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An analysis of published research on academic integrity

Kay Fielden
School of Computing and Information Technology
Unitec New Zealand
kfielden@unitec.ac.nz

Donald Joyce
School of Computing and Information Technology
Unitec New Zealand
djoyce@unitec.ac.nz

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Abstract

In this paper, a multi-stakeholder, multi-level theoretical framework has been used to analyse a selection of 125 published papers on academic integrity, all with Australasian authors. Concepts informing the theoretical framework include: underlying authors' moral or value judgements about academic integrity; views held by multiple stakeholders; overlapping levels of abstraction in producing research outputs; human information-seeking behaviour; three stances adopted in researching academic integrity; the influence of a managed higher education climate; and the changed nature of information availability. Results obtained from this study suggested that there was a dominant positivist mindset adopted by authors in this particular sample; moral or value judgements about academic integrity are present, but often not stated; most papers are about student behaviour; and academic staff researchers provide the dominant stakeholder view.

Widely available global information has brought with it both benefits and problems. In the academic context, the issue of properly acknowledging sources (which is an important aspect of academic integrity) has received a lot of attention in the last five or six years. Joyce (2007) conducted a review of publications by Australasian authors concerned with academic integrity (AI) and located 125 papers that have appeared in journals or have been presented at conferences since 1998. He noted that "many of the academic papers (more than 50) had been presented at one of the two Asia-Pacific Educational Integrity Conferences (held in 2003 and 2005) and there was considerable overlap in content" (p. 188).

In this review paper a selection of 125 academic papers on AI with Australasian authors have been analysed utilising a theoretical framework initially proposed by Fielden (2008). This theoretical framework is underpinned by Bates' (2006) theory on information searching, Floridi's (2006) 'infosphere' and Introna's (2005) multiple views of the nature of information technology. According to Bates, four main ways of searching for information are (Figure 3): *searching*, which is active and direct; *monitoring*, which is passive and direct; *browsing*, which is active and undirected; and *being aware*, which is passive and undirected. Floridi has provided a starting point for this framework with his infosphere (Figure 1) and levels of abstraction (Figure 2).

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Introna (2005) provided a third dimension to the theoretical framework utilised in this paper when he established multiple views of the nature of information technology in considering information ethics. This notion of multiple levels has been applied to published papers on AI; the levels being AI as artefact, AI as social construction, and AI as phenomenon. These three levels are reflected in the main column headings of Tables 1, 2 and 3.

This study was conducted because one of the authors is interested in developing conceptual frameworks to inform a deeper understanding of research issues and the other author has a breadth of knowledge about plagiarism, particularly in Australasia. The structure of the paper is as follows: firstly the terminology and themes used in this paper are defined and the domain in which the theoretical framework applies is discussed; secondly the theoretical framework is described; then 125 papers from the current body of literature on academic integrity (1998–2006) are positioned according to the theoretical model; finally a discussion on findings from this positioning is followed by conclusions and recommendations for future research.

Terminology and themes

Joyce (2007) noted that "the language used by authors often suggests that they have taken a particular stance on the issues surrounding academic integrity and plagiarism" (p. 188) and used thematic analysis to identify 14 "key concepts": academic integrity; academic plagiarism; acknowledgment of sources; appropriation; attribution; authenticity; cheating; co-derivative documents; educational integrity; inappropriate copying; inter-textuality; originality; plagiarism; and unacknowledged copying. He found some "marked differences in the perspectives of the authors" many of which "can be categorised in terms of distinctions like academic/administrative, educational/disciplinary, positive/negative and proactive/reactive" (p. 190) and focussed his review on nine themes: assessment design; attitudes and perceptions; cultural differences; detection and prevalence; discipline and penalties; education and support: ethics, morality and values; evaluation of software; policies and processes. This paper now places this particular body of literature in a theoretical framework.

Research domain

The domain chosen for the research proposed was a selection of Australasian academic literature reporting on research conducted on issues relating to academic integrity and plagiarism. The theoretical framework for this research, based on seven basic tenets regarding information seeking and information reporting, is described below. From a preliminary literature review, the stance most commonly adopted appeared to be that rules/guidelines were in place and had been taught to students, and those who broke these rules or guidelines would be punished. Assumptions made were that all academic writers should know how to write correctly and therefore would not plagiarise. Joyce (2007) noted that many authors concluded that there was a lack of understanding about academic conventions for which "there is no single remedy" (p. 195). In adopting a theoretical position on the activities that constituted information searching (Bates, 2006), and multiple views on what constituted academic integrity, seven basic tenets have been proposed.

Seven basic tenets

A tenet is a principle or belief, especially one of the main principles of a religion or philosophy (Simpson, 2008). For the purposes of this paper the tenets proposed take on the meaning of philosophical principles held about academic integrity. The seven basic tenets underpinning the theoretical framework developed in this paper were

originally proposed by Fielden (2008), based on Joyce's (2002a, 2002b, 2003, 2004a, 2004b, 2005, 2006a, 2006b, 2007) work in the area of academic integrity.

These seven tenets arose from considering the philosophical approaches proposed by Introna (2005), Floridi (2006) and Bates (2006). As the central activity for plagiarism to occur is information searching, Bates' contribution to human information gathering strategies was important. This paper is embedded within theory formation. As Floridi (2006) suggests, theories emerge from different levels of abstraction once a system has been analysed (Figure 1). Having established a model, then properties can be identified. Introna (2005) has suggested that there are three broad categories – artefact, social construct and phenomenon – that can be applied when considering information technology and the authors thought it appropriate to utilise these categories. This classification system was a logical 'fit' to Floridi's (2006) theory formation in which he proposes multiple levels of abstraction. Research publications at the 'artefact or tool' level were found to be largely descriptive. Research that was reported as social constructivism situated results within a wider social setting and a phenomenological approach went deeper to present likely meanings for research results.

The seven basic tenets are:

- 1. An underlying moral or value judgement is made when academic integrity is researched. This moral or value judgement is that to claim the intellectual outputs of others as your own is somehow wrong. For instance, Dick et al (2002) describe 'cheating' as 'harmful' to society, profession and institution.
- 2. There are many stakeholders in academia: institutional managers; academic staff (who, in general carry out multiple duties including research, teaching and service); administrative staff; students; legal advisers; industries supporting academic integrity (for instance, *Turnitin*); and academic funding agencies, both public and private. Stakeholder views may vary both within and between stakeholder groups. For institutional managers this usually means that policies and procedures are in place to manage academic integrity for both staff and students. Supporting industries may provide fee-for-service checking, monitoring, reporting and archiving of all submitted documents. Legal representation may be required for any of the above stakeholders if disputes arise. Dominant views may also influence the way in which academic integrity policies are implemented.

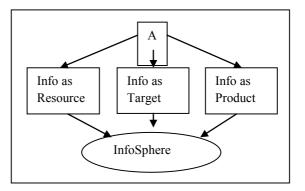


Figure 1. Infosphere (Floridi, 2006)

3. Floridi (2006) suggests that each player in an infosphere (Figure 1, where A is a player) will have a different level of abstraction (LOA) (Figure 2).

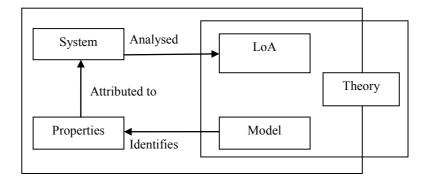


Figure 2. Levels of Abstraction (Floridi, 2006)

If we consider the infosphere of academic integrity then each stakeholder is likely to have a series of LOAs which may or may not overlap. Floridi suggests that the infosphere is made up of information as resource, information as target and information as product. A typical process to produce an academic document based upon a research activity requires the following conditions to be met: a research project upon which the document is based; a literature review; a theoretical framework (which is often implicit rather than explicit); production of the research output; and the finished document. Floridi describes the literature review as 'information as resource', the process of writing as 'information as target' and the finished product as 'information as product'. It is important to note that the act of production involves the use of guidelines or rules on how to access and record the work of others. Maintaining academic integrity with respect to the research outputs of other writers means following these guidelines precisely.

4. Human information seeking (Bates, 2006) follows the path of least resistance. Bates suggests that we seek information in four ways (Figure 3). Producing a literature review places the information seeker in the active/direct quadrant. Bates also suggests that of all the human information seeking behaviours, this is the least efficient. If a basic tenet of information seeking is that we find information in daily living in the most opportune manner, then producing a literature review is counter to natural human behaviour. The questions to be asked therefore are: "because of natural human inclinations, do we look for easy options in producing a literature review?" and "do these easy options include infringing the rights of others when using freely available information resources inappropriately (according to the rules of academic writing)?"

	Active	Passive
Direct	Searching	Monitoring
Undirected	Browsing	Being aware

Figure 3. Information Seeking (Bates, 2006)

5. Introna (2005) suggests that information views about information technology may be broadly divided into three categories: information technology as artefact or tool; information technology as social construction; and information technology as an ever-changing phenomenon. Introna suggests that when this stance is adopted an attempt is made to understand the subject in question (academic integrity in this case) and the impact this has on the community in which the impact is felt.

- 6. Academia operates within a global knowledge economy within a managed education climate (Boston, Mischewski, & Smyth, 2005). Implications arising from such a positioning include an explosion in the number of academic research outputs being produced in most disciplines and many of these research outputs being freely available electronically. Such growth and freedom appears to be correlated with greatly heightened and widespread concerns about academic integrity.
- 7. In any economy when a product is available free of charge, assumptions may be made about the worth of the item. Baruchson-Arbib and Yaari (2004) suggest that because information is freely available in the public domain, particularly on the internet, that the content is free and available for anyone to use at will. Is there a link therefore between attitudes to what is available free of charge and how that free item may be used in the production of academic outputs?

Hypothesis formation

Bernstein and Bernstein (1999) suggest that hypothesis formation takes place early in the research process and Zikmund (2000) states that observational studies, either based on content analysis of documents or survey data, are one way of gathering data in support of hypotheses proposed at the stage of theory formation. In this research project, hypotheses have been proposed at theory formation time and descriptive statistics have been gathered from content analysis of 125 academic papers in order to look for patterns that may support the proposed hypotheses.

The theoretical framework

Figure 4 shows the majority of stakeholders, views and values incorporated in the proposed theoretical framework. The information that is gathered to create academic writing takes place, in the main, within academic institutions. Academic institutions take their mandate from political rules, which, in New Zealand include the Education Act 1989. Academic institutions are managed according to this Act. Academic staff members are employed within academic institutions in accordance with these political rules. Academic publishers have been excluded from this study.

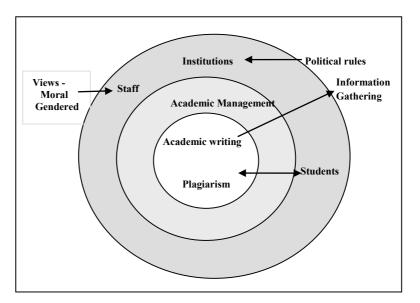


Figure 4. Stakeholder views and values

It can be seen from Figure 4 that academic writing is central to the production of both staff and student outputs. In order for academic writing to take place, active, direct searching is required, see Figure 3. In this paper, only staff views on a range of issues concerning AI were analysed. For the purposes of this analysis, plagiarism occurs within the academic writing arena.

Basic tenet 5 incorporates Introna's (2005) categorisations of artefact or tool, social construction and phenomenology, which are the categories chosen for the analysis in this paper. These three categories have been further divided by gender and by author location.

Method

Each paper reviewed was evaluated for how information was treated – as artefact, social construction or ever-changing phenomenon (Introna, 2005) – in the way in which plagiarism was discussed. Papers were then coded according to the following criteria:

- # Author's country of origin. Only Australian and New Zealand authors have been considered.
- Author gender. In considering multiple stakeholders it was decided to further subdivide this group by considering author gender as well. The gender of each author on a paper was recorded. Where there were multiple authors, each author was coded separately.
- Author view of academic integrity. Each paper was coded according to whether the main topic of the paper was about academic staff, students, institution, teaching practices or information technology tools.
- Author's stance on information. Each paper was also coded according to whether the stance adopted was AI as an artefact (descriptive commentary of a particular situation, tool, classroom practice, teaching technique, etc.); socially constructed (meaning extracted from the relationships between stakeholders in the study); or phenomenological (deeper reasons about the meaning of the topic discussed were present in the paper).

Papers were also analysed and coded to see whether to provide an early assessment of the eight hypotheses listed below. Because these hypotheses are tentative explanations guided by the seven basic tenets that form the basis for an alternative theoretical framework, and the descriptive results were obtained from the interpretive analysis of a non-random sample of 125 Al papers (all of which were in the public domain), it was not deemed appropriate to apply rigorous deductive techniques (Bernstein & Bernstein, 1999).

Application of the framework

The seven tenets proposed lead to the following set of eight hypotheses that have been tested against the theoretical framework (Table 2). Most authors held the predominant view that only hypotheses 4 and 8 were not true. Other views have been recorded by exception (for instance, "Fergie, 2003 (NH8)" means that this author did not hold the predominant view of hypothesis 8).

Tenet 1 Moral and value judgements

The first hypothesis tested was:

H1. Authors adopt a moral stance on plagiarism or academic integrity.

When selecting the values to be tested against the framework, papers were analysed for stated and un-stated moral or value judgements. These values were coded and recorded against each category. The absence of any exception reporting in Table 2 shows that this hypothesis is true for all papers analysed.

Tenet 2 Multiple stakeholders

The second hypothesis tested was:

H2. Academic teaching staff members are the dominant stakeholder group. Scanning the 125 papers showed that the bulk of the writing originated with academic teaching staff members. The other significant stakeholder groups represented among the authors were learning advisors and administrative staff.

Tenet 3 Influence of dominant view

The third and fourth hypotheses tested were:

H3. Rules and policies, practices, and assumed views are influenced by any particular dominant view.

The research tested whether the dominant view influenced the way in which academic integrity was reported. The absence of any exception reporting in Table 2 shows that this hypothesis is true for all papers analysed.

H4. Gender differences are apparent in theoretical positioning adopted.

This research tested whether there were any gender differences in the way in which academic integrity was reported in the literature. Whilst this was not based on a stated tenet it was believed that there were gender differences in the way in which academic writers report on the issues associated with academic integrity. Hypothesis 4 was tested by analysing the gender categorisation as shown in Table 3. Most authors did not exhibit any gender differences in the theoretical position adopted. In only four papers were gender differences apparent (Baskett, Collings, & Preson, 2005; Bell & Thom, 2003; Chandrasoma, Thompson, & Pennycook, 2004; Giorgio, 2005).

Tenet 4 Information seeking

The fifth hypothesis tested was:

H5. Authors are unaware of differences in the way in which information is gathered. The research analysed the selected literature for stated and un-stated views on the manner in which information was gathered. This was a multi-stage process. Subjects upon which plagiarism research was conducted have information seeking behaviours as do researchers and writers. Hypothesis 5 was tested by analysing results obtained from the recorded perceptions by categories in Table 3 (below). Only ten papers displayed awareness of the differences in the way in which information was gathered (Bell & Thom, 2003; Giorgio, 2005; Johnson & Clerehan, 2005; Kennedy, 2004; Leask, 2004; Marsden, 2003; Samson, 2005; Scouller, Bonanno, Ryan, Krass, & Smith, 2003; Thompson, 2003; Vuori, Joseph, & Gururajan, 2004).

Tenet 5 Information views

The sixth hypothesis tested was:

H6. Authors adopt at least one view of plagiarism in academic writing. Hypothesis 6 was tested by analysing author views (stated or unstated) according to Introna's (2005) categorisation. The hypothesis was true for all authors regardless of topic discussed, theoretical positioning on information, and point of view adopted in the paper.

Tenet 6 Research production in managed education

The seventh hypothesis tested was:

H7. The production of academic writing and the precise rules and/or guidelines required to produce a research output with integrity influence writers' theoretical positioning.

It has been reported (for instance by Boston et al., 2005) that political pressures brought about by a national measured academic research output system have had a number of effects on the way in which research was conducted and reported. There are claims that there has been an explosion in the number of academic research outputs produced. Hypothesis 7 was tested by analysing the trends emerging from results obtained by applying the theoretical framework. The hypothesis appeared to be true for all authors other than Aeschliman (2005).

Tenet 7 Freely available research outputs

The eighth hypothesis tested was:

H8. Research outputs available free of charge devalue the content. In any economy when a product is available free of charge (which appears to be the case in a globally-connected virtual world) assumptions may be made about the worth of the item. The link between attitudes to what is available free of charge and how that free item may be used in the production of written academic outputs was tested. Awareness of research value was recorded in each category in Table 3 in order to test the eighth hypothesis. Only nine papers upheld this hypothesis (Clerehan & Johnson, 2003; East, 2005a; Emerson, MacKay & Rees, 2005; Emerson, Rees & MacKay, 2005; Fergie, 2003; Giorgio, 2005; Marshall & Garry, 2005a; Thompson, 2003; Vuori et al, 2004).

Information positioning

In considering the stance adopted in reporting on AI, it can be seen from Table 1 that 73/125 (58.4%) adopted an artefact view on academic integrity, 38/125 (30.4%) viewed AI as socially constructed and 14/125 (11.2%) regarded AI phenomenologically.

Table 1. Academic Integrity (Theoretical stance by author view of topic)

View/Information	Artefact	Social	Phenomenology		
Staff About					
Students	19	19	7		
IT tools	20	4	1		
Teaching practice	9	3	2		
Institution	17	8	3		
Staff	8	2	1		
Theory		2			
Total	73	38	14		

Table 2. Information Views (based on Introna, 2005)

Artefact or tool	Social construction	Phenomenological
Alam, 2004; Allan, Callagher, Connors, Joyce & Rees, 2005;	Angelo, 2005; Atkins & Herfel, 2005	Aeschliman, 2005 (NH7)
Arko, McAllister & Goss, 2005;	Atkins & Heriel, 2005	
Arwin & Tahaghoghi, 2006		
Barnhart, 2005;	Baskett, Collings & Preston,	Bell & Thom, 2003 (NH4, NH5);
Breen & Maassen, 2005;	2004 (NH4);	Brennan & Durovic, 2005;
Brooks & Ellis, 2005;	Brien, 2005	Bretag, 2005
Brook & Sewell, 2006; Burrows, Tahaghoghi & Zobel,		
2004		
Callagher, Smith & Mitchell,	Cadman, 2004;	Chandrasoma, Thompson &
2004; Carroll, 2003; Chawla,	Chanock, 2003;	Pennycook, 2004 (NH4);
2003;	Cohen, 2003	Clerehan & Johnson, 2003
Clarke, 2000; 2004; 2006; Colberg & Kobourov, 2005;		(NH8)
Counsell, 2003; Crisp 2004		
Deller-Evans, Evans & Gan-	Darab, 2005;	
naway, 2003; Devlin, 2003;	Dick, Sheard & Hasen, 2005	
Dick, Sheard & Markham, 2001;		
Dick, Sheard, Bareiss, Carter, Joyce, Harding & Laxer, 2001		
East, 2005b; Eira, 2005;	East, 2005a (NH8);	Fergie, 2003 (NH8)
Emerson, MacKay & Rees, 2005	Emerson, Rees & Mackay, 2005]
(NH8)	(NH8);	
Coddord 9 Divid-Lit 0004	Evans & Deller-Evans, 2002	Ciorgio 2005 (AULA AULE AULE)
Goddard & Rudzki, 2004; Goddard & Rudzki, 2005;	Gajadhar, 1998; Green, Lindemann, Marshall &	Giorgio, 2005 (NH4, NH5, NH8)
Green, Williams & van Kessel,	Wilkinson, 2005a; 2005b;	
2003	Gururajan & Roberts, 2001	
Hamilton, Tahaghoghi & Walker,	Hallett, Woodley & Dixon, 2003;	
2004; Handa & Fallon, 2005;	Hamilton, Hinton & Hawkins,	
Handa & Power, 2003; 2005; Hawthorn, 2001; Hinds, 2004;	2003; Hasen & Huppert, 2005	
Hoad & Zobel, 2003; Hornlund,	Traserr & Truppert, 2003	
2003; Hussin & Hanisch, 2003		
Joyce, 2002a; 2002b; 2003;		Johnson & Clerehan, 2005
2004a; 2004b; 2005; 2006a;		(NH5)
2006b Kennedy & Hinton, 2003;	Leask, 2004 (NH5);	
Kennedy, 2005 (NH5);	Le Heron, 2001	
Kett, 2003; Kuiper, 2005		
Mann & Frew, 2006; Marsden,	Marsden 2003 (NH5);	Melles, 2003
2005; McGowan, 2002; 2003a; 2003b;	Marshall & Garry, 2005a (NH8); 2005b; McGowan, 2005a; 2005c	
2005b; Morrison, 2001;	2003b, McGowall, 2003a, 2003c	
Mulcahy & Goodacre, 2004;		
Muller, 2005		
O'Regan, 2006	Dowledge 0 March 0000	
Partridge & McNamara, 2005; Paynter & Mills, 2004;	Partridge & West, 2003	
Phillips, 2005; Pyvis, 2002		
Quinn & Ritter, 2003; Ryan,		
2004		
Samuelowicz & Chase, 2003;	Savage, 2003a; 2003b;	Samson, 2005 (NH5)
Savage, 2004; Scouller, Bonanno, Ryan, Krass	Sheard, Dick, Markham, Mac-	
& Smith, 2003 (NH5);	donald & Walsh, 2002; Sheard, Markham & Dick, 2003;	
Sheard, Carbone, Dick, 2002;	Sutherland-Smith & Carr, 2005	
Sheard & Dick, 2003;		
Simon, 2003; Singh, 2003;		
Staunton, 2003; St Hill, 2004; Stevenson, 2003;		
Stoney & McMahon, 2004		
Taylor, 2003		Thompson, 2003 (NH5, NH8)
	Vuori, Joseph & Gururajan, 2004	
Vamplew & Dermoudy, 2005;		
	(NH5, NH8)	
Varnham, 2001; 2004	(MID, MIO)	
Varnham, 2001; 2004 Yeo & Chen, 2005	(NII), NIIO)	
Vamplew & Dermoudy, 2005; Varnham, 2001; 2004 Yeo & Chen, 2005 Zobel, 2004; Zobel & Hamilton, 2002	(NTS, NTO)	
Varnham, 2001; 2004 Yeo & Chen, 2005 Zobel, 2004; Zobel & Hamilton, 2002 Hypotheses Key	only hypotheses 4 and 8 were not true. Other vie	

It would be possible to extend H6 (information views) to relate the information views to levels of reflection (Bain, Ballantyne, Packer, & Mills, 1999). It could be suggested that a phenomenological view of AI corresponds to higher levels of cognitive reporting and artefact views correspond to lower levels of cognitive reporting (and correspondingly lower levels of critical reflection). AI views by information positioning according to Introna's (2005) theoretical stance are shown in Table 2 (below).

Multiple views

More than a third of the papers (44/125, (35.2%)) were concerned with students' behaviour, 25/125 (20%) focussed on IT tools for controlling plagiarism, 28/125 (22.4%) addressed institutional practices, 14/125 (11.2%) discussed teaching practices, 11/125 (8.8%) related to staff and only 2/125 (1.6%) adopted a theoretical stance. The majority view on any topic was of academic staff (117/125 (93.6%)). Whilst there has been a wide coverage of AI in public media, this view was not considered in this study.

Table 3.

Analysed Views

Paper Stance	Artefact or tool			Social construction			Phenomenological					
Staff views about	F au	M au	F nz	M nz	F au	M au	F nz	M nz	F au	M au	F nz	M nz
students	35	19	1	9	17	16	1		6	3		
institution	11	6			8	4			5			
informa- tion tech- nology	6	17		16	5	2	1	2		1		
teaching practice	8	3	1	1	1			1	2			
staff	1	6			1	1						
theory						1						1
Total 219	61	51	2	26	32 (9)	24 (5)	2	3	13 (6)	4 (2)		1

Key: au = Australia, nz = New Zealand

Bracketed numbers indicate a view other than the standard according to the hypotheses tested

Numbers based on total author (not paper) count

(Note: Where a paper has multiple authors, each author is counted. Where an author has multiple papers, each paper is counted).

When the literature under review was analysed further (Table 3) according to gender and author stance, it could be seen that Australian female authors dominated all three views – artefact (61/140), social construction (32/61) and phenomenology (13/18).

The most common view held was by Australian females about students (artefact (35), social construction (17), phenomenological (6)). In fact, when the whole sample was considered, regardless of Introna's (2005) broad categories, the main author view was staff views about students (107/219). This was followed by staff views about information technology (50/219), staff views about institutions (34/219) and staff views about teaching practice (17/219). Very few papers adopted other stances (staff about staff (9/219), and staff about theory (2/219)).

Therefore the body of literature reviewed was dominated by staff views that regard Al or plagiarism as an artefact that should be understood in the daily practice of the scope of the research described. This body of literature was also dominated by Australians (not surprising in view of the respective population sizes). Very few authors adopted a phenomenological stance, which begs the question "why should this be the case?".

Findings

Most authors reviewed had adopted a moral or value stance about Al. This was not always made explicit. For instance, Hawthorn (2001) discussed whether student cheating should be seen as part of a general moral and social decline in wider society and concluded that "we are not immune to the joys of the moral high ground but this may affect our accuracy" (p. 46). Dick et al. (2003) observed that "some academics perceive willingness to do anything to pass a course as a reflection of this moral and social decline" (p. 179). Brook and Sewell (2006) noted that "the social, political and sporting milieu are shot through with examples of people getting ahead by cheating" (p. 34) but argued that social and cultural factors should not be used as an excuse for plagiarism. Gajadhar (1998) argued that "these core ethical issues needed addressing immediately and proactively" (para. 3). In order to "better understand how students make decisions to cheat", Dick et al. (2003, p. 174) proposed a model of moral decision-making that took into account demographic, personal, situational, societal, and technological factors. Marsden (2005) asked whether Australian universities should consider adopting honour codes like those common in American academic institutions.

Whilst there are many stakeholders in this particular field, the views of academic teaching staff predominated. Even more so, the views of Australian females dominated. This fact itself changed the way in which the interplay between the phenomena of AI and academic writing took place. Rules, policies, practices, and assumed views have been influenced by this particular dominant view. It was also interesting to note that reporting at the 'artefact' level predominated. It therefore followed that the literature presented a 'common' view of AI as a 'problem' that needed to be 'solved' and authors reported on how they went about solving this problem.

Authors were unanimous with respect to the precise rules and/or guidelines required to produce a research output with integrity. This seemed to be the one point that was unanimous, certainly amongst staff views represented in this body of literature. Bates' (2006) views on information seeking gave rise to some interesting thoughts. If, as Bates suggested, active/direct searching was the most unproductive searching technique that humans employ then this underlying factor did not appear to have been considered in the papers reviewed. The stance most commonly adopted was that the rules/guidelines were in place and had been taught, and those who broke these rules or guidelines would be punished. All academic writers should know how to write correctly and therefore would not plagiarise. In adopting Bates' theoretical positioning on searching it could be seen that there may be many factors in looking at Al as a phenomenon.

The market change in academia with a 'knowledge economy' (Boston et al., 2005) has influenced both the quality and the quantity of academic research outputs available to add to the infosphere (Floridi, 2005). Boston et al. (2005) suggested that the New Zealand academic rating scheme (PBRF) was likely to increase the overall volume of research outputs. Other authors also suggested that such a rating scheme added 'noise' to the quantity of research outputs available without improving the overall standard of research. This was in marked contrast to Boyer's (1990) views on the cornerstones of academia which he described as the scholarship of discovery which

was most recognisable as 'research', the search for knowledge for its own sake, and the principled mode of inquiry that characterised this quest.

A knowledge economy scenario involving measured outputs tended to favour short-term, pressured returns that did not encompass the higher levels of reflection (Bain et al., 1999) necessary rather than ones that matured with thoughtful research and scholarship. This view appeared to be reinforced in the collection of literature (1998–2006) written within the current 'knowledge economy' with its measured outputs.

Introna's (2005) views of artefact, social construction and phenomenology were appropriate in considering this body of literature. Firstly, the artefact view was produced in a shorter timeframe with less intellectual reflection or critical comment as a staff measured research output. This was where the majority of the literature on AI was situated. It is also important to note that reporting, in the main, was about the 'end product' or 'solution' not about the process of finding information. Even AI papers discussing education or training as a solution to the problem concentrated on 'how to do it right' rather than why people searched for information in different ways and why this should be so.

Conclusions

The common view held by nearly all authors was that hypotheses 1, 2, 3, 5, 6 and 7 were true and that hypotheses 4 and 8 were not. The uncommon views were predominantly held by those who were writing either as social constructivists (seven papers out of 38) or in a phenomenological manner (nine papers out of 14). Only three of the 73 'artefact' papers took an uncommon view. Of those who held a different view from the norm, there were 22 female authors and ten male authors. Of 19 papers in which a different view from the norm was upheld, 17 had at least one female author. Therefore, in this particular sample, uncommon views were more likely to be held by female authors. Of the uncommon views, four papers upheld a gendered perspective in their reporting of research carried out in the field of academic plagiarism (H4). In ten papers, authors considered explicitly the fact that information may be gathered in different ways (H5). Authors of nine papers discussed explicitly the implications of freely available academic research resources (H8).

Therefore the common view in this sample of 125 papers is as follows: authors adopted a moral stance on academic integrity, academic teaching staff formed the dominant stakeholder group; and, in turn views held by this stakeholder group had more influence on rules, policies and practices adopted when considering academic integrity; a non-gendered stance was adopted; authors were unaware of differences in the way in which information was gathered; authors adopted at least one view of plagiarism in their writing; the production of academic writing influences writers' theoretical positioning; and having research outputs available free of charge did not devalue their content.

In this paper a theoretical framework has been employed to gain a deeper understanding of positioning adopted with respect to academic integrity. The basic tenets were tested on a selection of Australasian literature on academic integrity. It is evident from the analysis done on this particular collection of papers that there is a need for more research at a deeper level of reasoning. Much of what appears in this collection of papers is descriptive and draws conclusions only on what is presented at a superficial level.

It is tempting to suggest that researching and reporting on plagiarism by students is the 'easy way out' for some academic researchers. In this particular sample, nearly half (107/219) of the papers analysed have this focus (see Table 3). All papers were deemed to be 'inward looking' in that they described research conducted within or

about academic institutions. When there are external factors to consider (tenet 5) this changes both the quality and the quantity of research outputs.

This paper moves beyond the views considered for analysis – artefact, social construction and phenomenology - to the philosophical underpinnings of the nature of information searching behaviour. It would appear that the AI research area would benefit from further research, discussion and thought to deepen the understanding of AI. The authors believe that this paper points the way in this direction. It is important that the AI research community move beyond discussion at the artefact or tool level and into the deeper reasons about why plagiarism is so prevalent.

Author biographies

Dr Kay Fielden is an associate professor in Computing in the School of Computing and Information Technology, Unitec Institute of Technology, Auckland, New Zealand. She is also the research leader for the school, mentors staff research, supervises postgraduate students and teaches postgraduate research methods. Her own research interests are grounded in conceptual modeling, qualitative research and systems thinking and are most commonly conducted in the context of social informatics.

Associate Professor Donald Joyce is director of postgraduate computing programmes at Unitec New Zealand. He has held research and/or teaching positions at eight universities: Auckland, Cambridge, Massey, Newcastle upon Tyne, Otago, Oxford, Papua New Guinea, and the South Pacific. He researches educational and social issues in computing and supervises student research in a range of areas. He has been editor of the *New Zealand Journal of Applied Computing and Information Technology* since 1997.

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