How well do students really understand plagiarism?

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Abstract

Plagiarism is an issue that faces all institutions and is often regarded with a strong sense of moral outrage by academics. The Internet is widely credited with destroying the respect students traditionally are meant to have for intellectual property and it is commonly accepted that the web now provides students with a convenient and diverse source of material both for research and for plagiarism. We present an exploration of student attitudes, perceptions and understandings of intellectual property, particularly plagiarism and violations of copyright. We use scenarios to explore contextual factors that may influence the regard students have for intellectual property and the seriousness of plagiarism, and that may affect their own behaviours.

Keywords  
plagiarism, intellectual property, copyright

Introduction

“As if there was much of anything in any human utterance, oral or written except plagiarism. The kernel, the soul – let us go further and say the substance, the bulk, the actual and valuable material of all human utterances – is plagiarism.” (Twain, 1903)

Academic honesty and respect of intellectual property are areas of considerable concern to tertiary institutions worldwide (Weedon, 2000, Groak et al., 2001). Articles in journals and newspapers frequently discuss the impact that the Internet is having on the prevalence of cheating and on attitudes to intellectual property (Ryan, 1998; McCabe & Drinan, 1999; Rimer, 2003; Kasprzak & Nixon, 2004). Previous research has established that academic dishonesty and misuse of intellectual property are related in student perceptions (Scott, 2002). Furthermore, it is clear that the positions of some writers in arguing for greater freedom in the use of information of all types (Lessig, 2001; Vaidhyanathan, 2001; Lessig, 2004) could be misinterpreted by students as validating some forms of plagiarism (Lenhart et al., 2000).

There is the general, if perhaps not yet well supported, belief that students are now more predisposed to engage in dishonest practices during their studies (McCabe & Drinan, 1999; Park, 2003). Simultaneously, there is a concern that significant economic harm is being inflicted on the creators of works arising from a general disrespect for their property rights fostered by the Internet and a “rip, mix, burn” culture. It is contended that this is most apparent in the student population who are blamed for the poor financial results of media companies and associated collection agencies. There is also widespread misunderstanding of the meaning of the term “public domain” and the availability of materials on the Internet (Kellogg, 2002).

Addressing this confusion students have with using information appropriately requires care in providing students with opportunities to develop academic writing skills progressively (Howard, 1995; Wilson, 1997) as well as an understanding of the legitimate role that copying plays in the creation of new works. Challengingly, while the concepts of copyright violation and plagiarism overlap, and are manifestations of the wider concept of intellectual property (Marshall, 2005), they are easily confused because most common examples of plagiarism are also violations of copyright (Snapper, 1999, Standler, 2000). How students perceive these areas appears to also depend on their own perceptions of importance or seriousness of the activities, the likelihood of being caught, and learned attitudes from their teachers (Martin 1992; Dick et al., 2001; Carroll, 2002; Sheard et al., 2002). This last area, the induction of students into an academic culture and development of an understanding of the norms of academic behaviour is challenging at the institutional level as significant differences exist within and between disciplines as to what constitutes plagiarism (St. Onge, 1988, p. 57; Martin, 1994) and authorship (Rose, 1993).
In this paper we present an exploration of the extent to which students really understand the concepts of intellectual property as expressed through plagiarism in an academic context and violations of copyright more generally. In particular, we are interested in the relationship between student attitudes towards plagiarism and towards copyright violations, and the extent to which digitally sourced material is treated differently to more traditional media such as books.

Methodology

Many studies of plagiarism by students are undertaken by asking them whether they have engaged in plagiarism or cheating at any stage of their studies. This very broad approach makes it hard to determine the actual extent of plagiarism and is also less useful in determining what can be done by teachers to discourage it. A single instance of cheating many years previously is hardly a strong indicator of how a student may behave as an adult. It is clear that students get exposed to mixed messages about plagiarism from the real world and from behaviours of institutions and academics (Martin, 1994). By examining the scenario responses and student perceptions of how other students, institutions and the general public regard situations, it is possible to see patterns of belief that would not be apparent from the more definition-based instruments. A particular challenge is to try to deal with the generally recognised problem that survey respondents under-report participation in ethically dubious behaviour such as cheating (Scheers & Dayton, 1987). Scenarios help by providing more context as does the use of multiple viewpoints or roles — in essence, dissociating the respondent from their personal position (Wood et al., 1988; Emerson & Conroy, 2002).

In order to provide a rich set of data to analyze we constructed a survey questionnaire and information sheet (available from the authors on request) which, as well as soliciting basic demographic information, provided students with a variety of possible behaviours that might or might not involve plagiarism so as to test what they actually understood plagiarism to be (see Table 1). These presented a variety of behaviours that are potentially plagiarism as well as clear instances of plagiarism and also acceptable practice. The students were also provided with fifteen different scenarios (see Table 2) that involved issues of copyright violation and plagiarism. Students were asked to assess how serious the behaviour presented was on a scale from 0 (no issue at all) through to 5 (extremely serious) for themselves. They were also asked to estimate how it might be regarded by other students, the University and the general public. Finally, they were asked to indicate whether and how frequently they had engaged in similar behaviour themselves.

Results were collected anonymously from students enrolled in three different first year courses at a medium-sized New Zealand university. A total of 181 responses were collected from 186 students during a class session without the teaching staff present (a 97% response rate). Full human ethics approval to conduct this research was obtained.

Results and analysis

Extent of plagiarism

Assessing the extent of plagiarism presents a number of well-known challenges and it is unclear if the extent is increasing or if it is merely being detected more efficiently (Dean, 2000; Park, 2003). For each of the scenarios outlined in Table 2, students were asked to indicate whether they had engaged in substantially similar behaviour themselves. In most of the plagiarism scenarios, the majority of students indicated that they had not engaged in this behaviour (96% for scenario 11; 47% for scenario 1) but when combined only 39 students (22% of respondents) indicated that they had never engaged in any form of plagiarism. This improved slightly to 51 (28%) when only the clear plagiarism scenarios (1, 4, 11 and 12) were considered. More detailed comparison of the different plagiarism scenarios presented here clearly indicates that some forms of plagiarism are regarded by students as much less serious than others and are also more commonly admitted to.
Table 1: Definitions of plagiarism

<table>
<thead>
<tr>
<th></th>
<th>Plagiarism?</th>
<th>Student response Yes (n=181)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Y</td>
<td>170 94%</td>
</tr>
<tr>
<td>2</td>
<td>N</td>
<td>31 17%</td>
</tr>
<tr>
<td>3</td>
<td>N</td>
<td>126 70%</td>
</tr>
<tr>
<td>4</td>
<td>N</td>
<td>22 12%</td>
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<tr>
<td>5</td>
<td>Y</td>
<td>49 27%</td>
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<tr>
<td>6</td>
<td>Y</td>
<td>105 58%</td>
</tr>
<tr>
<td>7</td>
<td>Y</td>
<td>112 62%</td>
</tr>
<tr>
<td>8</td>
<td>Y</td>
<td>163 90%</td>
</tr>
<tr>
<td>9</td>
<td>Y</td>
<td>136 75%</td>
</tr>
<tr>
<td>10</td>
<td>Y</td>
<td>151 83%</td>
</tr>
<tr>
<td>11</td>
<td>N</td>
<td>16 9%</td>
</tr>
<tr>
<td>12</td>
<td>Y</td>
<td>48 27%</td>
</tr>
<tr>
<td>13</td>
<td>N</td>
<td>15 8%</td>
</tr>
<tr>
<td>14</td>
<td>Y</td>
<td>153 85%</td>
</tr>
</tbody>
</table>

Lack of understanding of what constitutes plagiarism

There are many definitions of plagiarism that cover concepts as broad as using ideas or organisation, the copying of citations, through to the wholesale reproduction of entire works. Some formal definitions include the resubmission of one’s own work; others are less detailed and focus on the key aspects of deception and fraud (Carroll, 2002, p. 9; Park, 2003).

When discussing the meaning of plagiarism it is commonly held that, as with pornography, “we know it when we see it” (St. Onge, 1998, p. 51). This hides the confusion and disagreement that is present within academia and the variety of justifications accepted for plagiarism’s occurrence in different contexts (Anderson, 1998, p. 1). It is hardly surprising that students are confused when, at least in some cases, it appears that plagiarism is acceptable provided it is done well (Anderson, 1998, p. 5). Carroll (2002) notes that the formal definition of plagiarism provided to students in many cases varies according to the discipline, the context, and the expectation of what is meant by “common knowledge”, institutional regulations, and professional codes of ethics. Many institutions are now standardising their definitions as part of a formalisation of processes for punishing plagiarism (Carroll, 2003), but it remains unclear how well these are understood and normalised by academics, let alone students, and how effective staff and institutions are at communicating what these definitions actually mean (Walker, 1998). Some of the confusion may be explained, if not excused, by students’ failure in general to appreciate that assessment tasks are intended to support their learning. It is certainly clear that poor assessment processes breed misconduct and plagiarism (Carroll, 2002).
The level of misunderstanding is illustrated by the results for scenario 15 (see Table 2), which presented a situation that is clearly neither a copyright violation nor plagiarism, but nevertheless 77% of the respondents thought it was possibly some form of misconduct. This is consistent with 17% of students thinking that “Copying the words from another source with an acknowledgement” is plagiarism (Table 1, item 1). Responses presented in Table 1 indicate that while obvious forms of plagiarism such as directly copying words without acknowledgement are understood by most students (Table 1, item 1, 94% correctly identified) there is confusion about how to use materials from other sources correctly (Table 1, items 5, 6 and 7, 27%, 58% and 62% correctly identified as plagiarism).

Table 2: Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Plagiarism?</th>
<th>Copyright violation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>3</td>
<td>Y</td>
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<tr>
<td>4</td>
<td>Y</td>
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<td>5</td>
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<td>6</td>
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<tr>
<td>7</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>8</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>9</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>10</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>11</td>
<td>Y</td>
<td>N</td>
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<tr>
<td>12</td>
<td>Y</td>
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<td>13</td>
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<td>14</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>15</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>
These are disturbing results when the extent of misunderstanding is considered. The most obvious form of plagiarism is not recognised by 6% of students (Table 1, item 1) while 8% (Table 1, item 13) and 17% of students fail to recognise normal citation practices (Table 1, item 2). As well, over a third of the students (38%, Table 1, item 7) think that changing the words is sufficient to avoid plagiarism. This high proportion of misunderstanding suggests that there is little value in simply asking students whether they understand what plagiarism is or if they have engaged in plagiarism themselves.

**Age**

The influence that age plays in ethical judgments is a complex area; many studies present evidence that older respondents may have higher standards than younger ones (Arlow & Ulrich, 1980; Miesing & Preble, 1985; Ruegger & King, 1992; Terpstra et al., 1993; Deshpande, 1997; Borkowski & Ugras, 1998; Allmon et al., 2000). However, the evidence is generally inconclusive and dependent on the context. In the academic context it has been suggested that younger students (Haines et al., 1986; Straw, 2002) cheat more often than older students, but it is not clear how age contributes to the decision to cheat or different forms of misconduct such as plagiarism. Interestingly, an analysis of the results for the definition items in Table 1 broken down by age (Table 3) suggests that younger students were more likely to accurately identify plagiarism than older students (items 8, 10 and 14). A similar effect was also noticed for item 3, which, while not plagiarism as such, is treated under institutional policy as a related form of misconduct.

**Table 3: Effect of age on understanding the definition of plagiarism**

<table>
<thead>
<tr>
<th></th>
<th>&lt;21 (n=56)</th>
<th>21-25 (n=105)</th>
<th>&gt;25 (n=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Resubmitting an assignment that was submitted in one course for assessment in another course.</td>
<td>45 80%</td>
<td>67 65%</td>
<td>14 74%</td>
</tr>
<tr>
<td>8 Buying a complete piece of work in order to submit it for an assignment.</td>
<td>55 98%</td>
<td>91 88%</td>
<td>16 84%</td>
</tr>
<tr>
<td>10 Copying a web site and putting your own words and name into the content part of the pages.</td>
<td>52 93%</td>
<td>80 78%</td>
<td>18 95%</td>
</tr>
<tr>
<td>14 Copying short sentences (less than 50 words) from another source without appropriate reference or acknowledgement.</td>
<td>51 91%</td>
<td>84 82%</td>
<td>17 90%</td>
</tr>
</tbody>
</table>

Despite this, and the expectation from the literature, analysis of the scenario responses found no significant indication that age affected the extent of plagiarism or the seriousness with which it was regarded. This possibly reflects the relatively small sample size of older students. The only significant difference in attitudes observed between the age groups was found in scenario 5 (copying game software). Younger students (under 21) regarded this violation of copyright as much less serious than older students (see Figure 1). Consistent with the overall trend discussed in more detail below, copying game software was considered much less serious than the copying of commercial software. This difference in attitude was also reflected in the prevalence of this type of copyright violation with 82.5% of under 21 students admitting to doing this, compared with 75.8% of 21–25 and 57.9% over 25 year old students. Other scenario responses showed no significant differences between the different age groups.

**Figure 1: Effect of age on student attitudes to the seriousness of copying game software**
Gender

As with age, assessing the role of gender in ethical issues is challenging (Adam, 2000) and liable to oversimplified analysis and the risk that the process of making ethical decisions is ignored. In the business context it has been suggested that males are generally more accepting of ethically questionable situations than females (Borkowski & Ugras, 1998; Longenecker et al., 2001) and it also appears that males cheat in academic situations more than female students (Straw, 2002).

The only observable difference in male and female students’ understanding of the definition of plagiarism was item 6 in Table 1 (copying the organisation or structure) with it being identified by 49% of male compared with 67% of female respondents. Much more significant was the difference in copyright violations. Male students admitted to copying software much more than female students, with game software copying (scenario 5) admitted to by 90% of males (19% frequently) vs 60% of females (4% frequently). Least likely to be copied was commercial software for work purposes (scenario 14) with 30% males admitting to this compared to 9% of females. No other significant differences in the scenario responses, including the plagiarism scenarios were observed between males and females.

International students

Students from cultures other than the “western” academic tradition are commonly regarded as engaging in plagiarism more often and more extensively than students raised within “western” cultures (Introna et al., 2003). The extent, however, that this is actually the case is unclear as it may reflect the ease with which plagiarism by non-English speaking background (NESB) students can be detected, compared with plagiarism by students from an English speaking background (ESB). Certainly, a lack of fluency in expression is an excuse often given by students but it is apparent that a range of other cultural factors influence ideas about plagiarism and it also clear that students from both English speaking and other backgrounds need to be assisted in moving through stages of fluency in their academic writing (Howard, 1995; Wilson, 1997). Students unfamiliar with academic writing may simply lack a good understanding of how to write coursework so as to avoid plagiarism (Carroll, 2002, p. 47), a problem exacerbated by poor English skills.

A variety of explanations are provided in the literature and by students as to why NESB students might have trouble conforming to expectations in the use of sources. These include:

- Cultural norms requiring assisting a friend in need (Cordiero, 1995; Walker, 1998).
- Cultural differences in type of understanding required — reproductive vs analytical (Burns, 1991; Angelil-Carter, 2000).
- Presumption of dominant cultural knowledge (Mackinnon & Manathunga, 2003).
- Fear of excessive loss of face and impact on family (Burns, 1991; Walker, 1998).
- Language skills (Watkins & Biggs, 1996; Bretag et al., 2002).
- Moral perception of plagiarism (Introna et al., 2003).
- Alienation (Introna et al., 2003).

Analysis of the definition results suggests that NESB students do have some issues understanding plagiarism with fewer NESB students (43%) than ESB students (72%) recognising that simply changing words does not avoid plagiarism (Table 1, item 7) and similarly that web sites can also be plagiarised (Table 1, item 10, 67% NESB vs 92% ESB). This lack of respect for material on the web was also shown in responses to scenario 1 (copying from the web) where more NESB students admitted to copying (62%) than ESB students (47%) and where the copying was seen as generally less serious by NESB students (see Figure 2). This pattern of NESB students regarding copying as less serious extended to copying from books (scenario 4) and from other students (scenario 12), but interestingly did not extend to attitudes to copyright violation, which were consistent between the two groups. In almost every scenario it was also noted that ESB students think that the University regards the behaviour as a more serious issue than NESB students do. This is a concern as it suggests that NESB students are not interpreting materials supplied by the University in the same way that ESB students are and that more work may be needed to improve their understanding. The one exception was scenario 6 (keeping videotapes), which was not thought very serious by either group. A more extensive and detailed analysis of these results is presented elsewhere (Marshall & Garry, submitted).
While the results are a concern and suggest that further attention needs to be paid to the needs of the NESB students it is important to place this in the context of the very high level of plagiarism observed overall. It is very likely that strategies aimed at improving information use by all students will benefit NESB students and may obviate the need for any targeted initiatives that may continue to reinforce negative perceptions and stereotypes of these students.

**Context**

Longenecker et al. (2001) have suggested that previous exposure to ethical behaviour affects attitudes to how seriously ethical issues are perceived. Responses to the scenarios were analysed and the correlation between admitting to engaging in a behaviour and how seriously it was regarded were calculated. In every case, the correlation was positive, indicating that students regarded activities they had engaged in themselves as being less serious than ones they had not.

Concern with the ease by which material can be accessed via the Internet and included in student work has been expressed by a number of commentators (Ryan, 1998; McCabe & Drinan, 1999; Rimer, 2003; Kasprzak & Nixon, 2004). However, it is less clear how much impact the web has actually had on the materials used by students when plagiarizing (Chester, 2001). Figure 3 clearly indicates that copying from the web is seen as less serious than other forms of plagiarism and engaging in it is admitted to more commonly (53%) than from books (37%) or other students (8%).

Gajadhar (1998) has described students as regarding web materials as “free for anyone to use” and it appears that the convenience of copying and reusing digital materials and this attitude have combined to normalize and legitimate plagiarism from the web in students’ minds (Baruchson-Arbib & Yaari, 2004). It is contended that students generally regard plagiarism as not particularly serious (Park, 2003) and certainly while the results illustrated in Figure 3 suggest they are aware of the issues it is likely that most academics would regard all forms of copying more seriously than the students appear to. Related, is the idea that students believe that other students are more likely to engage in plagiarism than they are themselves (Scanlon & Neumann, 2002). Some evidence of this was seen with students generally indicating that other students see plagiarism as less serious, but this was not a strongly significant trend. Despite the sense that other students are less ethical, the intellectual property of other students was clearly seen as requiring greater respect than material from other sources. The results in Figure 3 clearly show that copying from another student was seen as the most serious form of plagiarism and it was also the least likely to be admitted to (8% of respondents vs 53% for copying from the web).
The University is consistently seen as regarding every form of misconduct as being more serious than any other group, including the general public. Figure 4 illustrates this trend for scenario 1. Similar results were observed for all of the scenarios suggesting that students see the university as holding higher standards than society in general.

**Relationship between violation of copyright and plagiarism**

A correlation analysis was performed on student attitudes to copyright violations and plagiarism and no significant correlations were found between the two sets of scenarios. This suggests that while students see plagiarising from the web as less serious than plagiarising from other sources, they don’t appear to base this preference on intellectual property aspects. This suggests that the real reason must lie elsewhere, perhaps arising from convenience, rather than from any sense that materials supplied electronically are owned differently. This is consistent with the observed gender differences with respect to copying software and the NESB/ESB differences being seen with plagiarism but not copyright violations. The scenario results for the copying of games (scenario 5), music (scenarios 9 and 13) and the keeping of videotapes (scenario 6) were illustrative. Generally students regarded these as not very serious: only 1% of students regarded them as extremely serious and over 75% of students admitted to doing them. This compared to the much lower rates for copying other software and plagiarism noted elsewhere.

**Conclusion**

The Internet is often hailed as having changed the way that people perceive and use information in their daily lives and it has clearly had an impact on academic life and teaching. Proponents of the “open source” and Creative Commons philosophies talk extensively about the way that digital distribution can change how we use intellectual property in many areas of our lives (Lessig, 2001; Vaidhyanathan, 2001; Lessig, 2004). Simultaneously, the owners and distributors of digital media are raising concerns about the theft of their property and the need to invoke ever stronger legal and technological protections to ensure that the convenience of digital copying does not destroy the economic value of their products. We have examined the attitudes students have towards behaviours that involve plagiarism or violations of copyright and tested whether there is a relationship between these two areas. In general, it appears that convenience and availability mean that copying Internet materials is regarded as intrinsically less serious by students. The results for situations involving the copying of games and music indicate also that students are driven very much by their own set of values based on their own needs and experience. The positive correlation between students’ perception of the lack of seriousness of a behaviour and their actually doing that behaviour suggest that early intervention and reinforcement is critical. In the absence of a strong response behaviour can be legitimated and normalized making it much harder to discourage. This has clearly happened already with recreational uses of copyright materials, and it appears to be occurring with the plagiarism of web-based materials.

In attempting to change student attitudes, the results for the definitions of plagiarism (Table 1) are of particular concern, suggesting that students have a poor understanding of the concept of plagiarism and the many different ways in which they can plagiarize. There is clearly the sense that provided the copying is indirect or of elements that are not visible, it is less serious than direct copying of phrases. This suggests that education programmes need to decode the more formal definitions of plagiarism into specific examples that illustrate the range of activities that are not permitted and how misconduct can be avoided. When constructing these programmes it is worth noting that while demographic factors such as age and gender appear to have minimal impact on student attitudes to plagiarism there does appear to be an issue with the NESB students understanding what is expected and how seriously it is treated by the institution.
That the University was seen by students as regarding misconduct more seriously than any other group in every scenario suggests that provision of rules and punishments is apparent to students but is not as influential as we might hope. This reinforces the need to educate and explain rather than simply regulate and punish. Teaching ethical behaviour is complex and requires that, as institutions and teachers, we model appropriate behaviour and provide an implicitly ethical culture for students to experience and participate in (Crown & Spiller, 1998).

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