- 3-gram “**a range of**”
  - Combining examples – not strong enough to be persuasive in their own right?
  - ICS-low: “a range of health professionals”, “a range of comments”
  - ICS-high: “... funded by *a range of* sources: (...) our research (...) has been supported Nationally and Internationally (£3-4 million from ESRC, MRC, NHS and UK and US Governments).”
- KW “**improvement**”
  - Appears in ICS-low but not ICS-high. ICS-high more specific in **what** the improvement is?

## Is “Impact Case Study” a separate genre?

| Genre    | Feature                   | RA  | ICS low | ICS high |
|----------|---------------------------|---|---------|----------|
|          |                           |  |         |          |
| ICS      | Agency                    | -   | +       | +        |
|          | Time frame                | -   | +       | +        |
| RA       | Epistemic modality        | +   | -       | -        |
|          | Methods                   | +   | -       | -        |
| ICS-High | Strong, specific evidence | -   | -       | +        |
|          | Dense persuasive text     | -   | -       | +        |
|          | Causal pathway            | -   | -       | +        |

## What next?

- Metadiscourse – stance and engagement markers in ICS and RA?
  - Different disciplines: RA differ across disciplines (e.g. Gray, 2015; van Enk and Power, 2017), same for ICS?
  - Suggestions, comments?
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## Impact Case Studies – an “academic” genre?

- Systematic differences in the language
- University “impact coordinator” -> streamlining of style within a department or even faculty
- 60% of top-scoring ICS from prestigious universities (Russell Group / Red Brick)