LING337

Language of Science and Technology

S1 Day 2015

Dept of Linguistics

Contents

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General Information

Unit convenor and teaching staff
Unit Convenor
Jean Brick
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C5A 504

Credit points
3

Prerequisites
39cp

Corequisites

Co-badged status

Unit description
This unit examines the characteristics of the language of science, mathematics and technology, exploring the different ways in which language is used in professional, popular and pedagogic texts. Special reference is made to changing language use at the secondary and tertiary levels in both English and second or foreign language settings. The increasing use of visual imagery, the influence of web-based forms of scientific communication and the role of metaphor in science are also examined. The unit concludes with a discussion of the implications of the characteristics of the language of science for teachers of both language and science. The unit is of interest not only to students who are looking to follow careers in second or foreign language teaching and to those who are studying science or mathematics with a view to teaching, but also to anyone interested in how language responds to the challenges of different purposes and audiences.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Discuss the ways in which language constructs and represents the scientific world view

Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences

Analyse the way that language is used in texts aimed a professional, popular and professional audiences

Discuss the role of multimedia in professional, popular and pedagogic scientific contexts

Analyse the role of visual communication in print-based and electronic texts

Discuss the role of figurative language in professional, popular and pedagogic scientific contexts

Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Assessment Tasks

Name	Weighting	Due
Summary	10%	17 March 2014
Text analysis	40%	18 April 2014
Essay	40%	2 June 2014
Poster	10%	12 June 2014

Summary

Due: **17 March 2014**
Weighting: **10%**

On successful completion you will be able to:
- Discuss the ways in which language constructs and represents the scientific world view

Text analysis

Due: **18 April 2014**
Weighting: **40%**

On successful completion you will be able to:
- Discuss the ways in which language constructs and represents the scientific world view
- Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Analyse the role of visual communication in print-based and electronic texts
- Discuss the role of figurative language in professional, popular and pedagogic scientific

contexts

- Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Essay

Due: **2 June 2014**
Weighting: **40%**

On successful completion you will be able to:

- Discuss the ways in which language constructs and represents the scientific world view
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Analyse the role of visual communication in print-based and electronic texts
- Discuss the role of figurative language in professional, popular and pedagogic scientific contexts
- Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Poster

Due: **12 June 2014**
Weighting: **10%**

On successful completion you will be able to:

- Discuss the ways in which language constructs and represents the scientific world view
- Analyse the role of visual communication in print-based and electronic texts

Delivery and Resources

Seminar Time: Thursday 2.00 - 5.00pm

Room: C5A226

Technologies used:

iLearn

Changes from previous offering:

Choice no longer offered in Assignment 4

Unit Schedule

Week	Topic
1	Introduction: Is there a language of science and technology? Why does it matter?
2	Developing an understanding of genre in science
3	What makes scientific language scientific? Technical language, nominal groups and nominalisation
4	Organising information in scientific texts
5	Interacting with readers: Expressing attitude and identity
6	Visual literacy in science
7	Metaphor and analogy in science
8	Science in the news: TV and newspapers
9	Multimodality: Science on TV and the web
10	Describing the discourse of professional science
11	Developing understanding of the language of science in primary and secondary schools
12	Teaching the language of science
13	Poster presentations

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy http://mq.edu.au/policy/docs/grading/policy.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://informatics.mq.edu.au/help/.

When using the University's IT, you must adhere to the Acceptable Use Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Analyse the role of visual communication in print-based and electronic texts

Assessment tasks

- Essay
- Poster

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Assessment task

- Text analysis

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally

and socially.

This graduate capability is supported by:

Learning outcomes

- Discuss the ways in which language constructs and represents the scientific world view
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts

Assessment tasks

- Text analysis
- Poster

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Discuss the ways in which language constructs and represents the scientific world view
- Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Analyse the role of visual communication in print-based and electronic texts
- Discuss the role of figurative language in professional, popular and pedagogic scientific contexts
- Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Assessment tasks

- Summary
- Text analysis
- Essay

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Discuss the ways in which language constructs and represents the scientific world view
- Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Analyse the role of visual communication in print-based and electronic texts
- Discuss the role of figurative language in professional, popular and pedagogic scientific contexts
- Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Assessment tasks

- Text analysis
- Essay
- Poster

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Discuss the ways in which language constructs and represents the scientific world view
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences

Assessment tasks

- Text analysis
- Essay

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Discuss the ways in which language constructs and represents the scientific world view
- Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Analyse the role of visual communication in print-based and electronic texts
- Discuss the role of figurative language in professional, popular and pedagogic scientific contexts
- Analyse changes in the language of science in scientific textbooks from early secondary to secondary to tertiary level

Assessment tasks

- Summary
- Text analysis
- Essay
- Poster

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcomes

- Discuss the ways in which language constructs and represents the scientific world view
- Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Analyse the role of visual communication in print-based and electronic texts
- Discuss the role of figurative language in professional, popular and pedagogic scientific contexts

Assessment task

- Essay

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcomes

- Describe the differences between the representations of scientific knowledge for professional, popular and pedagogic audiences
- Analyse the way that language is used in texts aimed a professional, popular and professional audiences
- Discuss the role of multimedia in professional, popular and pedagogic scientific contexts
- Discuss the role of figurative language in professional, popular and pedagogic scientific contexts

Assessment task

- Text analysis