

Development of a workshop to enhance scientific writing skills and reduce plagiarism

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3rd Annual Science Learning and Teaching Conference
Heriot-Watt University, June 16-17, 2009

Development of a workshop to enhance scientific writing skills and reduce plagiarism

- Background
- Early version of workshop
- Evaluation/Reflection
- Development
- Current workshop
- Issues to consider
- Future plans for workshop

Background

- Plagiarism is on the increase
- Problem is multifactorial (lack of knowledge/skills/understanding/confidence/time)
- Solutions from many different angles
- Improving scientific literacy will enhance understanding and writing skills, and reduce plagiarism
- Workshop at University of Glasgow addressing plagiarism has developed into improving scientific literacy

Workshop Design

3 main sections:-

- (i) What is plagiarism?
- (ii) Summarising
- (iii) Referencing

Mix of teaching techniques: Discussions: whole-class, small groups; lecture/information; individually

Resources: Teacher, demonstrators, Effective Learning Advisor; GU Plagiarism Statement, list of descriptions, sample paragraphs, articles to summarise, Post-its, highlighters, Referencing Guidelines, feedback sheet

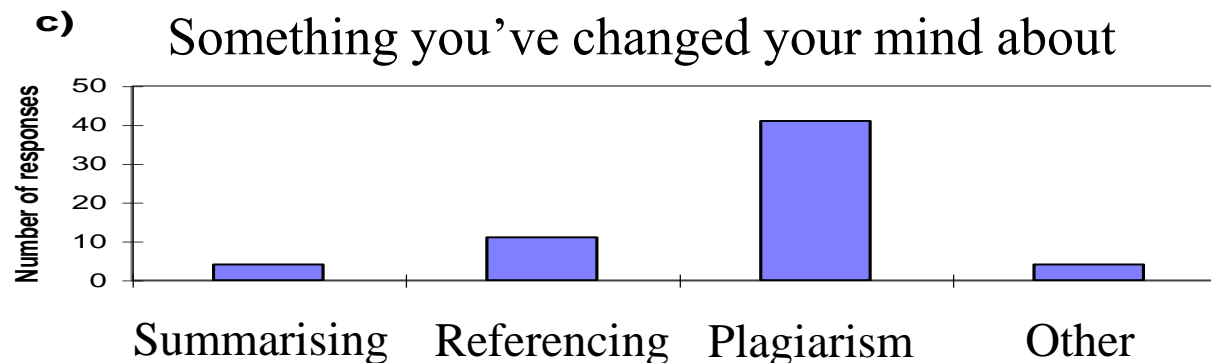
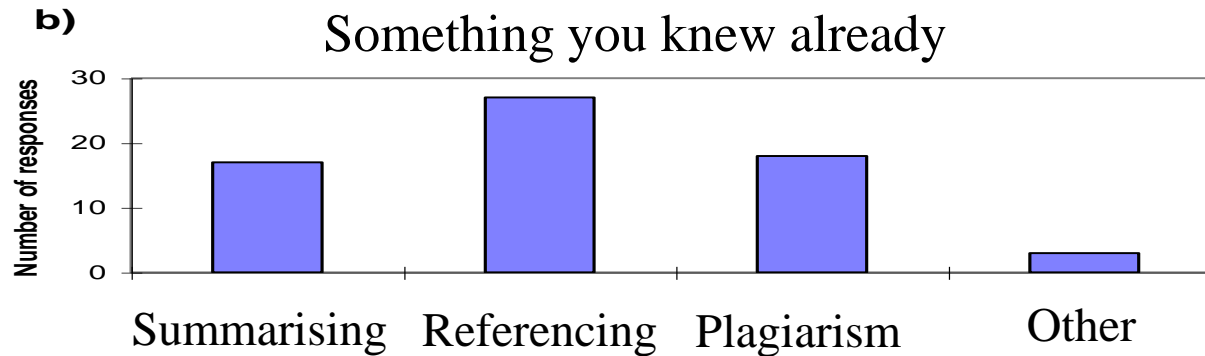
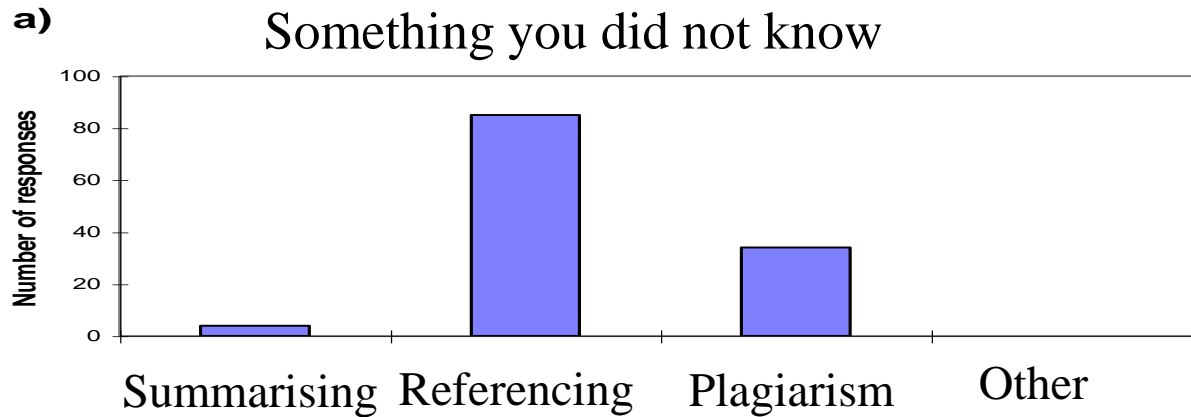
Who for?

L3 human biology students (Pharmacology, Physiology, Anatomy, Neuroscience, Sports Science)

1 group (approx 30 students) at a time

Can be adapted for any group of students by selecting relevant example articles, etc

Scientific Writing Workshop (Cogdell & Aidulis, 2008)



“Made me think whether I ever do any of these things”.

“Surprisingly useful. Didn't expect to learn anything new.”

Evaluation/Reflection

Teaching methods and discussion format worked well

Incorporation of workshop into timetable appropriate

3h is too long

Summarising section not particularly helpful (difficult to write “on the spot”; busy class; timing difficult)

Out of 110 students, 80% found workshop “helpful” or “very helpful”

Less plagiarism in lab reports following workshop compared to previous year

Development

Lots of "Ctrl-V"
in lab reports

2003/4

Do we need to *educate*?

Plagiarism Workshop

2004/5

L1 intervention
(Tierney et al 2006)

Scientific Writing Workshop

2005/6

2006/7

L3 students have had
L1 intervention

- Shortened Workshop
- "Summarising" replaced by "Lab Reports and Journal Articles"

2007/8

Journal article simplified

2008/9



Current version of Workshop

STARTER: (individually) Write definition of plagiarism on “Post-it”

INTRODUCTION: **TALK** (Purposes;GU Plagiarism Statement)

ACTIVITY: **WHAT IS PLAGIARISM?**

- (i) “Where do you draw the line?” Choose between statements describing how to report another authors work
- (ii) Fit sample paragraphs to statements

ACTIVITY: **STRUCTURE OF JOURNAL ARTICLES**

Extract relevant information from each section of an article

CLASS DISCUSSION: **HOW TO REFERENCE**

Guidelines sheet; look at copies of original journals; discuss

Journal Article Activity

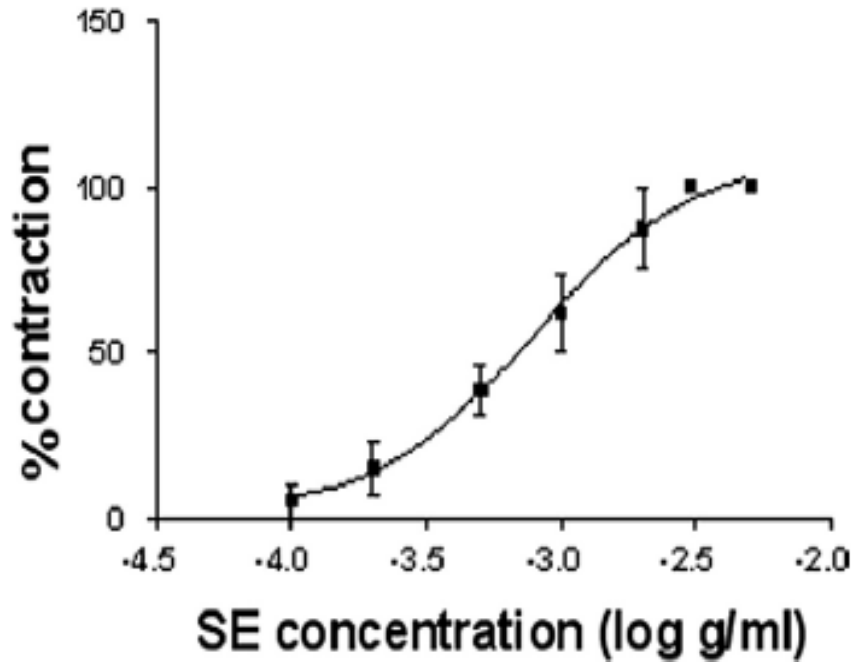


Fig. 2. Concentration-response curve for guinea-pig ileum contraction in response to SE. Average maximal contraction of guinea-pig ileum for a given SE concentration is represented as a percentage of maximal contraction for the given ileum preparation. Vertical bars represent SD; $n = 7$; SE, soy extract.

- Make a table using the headings
INTRODUCTION
METHODS
RESULTS
DISCUSSION
REFERENCES
- Using the journal article, fill in an **example** under each heading, of a relevant piece of information

(Roeytenberg *et al*, 2007)

Journal Article Example

Familiar (?) technical term

Referencing format

The image shows a screenshot of a journal article page with several red circles and arrows highlighting specific elements. The page content includes the journal title 'NUTRITION', the volume and page information 'Nutrition 23 (2007) 681-686', the title 'Basic nutritional investigation of the cholinergic properties of soy', the authors 'Annina Roeytenberg, M.D.^a, Tzeela Cohen, M.D.^a, Herbert R. Freund, M.D.^a, and Menachem Hanani, Ph.D.^{b,*}', the affiliations, and the manuscript date 'Manuscript received January 25, 2007; accepted June 5, 2007.' The annotations are: a red circle around the journal title 'Nutrition 23 (2007) 681-686' with an arrow from 'Referencing format'; a red circle around the word 'Cholinergic' in the title with an arrow from 'Familiar (?) technical term'; and a red circle around the manuscript date with two arrows from 'Writing is a process...'. The Elsevier logo and website URL 'www.elsevier.com' are also visible.

IER

Nutrition 23 (2007) 681-686

www.elsevier.com

Basic nutritional investigation

Cholinergic properties of soy

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Manuscript received January 25, 2007; accepted June 5, 2007.

Writing is a *process*...

(Roeytenberg *et al*, 2007)

Development Summary

ORIGINAL

- 3h
- Summarising
- Focus on understanding plagiarism
- Information on paper

CURRENT

- 2h
- Analysing journal articles
- Focus on understanding plagiarism, science and scientific writing
- Information on paper and online

Timetabled; dedicated staff involvement (teacher, Effective Learning Advisor, demonstrators); discussion-based and group-work teaching methods; continual adaptation

Issues to consider

Overseas students

True understanding, vs. “learning” formula (eg referencing)

Plagiarism is a “Threshold Concept” (Meyer & Land)

Perry “positions”

Plagiarism: a “Learning Bypass”? (Carroll)

Future Plans for Workshop

Redesign journal article exercise

Post journal article on Moodle in advance of workshop

More emphasis on *why* to reference and *in-text* referencing

Better, more explicit links to classwork during workshop (and vice versa)

Importance of *learning*

Collusion: similar treatment?

Acknowledgements

Dr Shona Johnstone

Dr Amanda Sykes

from GU Student Learning Service

References/sources

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Early version of Workshop

STARTER (individually) Write definition of plagiarism on "Post-it"

INTRODUCTION: **Talk** (Purposes;GU Plagiarism Statement)

ACTIVITY: **WHAT IS PLAGIARISM?**

- (i) "Where do you draw the line?" Choose between statements describing how to report another authors work
- (ii)fit example paragraphs to statements

ACTIVITY: **PRACTICE AT SUMMARISING**

Write a summary of information from 3 sources using own words

CLASS DISCUSSION: **HOW TO REFERENCE**

Guidelines sheet; look at copies of original journals; discuss

(Cogdell & Aidulis, 2008)



“But surely we know
everything in
anatomy now?”

Recognise, identify, and design in opportunities to link teaching/learning and research.

Scientific literacy (wrt both academic writing, and “How science works”) will increase.

As understanding of plagiarism *and science* increases, plagiarism will decrease.

Threshold Concepts

(Meyer & Land)

Certain key concepts can be seen as “threshold”, and until these have been properly understood, the student cannot move on with their learning.

“Moving on” can be problematic and uncomfortable; student has to “deconstruct” previous knowledge to see things in a new way.

Deconstruction is a transitional state; students unable to do so (“pass through a portal”) remain in their current way of thinking.

“Passing through the portal” requires effort and creativity; student at a “plateau” until ready to tackle next stage.

The nature of science, and plagiarism, are threshold concepts. Identify/create opportunities for students to “pass through the portal”.

Perry's Scheme of Ethical and Intellectual Development

9 “Positions”; hierarchical, with “transitions” between these.

4 main “supercategories”:

Dualism: right/wrong; black/white

Multipism: grey areas

Relativism: weighting of evidence

Commitment: Coming to a decision

	STUDENT A	STUDENT B	STUDENT C
STUDENT ROLE	Passive acceptor of knowledge	Realises that some responsibility rests with self: But what? And How?	Sees self as source of knowledge, or is confident of finding it Debater, making own decisions
TEACHER ROLE	Authority giving facts and know-how	Authority Where there are controversies, wants guidance as to which Authority favours	An authority among other authorities Values views of peers Teacher as a facilitator
VIEW OF KNOWLEDGE	Factual; Black and white; clear objectives Non-controversial, exceptions unwelcome	Admits no longer black and white Feels insecure in this	Wants to explore contexts; seeks interconnections Enjoys creativity and scholarly work
VIEW OF EXAMS	Regurgitation of facts Objective Hard work rewarded	Quantity better than Quality to demonstrate maximum knowledge	Quality is better than Quantity Wants room for expression

Dualism

Multiplism

Relativism