Research apprenticeship: is this the answer to inadvertent plagiarism in undergraduate students' writings?

Ursula McGowan
University of Adelaide

Abstract To deal with inadvertent plagiarism, a conceptual framework based on an apprenticeship model for undergraduate education is proposed here. It aims to provide students with guidance, feedback and time to develop (1) an understanding of the rationale for the requirement of referencing conventions in university education and (2) tools for lifelong language learning and skills in emulating the writings of the experts in their disciplines.

Key Ideas

Rationale for academic conventions. The rationale for the requirements of citations and referencing in tertiary assignments generally relies on the concept that the unattributed use of another's words, works or ideas amounts to 'stealing'. There are ambiguities in interpreting this concept that may, in many cases, be responsible for students' unintentional plagiarism. See

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Tertiary learning as induction into research. The referencing requirements might be better understood by students if the rationale were more expressly underpinned by an understanding that the major characteristic of university learning is the culture of research, and that undergraduate study is an initiation into that culture. However, at undergraduate level, many students, and sometimes staff as well, may fail to make this connection to research.

The implicit made explicit. Nevertheless it is a subconscious, implicit expectation, that student assignments must uphold academic integrity by fulfilling the requirements of citation and referencing conventions of the genre of research writing. Students need to know explicitly that the qualities of integrity and transparency are basic characteristics of research, and that they apply not only to data, methods of calculation and the evaluation of the results in an experimental or survey-based research project, but also to assignments that are entirely based on existing literature.

Tools for life-long language learning. Once the basic rationale is understood in terms of research, the second step is to help students to develop tools for learning the language and codes of research writing as appropriate for their disciplines. I suggest that students can be helped to develop skills in absorbing and using the language that is typically used for evidence-based writing within their specific disciplines by 'harvesting' language items from their readings.

Apprenticeship. I propose that most students in transition to tertiary study would benefit from an induction into the culture of research and the discipline-specific language for research writing; and that this induction therefore be part of mainstream curricula. A conceptual framework promoting the concept of student apprenticeship into the academic culture is shown at www.adelaide.edu.au.clpd/plagiarism/ . Undergraduate students are pictured as apprentice researchers who move through several stages towards becoming competent researchers. An essential aspect of apprenticeship is that novices need time for development and growth and the opportunity to take risks, make mistakes and learn through constructive feedback on their errors. In this model, students' inadvertent plagiarism would be utilised as a learning tool, rather than subjected to punitive investigation.

Discussion Question 1 What assistance will staff need if an apprenticeship approach is implemented?

Discussion Question 2 What are the barriers to implementation? Who should have the responsibility of expert in the expert-apprentice relationship?

Introduction

The literature on academic integrity and student plagiarism frequently conflates unintentional plagiarism with students' purposeful deception and cheating. For many students who are new to tertiary study the requirements of academic writing are shrouded in mystery, and their attempts to bridge the gap between the spoken English of their lectures and tutorials and an appropriate academic written style will inadvertently result in written work that is identified as plagiarism. Although there are increasing calls for greater emphasis on educational strategies, there is still a dearth of detail on sound educational practice that goes beyond mere information or marginal workshops on 'avoiding plagiarism'. This paper is based on a chapter of mine published in the book *Student Plagiarism in an Online World* edited by Tim Roberts (McGowan 2008). The purpose of this paper is to stimulate discussion on the possibilities and barriers to implementing a two-pronged approach to mainstream academic teaching and assessment practices that might assist students in gaining both (1) a rationale for the requirement of referencing conventions and (2) tools for developing the academic writing skills appropriate for their specific discipline.

Rationale for academic conventions

The rationale for the requirements in tertiary assignments, of using citations and observing referencing conventions, generally relies on notions of ownership with the corollary that the unattributed use of another's words, works or ideas amounts to 'stealing'. Indeed, the word plagiarism derives from the Greek concept of 'kidnapping'. However, in the world outside the university environment, students will rarely, if ever, encounter examples of the conventions of referencing as found in published academic articles and expected in university assignments. The rationale for referencing needs to be more explicit about the nature of academic transparency and integrity in academic writing that distinguishes academic endeavour from writing encountered in the popular media. The rationale should be underpinned by an understanding, in the spirit of the Boyer Commission's 1998 manifesto, *Reinventing undergraduate education,* that the major characteristic is the *culture of research,* and that undergraduate study is an initiation into that culture (McGowan 2005a, 2005b, 2008; Willison & O'Regan 2007; Horacek 2009).

A learning resource for staff to use with students in promoting this understanding, developed by McGowan et al (2008), is available on the web at http://www.adelaide.edu.au/clpd/online/learningmodules/avoidingPlagiarism/player.html. Here the approaches to writing a well researched academic article and, say, a biography, a novel, a TV documentary script, or an opinion piece for the popular press, are shown to vary in terms of the purposes of different *genres* for specific audiences. The resource demonstrates that two essential features of tertiary writing are transparency and integrity. However, the Boyer Commission's manifesto notwithstanding, the majority of undergraduate students are generally not directly involved in designated research projects or aware of the research based nature of their learning and written assignments. In terms of their written work, undergraduates, and indeed their academic teachers, may feel that the gap between the writing expected in their assignments and fully fledged research articles is too great to make this research connection for students.

This leads to the crux of my argument. Although students and staff may fail to make a conscious, explicit connection between assignments and research, the subconscious, implicit expectation is, nevertheless, that students uphold academic integrity by fulfilling the requirements of citation and referencing conventions of the genre of research writing. Failure to provide transparency by 'giving proper attribution' to all sources as is required in fully fledged, competent research writing, may lead novice researchers to a form of plagiarism that is unintentional but is often confused with that other, deliberate form of using material produced by others and 'passing it off as their own'.

I propose that the first step to rectify this situation, and to ensure the separation of students' inadvertent plagiarism from behaviours that are designed to deceive the assessor, is to regard all tertiary students as novice researchers, who need to be inducted into the research-based purpose, as well as the processes of integrity and transparency in all their assignments. Students need to know explicitly that the qualities of integrity and transparency are basic characteristics of research, and that they apply not only to data gathered in an experimental or survey-based research project, to methods of calculation and to the evaluation of the results, but also to assignments that are entirely based on existing literature. In all cases, the students' written accounts are expected to provide sufficient *evidence* to enable the reader to recreate the writer's thought process and re-trace the steps of the evaluations and conclusions. It would be educationally sound practice to foster students' development of an understanding of these principles, not only by including them in the initial instruction for their assignments, but also in the setting of assessment criteria and in providing them with constructive feedback on their written work.

Tools for life-long language learning

Once the basic rationale is understood, the second step is to help students to develop tools for learning the language and codes of research writing as appropriate for their disciplines. Students not only need to become conscious of some principal differences between spoken and written language, but may also need assistance in developing skills in absorbing and using the language that is typically used for evidence-based writing within their specific disciplines. Students are not always aware that they may absorb this language incidentally from their readings. In fact, some students who struggle with understanding the content of their readings may spend all their effort in decoding and translating the content into a more 'spoken' form, or, indeed into another language, as is the case for many international students in their early phases of study at an English-language university. I propose that most students in transition to tertiary study would benefit from support in developing a conscious approach to 'using their reading to improve their writing' or 'harvesting' discipline-specific language from their readings, specifically to augment their stock of vocabulary that is typically used, for example in introducing, critiquing or agreeing with information found in the literature, or, indeed, using examples from the literature in evidence to support a point of view of their own (McGowan 2005a, 2008). Such support is provided in student writing centres in many Australian universities, but my argument is that the skills required are in fact enshrined in most lists of Graduate Attributes; as such, is there not a case to be made for introducing some tools for academic language development into mainstream curricula? If so, these might be introduced, in terms of both specific learning activities and assessment criteria

that indicate to students the value placed on the skills of academic communication.

Apprenticeship

A conceptual framework promoting the concept of student apprenticeship into the academic culture is shown at www.adelaide.edu.au.clpd/plagiarism/ and developed in McGowan, 2008. Undergraduate students are pictured as apprentice researchers who move through stages of 1. Pre-university; to 2. early apprentice researchers; 3. emerging researchers; and 4.competent researchers. The framework outlines the nature of the input students might typically receive, and the output that can reasonably be expected as they progress through their apprenticeship.

What learning must take place?

Students learn to understand the rationale and develop skills – and they need to *learn by doing.* Typically in their assignments, their research data may derive solely from readings, and students must become aware that in the literature, they can also be regarded as 'data'. The research skills to be fostered include integrity in (1) the gathering and analysis of data; (2) a dispassionate approach that avoids bias; (3) the ability to communicate results in language that is appropriate for research writing, based on "using their reading to improve their writing" for life-long learning and expressing their own "voice"; and (4) students must learn to apply the referencing conventions for a particular discipline. A most practical approach is to demonstrate specific applications of these conventions with reference to 'models', or examples, of discipline-specific writing. In summary, all written assignments that require referencing should be treated as steps on the path of a research apprenticeship.

What is the nature of apprenticeship?

Firstly, apprentices need time for development and growth which may take place over periods of months or years; they also need expert/apprentice relationships, the opportunity to learn by doing, and therefore encouragement to apply trial and error in a safe environment; and finally, they need to receive useful feedback for gradual improvement.

Conclusion

A logical conclusion would be the inclusion of explicit approaches to fostering an understanding of the research-based nature of tertiary learning and assignment writing in mainstream curricula. Part of an apprenticeship is that it allows for, and in fact encourages, initiates to take risks which may involve making mistakes, as part of the development of their understanding and skills in applying the codes and conventions of the culture of research. However, there are many questions to be explored. Two questions in particular are posed for this conference:

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