Disciplinary Literacy

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Overview

Brief summary of my earlier work

Learning in English
Teaching in English

Monolingual Learning
Disciplinary differences
Disciplinary literacy
Disciplinary literacy discussion matrix
Conclusions
Questions
Overview of earlier work

Students learning in English
Airey (2003; 2004; 2006a; 2006b; 2009a 2009b 2010a; 2010b)

Teachers teaching in English
Learning in English

PhD work:

Parallel courses in English and Swedish

Videoed lectures in Swedish and English

Selected video clips used to stimulate recall

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Results

Students reported no difference in their learning when taught in Swedish or English.

However, during stimulated recall students did report a number of important differences.
Results

When taught in English

Students ask and answer fewer questions
Results

When taught in English

Students who took notes had difficulty following the lecture

The success of these students appeared to depend on doing extra work outside class
Students adapted their study habits…

Only asked questions after the lecture

Stopped taking notes in class

Read sections of work before class

Simply used the lecture for mechanical note-taking

Airey and Linder (2006; 2007)
Recommendations

The following are six recommendations for lecturers:

1. Discuss the fact that there are differences when lectures are in a second language.

2. Create more opportunities for students to ask and answer questions in lectures.

3. Allow time after the lecture for students to ask questions.

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Recommendations

4. Ask students to read material before the lecture.

5. Give out lecture notes in advance or follow the book

6. Consider other teaching forms than lectures

Online lecture followed by discussion?

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Thøgersen & Airey (2011)

Built on earlier work with students that suggested people speak more slowly in a second language

(Hincks 2010; Airey 2010)

Danish lecturer taught same lecture five times
Teaching in English

Articulation rate [normalised]

Adapted from Thøgersen & Airey (2011)
Teaching in English

In English:

Same material took longer (22%)

Lecturer used a more formal, 'textbook' style
Teaching in English

Questions:

Is this true for all lecturers?

Is this true for all languages?

Is this true for all subject areas?
Lecturer profiles

18 lecturers at two Swedish universities

Range of disciplines

Overview

Earlier work

Monolingual learning

Disciplinary differences

Disciplinary literacy

The Disciplinary Literacy Discussion Matrix

Conclusions

Questions

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Video

1. Ten-minute mini-lecture in Swedish on a subject they usually teach

2. Ten-minute mini-lecture in English on the same subject
Differences between lectures

Lecturers spoke more slowly had more pauses and shorter runs in English
Articulation rate in syllables per second [normalised]

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Three types of lecturer

1. Structured no change in English
   Two options:
   - lecture is longer
   - the end of the lecture is cut off

2. Structured works differently in English
   Two options:
   - Choose to miss out some content
   - Cover all content but in less depth

3. Free structure
   - presents different information (but probably would in L1)
   - Lecture tends to be shorter—less to say
Tentative conclusions

1. Lecturers probably need more time to do the same job in English.

2. Highly-structured (teacher-centred) lecturers may have fewer problems changing to English.

3. May be pragmatic for lecturers to change style to a more structured approach.

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Summary earlier work

My research shows what happens when:

Swedish students learn in English
Swedish lecturers teach in English

But what should guide the decision to teach in English in the first place?

First need to understand monolingual learning.
Monolingual learning

Northedge (2002) claims that the fundamental role of a university lecturer is to introduce students to the specialist discourse of the discipline.

Building on this, Airey (2012, 2016) argues all teachers are language teachers even in monolingual settings.

Two ways of viewing this claim:
We are all language teachers!

Weak, uncontroversial stance
Disciplinary learning depends on the ability to interpret the specialized language in which the knowledge is construed.

(Lemke 1990)

Strong, radical stance
Disciplinary learning is a form of discourse change.

(Wickman & Östman 2002)
Disciplinary learning clearly becomes more complex when two (or more) languages are involved.

Which languages are actually needed for appropriate disciplinary learning?

What is an appropriate language mix?
Disciplinarity

Disciplines have been shown to have quite different approaches to knowledge building.

Disciplinarity

Each discipline has different goals and different ontological and epistemological assumptions

Ontology

A set of assumptions about the nature of reality and existence

Epistemology

A set of assumptions about how knowledge is obtained
Bernstein (1999) classified disciplinary knowledge structures as hierarchical or horizontal.

Hierarchical knowledge structures
Progress by integration of new knowledge with existing knowledge

Horizontal knowledge structures
Progress by introducing new perspectives that do not need to be coherent with existing perspectives
Disciplinary knowledge structures

Progression in hierarchical knowledge structures can be viewed as developing a single agreed “language”

New knowledge comes from integration
Progression in horizontal knowledge structures can be viewed as introducing new "languages of description"

New knowledge comes from new perspectives
Disciplinary knowledge structures

- **Hierarchical knowledge structure**
  - physics
  - biology

- **“Warring triangles”**
  - linguistics
  - sociology

- **Horizontal knowledge structure**
  - history
  - literary studies

Adapted from Martin (2011) and Wignell (2004)

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Physics has the most hierarchical knowledge structure of all disciplines. (Bernstein 1999)

Kuteeva and Airey (2014) find disciplines with hierarchical knowledge structures have strong preferences for English as a medium of instruction.
English language PhD theses

Salö (2010:24)

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Disciplinary differences and language

Least objection to English
Natural sciences  Social sciences  Humanities and Arts

Most objection to English

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Teaching in English

Adapted from Bolton & Kuteeva (2012)

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What does this mean for parallel language use?
Parallel language use is a necessity—only its implementation can be discussed
Gregersen and Josephson (2014: 45)

An intuitively appealing idea [but] a somewhat fuzzy and probably unrealistic target
Phillipson (2006: 25)

An unoperationalised political slogan
Kuteeva and Airey (2014: 536)
Parallel language use and disciplines

How can we operationalise parallel language use?

What do we want our graduates to learn to do?

In which languages should they be able to do this?

I argue that this depends on the discipline.
Disciplinary Literacy

Attempt to operationalise parallel language use in terms of the development of disciplinary literacy

In order to explain this term first need to look at the term literacy
What is literacy?

Gee (1991) suggests that we have one primary discourse (the oral language we learn as a child) and many secondary discourses (specialised communicative practices used in other sites outside the home).

Gee defines Literacy as 'fluency in' these secondary discourses.

Two points here:
What is literacy?

1. Literacy involves not just reading and writing but also speaking and listening and other (non-linguistic) skills e.g. maths skills, graphing skills, experimental skills, etc. cf. Archer (2006) Airey & Linder (2009)

2. Literacy depends on where you intend to use these skills.
What is disciplinary literacy?

**Disciplinary literacy refers to the ability to appropriately participate in the communicative practices of a discipline.**

Airey (2011b)
Disciplinary Literacy

The goal of any degree programme is the development of **disciplinary literacy**.

Airey (2011b)
Disciplinary literacy is developed for three sites society, workplace and the academy
Disciplinary Literacy Triangle

Society

Each of these sites places different demands on language

Academy  Workplace
Disciplinary Literacy Triangle

- Society
- Academy
- Workplace
Moreover, each site has the potential to be divided into an international and a local form.

These forms have quite different language needs

The international forms will almost certainly involve some English, whilst the local forms probably involve one or more other languages.

International and local

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Disciplinary literacy and language
Summary

Each discipline has its own knowledge structure. These knowledge structures do not appear to be language-neutral.

Each discipline fosters a unique form of disciplinary literacy for three sites: Society, Academy and Workplace.

The demands placed on language in these three sites are very different.

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Disciplinary Literacy Discussion Matrix

Focuses discussion on:

The communicative practices lecturers believe students need to master.

i.e. The local language(s), English, and other modes.

The site in which these communicative practices are needed.

i.e. academy, workplace and society
### Overview

**Earlier work**
- Monolingual learning
- Disciplinary differences
  - Disciplinary literacy

### The Disciplinary Literacy Discussion Matrix

<table>
<thead>
<tr>
<th>Where used?</th>
<th>Academy</th>
<th>Workplace</th>
<th>Society</th>
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<tr>
<th><strong>Local Language</strong></th>
<th><strong>Reading</strong></th>
<th><strong>Writing</strong></th>
<th><strong>Listening</strong></th>
<th><strong>Speaking</strong></th>
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<tbody>
<tr>
<td><strong>English</strong></td>
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<td><strong>Other modes</strong></td>
<td><strong>Graphs</strong></td>
<td><strong>Tables</strong></td>
<td><strong>Diagrams</strong></td>
<td><strong>Mathematics</strong></td>
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**Conclusions**

**Questions**

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Introductory question

What forms of communication do you think your students need to master?

Each lecturer marks the cells in the matrix

Discussion then moves from cell to cell (regardless of whether or not it is checked).
Initiating faculty dialogue

Two follow up questions:

1. How will students be given the opportunity to develop the desired skills during a given course?

2. How will this development be assessed?
Conclusions

A top down, “one-size-fits-all” language policy that deals with language in anything more than a ”general recommendations” sense will be problematic.

Need locally decided, disciplinary-specific decisions about what to teach in which language(s)

Suggest using the matrix to stimulate intra-faculty discussion
Conclusions

University language policies should:

1. Encourage the faculty discussion of disciplinary literacy goals.

2. Require disciplines to declare the language-learning outcomes of each course.
Conclusions

Programme and course syllabuses should detail disciplinary literacy outcomes alongside more traditional learning outcomes:

In this course the following skills will be developed in the following language(s)

How do the skills developed in a particular course relate to the overall goal—the development of disciplinary literate graduates?

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References


