Maximising the benefits from intellectual property in universities: awareness of our rights and obligations

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Introduction

In its report *Maximising the Benefits: Joint ARC/HEC Advice on Intellectual Property*, (NBEET 1995) the Australian Research Council recommended that all universities should have an intellectual property policy in place by November 1996. These policies

> *should have as one of their aims the maximisation to Australia of the benefits arising from research. This can be done through considering intellectual property development, management and exploitation issues in the wider commercialisation context.* (NBEET 1995, p11)

This aim requires policy development to nurture promising academic endeavour from theory into useful commercial products that return profits to their creators, sponsors and the university. All universities have adopted this recommendation and have policies and procedures in place that aim to identify and protect intellectual property with commercial potential.

In the same report, the Australian Research Council and the Higher Education Council:

> *resolved to encourage institutions to promote and develop academic staff development programs on intellectual property protection, management and exploitation in the wider context of business planning.'* (NBEET, 1995, p23)

In this article, I explore one aspect of this process, namely the extent to which a sample of academic staff at Monash University are familiar with general intellectual property concepts and the provisions of their intellectual property statute. To do this, I draw on results of a written survey that I administered at Monash University in late 1997. While the conclusions from that survey are valid only for the 372 staff who responded, they are likely to alert both Monash, and indeed all universities, to a level of ignorance in this area within their academic communities that requires some attention.

University intellectual property

All creative products have potential for some form of protection under one or more intellectual property regimes that each comprise a separate set of rights. Most academic creativity will result in subject matter that has automatic protection under the *Copyright Act* 1968 (Cth) as a literary, dramatic, musical or artistic work.[1] Some examples include books, chapters in books, plays, departmental working and discussion papers, journal articles, surveys, reports, conference publications, teaching materials, computer software, multimedia, databases, paintings, photographs and drawings, and musical compositions and arrangements. A separate set of provisions provides automatic protection for material such as sound recordings[2] (including CDs, tapes or cassettes), cinematograph films[3] (including videos), television and sound broadcasts[4] and published editions of works[5]. Limited protection is available also to performers[6].

Academic creativity may also result in patentable inventions and confidential information. A registered patent can be granted in respect of any new and inventive product or process that has commercial utility[7]. This may be, for example, a new drug, computer program, industrial process or widget. The crucial pre-condition to patenting is absence of prior publication of the invention; a requirement that can sit uncomfortably with academic needs to be the first to publish a scientific breakthrough. However, patents do not prevent publication. On the contrary, the essence of patent protection is the public disclosure of the invention in return for the grant of limited monopoly rights. However, while the information remains secret and out of the public domain, it has protection under the equitable doctrine of breach of confidence that is available to restrain its unauthorised use or disclosure.

Other intellectual property rights may be important in specific areas of activity. A registered trade mark provides monopoly protection for signs that are used or intended

to be used to distinguish goods and services dealt with in the course of trade[8]. Trade marks are significant in promoting the university brand, and may be valuable in marketing a patented product or process that results from commercialised university research. Registered design protection is available to protect the "shape, configuration, pattern or ornamentation applicable to an article".[9] The *Circuit Layouts Act* 1989 (Cth) provides for automatic protection of original circuit layouts, commonly known as semiconductor chips. Finally, monopoly protection is available also for new plant varieties under the *Plant Breeder's Rights Act* 1994 (Cth).

Monash survey

In November 1997, I administered a survey on intellectual property issues at Monash University. This was sent to randomly selected members of academic staff[10] across all faculties in all campuses[11] of Monash University. In total, I sent 704 members of academic staff surveys.[12] I received 372 completed surveys, yielding a response rate of 53%.

Table 1: Level of appointment, discipline and gender of survey sample and respondents

Level of Appointment	Faculty	Respondents				Original Sample	
		Frequency~			Percent	Frequency	Percent
			M*	F#			
Professor	**Total**	**44**			**11.8**	**72**	**10.23**
	Humanities	21	18	3	5.65	42	5.97
	Sciences	23	20	2	6.18	30	4.26
Associate Professor	**Total**	**45**			**12.1**	**97**	**13.78**
	Humanities	21	18	3	5.65	43	6.11
	Sciences	24	19	4	6.45	54	7.67
Reader	**Total**	**13**			**3.5**	**Not separated in original sample**	
	Humanities	2	2		0.54		
	Sciences	11	10	1	2.96		
Senior lecturer	**Total**	**104**			**28**	**199**	**28.26**
	Humanities	39	26	13	10.48	85	12.07
	Sciences	62	52	10	16.67	114	16.19
Lecturer	**Total**	**127**			**34.1**	**246**	**34.95**
	Humanities	76	31	45	20.43	145	20.60
	Sciences	49	29	20	13.17	101	14.35
Assistant lecturer	**Total**	**33**			**8.9**	**90**	**12.78**
	Humanities	17	4	13	4.57	49	6.96
	Sciences	16	9	7	4.30	41	5.82
Missing		6			1.6		
TOTAL		**372**	**238**	**121**	**100.0**	**704**	**100.0**

M* Male Fm# Female ~ Some respondents did not identify their gender and/or discipline

Respondent group

The respondents are representative of the Monash University community that was sampled, both in relation to their level of appointment and to their faculty distribution. In the sample group, 364 (51.7%) were from humanities[13] based faculties and 340 (48.3%) from science[14] based faculties. These overall proportions were closely maintained among respondents:[15] humanities (177 or 47.6%); sciences (189 or 50.8%). (Table 1) The only group that is under-represented is that of Assistant Lecturers.

The original sampling took no account of the gender or age of the respondents. Respondents were approximately two thirds male (244) and one third female (124). The distribution across faculties and levels of appointments shows that women were clustered at levels of senior lecturer and below, whereas males were more evenly distributed. My assumption is that this disparity represents that fewer numbers of women are employed at these levels instead of any lack of interest in the subject.

Awareness of the concept of intellectual property

The bulk of research material that respondents create is copyright subject matter. The same is true for materials they create, present or distribute for teaching a subject.[16] However, respondents also create a substantial amount of material that is within the scope of other forms of intellectual property rights. Accordingly, it is critical that those staff and others are aware of their rights and obligations in relation to the subject matter they create. Important issues are ownership and distribution of rights, as well as infringement of another's rights. This latter issue has particular significance in relation to the production of teaching materials in the form of compilations, multimedia products, computer programs, and videos, as well as loading materials on the internet. However, while infringement, statutory licences and concepts of fair dealing in respect of the copyright of others are important issues for universities and their staff, they are not discussed in this article. The survey data is concerned with ownership and rights in the materials that staff create. The following discussion is concerned with the implications that staff awareness of intellectual property rights in these materials have for both staff and university administrators.

Levels of awareness

The survey was conducted three years after commencement of the University Statute and Regulations.[17] I asked various questions to determine the levels of awareness that staff had of intellectual property in general, and of the university's intellectual property statute.

The term 'intellectual property' was familiar to 98% of respondents, but the levels of awareness varied among the independent categories comprised in this term. Respondents displayed widespread familiarity with the names of patents for inventions (93.8%) and copyright (92.2%), as well as designs (78%) and trade marks (74.5%). There is less familiarity with the terms confidential information (53.4%), circuit layouts (42.6%) and plant breeder's rights (38.9%). The questionnaire did not identify the extent of

the respondents' knowledge of each of these forms of intellectual property.

Reduced awareness of some forms of intellectual property does not alone suggest an ineffective education program. It is probably necessary to educate only those who need to know. All academic staff (and students) must know about copyright because almost all create copyright subject matter. Rights such as plant breeder's rights, circuit layouts and design rights are highly specialised and general awareness of these rights is unnecessary. However, knowledge of patents has broader significance beyond traditional fields of science and technology as the concept of patentable subject matter expands into fields such as business methods.[18] The aim must be to target the groups that may create and use the specific type of intellectual property. This education could commence at the undergraduate and postgraduate student levels with the inclusion of intellectual property tuition that is tailored to particular needs of students in different disciplines.

Effective operation of policies requires some knowledge of intellectual property rights. A number of consequences can flow from ignorance. One is the failure to recognise that research results contain a patentable invention. This may arise through complete ignorance or through failure to appreciate that some creations have overlapping forms of intellectual property protection. For example, a computer program may have immediate protection as a copyright work and as secret information until disclosed, but may also be a patentable invention. This ignorance may result in a course of exploitation that is later regretted. For example, seeking immediate publication and reliance upon copyright may result in premature publication of details that destroys patentability. This in turn may reduce the incentive for sponsors to invest in any potential commercial application of the research.

Ignorance about intellectual property rights can also result in a failure to recognise the circumstances in which they arise. Some circumstances, such as collaborative research involving students, visiting scholars and academic staff require a specific agreement to avoid ownership disputes. The ideal management involves negotiation of intellectual property issues before research commences with the decision reduced to a written contract. However, all parties must understand intellectual property rights for them to recognise the need for the agreement and to effectively negotiate its terms. There is a danger that ignorance can damage otherwise valuable research collaborations. Incorrect assumptions about rights in all research results can result in misunderstandings, acrimony and an inability to determine what is "fair" to all parties. Knowledge, on the contrary, can defuse potential disputes and create a more co-operative and productive atmosphere.

Sources of knowledge or awareness

How do academic staff learn about intellectual property? I asked respondents to select from an express list all sources that had raised and/or increased their awareness of any of the listed classes of intellectual property. The aim was to ascertain the most effective forms of dissemination of this information, not the level of their knowledge.

The university was listed by 71.8% of all respondents. The significant proportion of respondents who omitted the university as a source of information suggests the need for Monash University to explore additional means to reach all its staff. The next most common sources were the media,[19] a colleague[20] and a research sponsor.[21] All other possible sources were less significant in providing an educative role.[22]

Attitudes to university policies on intellectual property

Awareness of the university intellectual property statute

Despite the wide awareness of the term 'intellectual property', only two thirds of respondents (67.5%) knew of the university intellectual property statute. The others were either not aware or were uncertain whether one exists. Awareness was noticeably greater among respondents in science based faculties.

Those who were aware of the statute were asked to identify their source of knowledge and their broad level of understanding of its effect. In terms of source, respondents were asked to mark all means listed[23] and to identify any others. University print publications (37%) were the single most effective source. The statute itself was nominated by 16% overall (14%: humanities; 19%: science). This result is disturbing if it represents the proportion of respondents who have actually read or seen the statute. At the time of the survey, most staff should have possessed a small loose-leaf folder that included the intellectual property statute and regulations. The percentage may be higher if any respondents

Table 2: Awareness of intellectual property statute

Level	Humanities		Science		Total
	Respondents	Aware	Respondents	Aware	
Professor	21	10 (48%)	22	19 (86%)	44
Associate professor	21	12 (57%)	23	16 (70%)	45
Reader	2	1 (50%)	10	8 (80%)	13
Senior Lecturer	39	28 (72%)	62	44 (71%)	104
Lecturer	76	45 (60%)	49	41 (84%)	127
Assistant Lecturer	17	10 (59%)	16	11 (69%)	33
TOTAL	**176**	**106 (60%)**	**182**	**139 (76%)**	

were confused with terminology and noted this latter publication as a source under "print publication" but not under "statute".

Some changes to dissemination have occurred since the survey. The statute and regulations are now loaded on the university web site. However, it is likely that only a specific reason will motivate an academic to read this. All new members of staff have a copy of the statute appended to their conditions of employment. While this should increase awareness among this group of the existence of the Statute, it does not guarantee that they will read the Statute and understand its provisions. One reason for this apparent apathy may be a lack of appreciation that this material has immediate relevance to them. It is obvious that some other more direct method must supplement such publications.

Word of mouth is effective (16.1% nominate a colleague as the source), but accuracy is always a problem with reliance upon this source. In addition, workshops (13.4%) and internet publications (10.2%) reached a clear minority of respondents. The NTEU was nominated by a small percentage (5.6%), but was more effective in increasing general awareness of intellectual property (11.8%). This reflects the activity of the Union during the negotiation stages rather than after the statute was enacted.

Awareness of obligations to report the creation of certain intellectual property

The statute contains obligations to report certain intellectual property to the Intellectual Property Officer.[24] Only patent worthy inventions must be reported.[25] Other intellectual property must be reported to the Intellectual Property Committee if required. As a patent cannot be obtained if the invention has been published, an originator must not disclose or use the invention in a way that would prejudice protection of the intellectual property.[26]

The Statute's objectives are enhanced if inventors abstain from publication until such time as the Intellectual Property Committee, in consultation with the inventors, can make decisions about protection, publication and commercialisation. On occasion, an academic who is aware of intellectual property rights may still want the freedom to place his or her inventions in the public domain. Stanford University has an express provision in its *Inventions, Patents and Licensing Policy* that endorses this academic right. In other universities there is an implied recognition of this right despite the presence of an express reporting requirement. In reality, unless the university follows some practice of regular technology audit to identify potential patentable inventions, and is prepared to "punish" premature disclosure of inventions, it must rely upon the inventor to voluntarily disclose details. In any event, successful commercialisation will not occur without the full co-operation and enthusiasm of the inventor.

Such inventors who want to seek a patent therefore require knowledge of the reporting procedures in order to access the services offered for intellectual property protection and commercialisation advice. Only 21.7% of respondents were aware of reporting obligations[27] and a further 25.7% were aware but couldn't recall any detail. These respondents were spread fairly evenly across both humanities and science based faculties. Although this result is disappointing, most of the respondents who report creation of potential patentable inventions are aware to some extent of reporting requirements.[28]

Familiarity with allocation of rights in intellectual property under the statute

Monash University asserts its statutory rights to own all intellectual property that its employees create in the course of their employment,[29] with the exception of "copyright work the subject matter of which is primarily concerned with scholarship, research, artistic expression, creativity, or academic debate". Course material is among a list of specific exceptions to this scholarly subject matter.[30] The University also indicates its intention to own intellectual property 'in respect of the creation of which the University has contributed other University owned intellectual property or has made a specific contribution of funding other than salary payable pursuant to a contract of employment, resources, facilities or apparatus.'[31] To the extent to which this intellectual property is created outside the duties of employment, the validity of a claim to ownership depends upon the existence of an enforceable agreement. (Monotti, 1997 at pp445-465)

Having established the vesting of ownership, the Statute then provides for the non-owner to enjoy certain rights in the intellectual property. For example, the Statute provides for the grant of a licence by the copyright owner to the non-owner to perform certain acts in relation to copyright subject matter. There are also rights for authorship of a published work to be acknowledged in the publication. If there is adaptation or modification, the originator must be consulted as to whether authorship is to be acknowledged and the form of that acknowledgment.[32]

Originators also enjoy rights in other university owned intellectual property.[33] Inventors are entitled to a share of patent revenue. In addition, the University assumes an obligation to ensure that the originator is acknowledged. As well as providing an originator with express rights in university owned property, there are also obligations. An originator must not act inconsistently with the university's rights in intellectual property. There is a prohibition against application for any form of protection of the intellectual property and engagement in its commercial exploitation.

Rights and obligations in intellectual property are therefore significant for both originators and the university. I

Table 3: Familiarity with distribution of rights

Level of appointment	Humanities	Sciences
Professors	4:21 (19%)	13:22 (59%)
Associate professors	6:21 (29%)	7:23 (30%)
Readers	0	4:11 (36%)
Senior lecturers	14:39 (36%)	17:62 (27%)
Lecturers	26:76 (34%)	20:49 (41%)
Assistant lecturers	6:17 (35%)	7:16 (44%)
Total	**56:174 (32%)**	**68:183 (37%)**

sought to identify the respondents' familiarity with the statutory allocation of rights in their intellectual creations. About a third of respondents say they have this familiarity (34.1%)[34] but it is impossible to assess how accurately this perception matches the actual distribution of rights in the statute. Half of this number (17.8%)[35] admitted a lack of familiarity, even though they were aware of the existence of the Statute. The remaining respondents were either neutral or had no opinion. The extent of familiarity is much greater among professors in the science based faculties (59%) and least among professors in the humanities based faculties (19%).

Lack of awareness must affect the efficient operation of the statute by limiting the ability of all parties to pursue rights and to comply with obligations. Other factors may also have an effect, such as rejection by academics of its fundamental principles for allocation of rights, (Monotti, 1999, p451) but these are outside the scope of this present article. In particular, it is therefore critical to increase awareness of the allocation of ownership and individual rights. An originator who does not realise that the university owns certain intellectual property rights in course materials, for example, and incorrectly believes he or she owns the rights, risks infringement of copyright and breach of contract through unauthorised action. This may have particularly adverse consequences when the breach involves an assignment of web based and other digital courseware to a commercial competitor.

This knowledge will also alleviate but not necessarily remove any insecurity that creators feel about who owns the intellectual property they generate. It may not convince them that the correct balance requires university ownership in some cases, but it does remove misconceptions of the consequences of university ownership. Not surprisingly, a majority of survey respondents, particularly those in the humanities, expressed the view that they should own copyright in both research products and teaching materials. The view was strongly held for works in a traditional form – literary, artistic and musical – and diminished in intensity for the other less traditional classes of works. In addition, there was almost unanimous confirmation that the right to publish was paramount to them. (Monotti, 1999) It is not surprising that academics would express these views in relation to research products. It is the essence of academic freedom for an academic to choose the subject matter of research, the intellectual approach and directions as well as the conclusions. Necessarily, the academic must have power to decide if, when and where to publish. It would be inconsistent with the fundamental principles of academic freedom to vest these rights in someone other than the author.

Moreover, this is consistent with the established practice in Australia, (Monotti, 1994; Ricketson, 1993) the United Kingdom (Cornish, 1992) and United States (CAAUP, 1999), to treat the academic author as owner of copyright in an undefined class of "scholarly" works that are created independently and at the academic's own initiative. The University respects these views and vests ownership of a considerable amount, but not all, of this copyright material in the author.

The expressed strong desire to own teaching materials clashes with the university claim to ownership. The survey did not ask why this was so important. However, some conjecture is possible, based upon their identification of important rights. (Monotti, 1999, pp442-3) These included such things as the need to take materials to another place of employment, the desire to control publication, acknowledgment of their creative role and the right to personal financial rewards from commercial exploitation. Another possible reason is based upon anecdotal evidence that some academics believe that their ownership of course materials is crucial to assist their on-going employment. This issue was insignificant when delivery of courses was by traditional means and when access to lecture notes and other materials was difficult in practice. However, in an environment that imposes pressures to produce lectures and other course materials for some form of flexible delivery, they become available to the university for delivery either by their creator or by another member of staff.

The fear of job insecurity provides one explanation for the strong desire to own intellectual property in course materials. Another is the tendency to see teaching and research materials as inter-related. An immediate conflict between the interests of a university, its students and the staff is evident when staff strongly argue for absolute ownership of course materials that are in a readily useable form. This makes it critical for staff to understand the differences between "ownership" of a bundle of rights and distribution of those rights among the university and the creators. Failure to understand this can be destructive to any negotiation or settlement procedures that eventuate.

In many contexts, it is desirable to negotiate a specific agreement that governs the creation of intellectual property but this is easily overlooked when parties have

insufficient knowledge of intellectual property rights. Collaborative research that involves different classes of creator provides an example. The general principle that applies in both copyright and patent law is that ownership vests in the originator, unless the work or invention is created in the course of performing employment duties. Therefore, in the absence of any prior agreement that governs a collaborative research project, students will own their intellectual property rights and staff (or their employer)[36] will own their intellectual property rights. Joint works[37] of a student and staff member will be co-owned equally. This may or may not represent the outcome that informed parties would negotiate in advance. For instance, an important concern is whether co-ownership of copyright works such as questionnaires, computer programs, reports and articles, is desirable. One principle of co-ownership of copyright is that no co-owner can exercise the rights of copyright owner without the consent of the others.[38] This principle can provide important safeguards but can also result in a co-owner being able to veto publication.[39]

Other important rights concern creators' entitlement to share in any profits that arise from successful commercialisation of intellectual property. A substantial percentage of respondents (62.1%) noted the receipt of personal financial rewards from successful commercialisation as an important right. (Monotti, 1999 pp441-443) In a sense this is surprising if we adopt a view of academics as creating knowledge for knowledge's sake. However, it is consistent with one rationale of intellectual property protection that monetary rewards are necessary to provide an incentive to create. Knowledge of the circumstances in which this entitlement arises as well as its extent may motivate an inventor to think about identifying and pursuing its commercial potential. It may also encourage a co-operative relationship between the inventors and the university if the inventors believe they are being treated fairly.

Perceptions of procedures to educate staff about intellectual property

The University, through the Solicitors' Office, pursued a number of intensive efforts to educate staff and to disseminate the terms of the 1994 Statute and Regulations. An initial intensive burst of activity included workshops at the different campuses and talks in various faculties and departments. There was production of a variety of written materials, including a folder containing the intellectual property explanatory memorandum, statute and regulations that was issued to all academic staff. One initiative in early 1998 was to load all documents on the university website for easy accessibility to those in search of this information. However, the allocation of limited resources for this specific task of continuing education means that there has been relatively little follow up by way of an organised and recurrent process.

The procedures that a university actually adopts and performs are one thing; the perceptions that staff have of these procedures are another. Effectively educating almost 2000 staff spread across five campuses about unfamiliar subject matter is a formidable task. I therefore sought the respondents' views of the effectiveness of these procedures and asked them to comment on the following statement:

My university has effective procedures to inform staff of the statute and of the intellectual property issues that relate to their research and teaching.

Only 15.3%[40] considered that the procedures were effective. 29.7% disagreed with the proposition that they were effective.[41] 17.4% expressed neutrality with the proposition.[42] A staggering thirteen of twentytwo professors in science based faculties (59%) disagreed with the proposition, eight of these strongly. A further nine of twentyone associate professors (43%) in humanities expressed similar feelings.[43]

Concluding comments: suggestions for increasing awareness

In its advice given in 1995, (NBEET) the Higher Education Council stressed the importance for universities to establish programs to educate staff and students about intellectual property. The results of the Monash survey show a moderate degree of awareness among respondents but demonstrate the need for continuing and improved methods of education. The university needs to know why 59% of respondent professors in science based faculties indicated that the university did not have effective procedures to inform staff of the intellectual property statute and of intellectual property issues that relate to their research and teaching. What are the inadequacies in the current procedures and what measures can remove them? The data from the Monash Survey does not provide the answers but indicates a need to look for new approaches to education in this area.

It is likely that other universities are in a similar position with their own academic staff. If a university believes that a policy on intellectual property is important, then it seems wise to devote sufficient administrative resources to ensure its efficient operation. As all policies contain a number of important provisions, including rights distribution, licences and reporting obligations, academic awareness is crucial. There are general approaches to improving awareness that are likely to apply to all universities. The first is to define the objectives of awareness raising programs. The second is to identify the procedures for achievement.

Objectives

There are a number of objectives that these programs may seek to achieve. While some will be relevant to all staff,

others will be of interest only to specialist groups. The main objectives are:

1. To convey the fundamentals of the various forms of intellectual property, the scope of their rights and the methods for their protection. For example, all academic staff should know what protection is available for their intellectual creations, to whom they can turn for advice and assistance and the risks they face if they publish before consulting an expert.
2. To convey to academics the information that the university believes is necessary for effective operation of its policy. This includes:

- Details of the principles for vesting ownership of different types of intellectual creations in either the university or the creator. The actual vesting in specific circumstances may be difficult to determine because this will depend upon the description of employment duties as well as the presence of any implied terms in the employment contract. (Monotti, 1994)
- Details of the rights that the non-owner of each form of intellectual property retains.
- Details of any obligations that are imposed on the creators and the university.
- The policy for sharing profits that arise from a successful commercialisation of intellectual property that the university owns.
- Alerting the creators to the practical consequences of these provisions and providing advice and assistance where necessary. For example, Monash University vests copyright in any scholarly works in the creator but retains a non-exclusive, royalty free and irrevocable licence to reproduce, publish, perform, broadcast, disseminate and otherwise use the work for the university's teaching and research purposes. Such a licence, if enforceable, binds any successor in title to the owner of copyright, such as a publisher.[44] It is important that staff not only know of the existence of this licence but also that they must notify any publishers of its existence when they are negotiating terms of publication. Furthermore, as a publisher has copyright in the published edition which is infringed by making a reproduction of the edition,[45] the university should request and assist the academic to at least attempt to reserve an appropriate licence to the university in the published edition. In this way, universities may be able to avoid paying for copies of material that their staff author.

3. To convey information and guidance to enable staff to identify intellectual property rights which have commercial potential in ways other than publication.
4. To discuss the more specialist issues that arise in research that involves both university researchers and industry collaborators.

Procedures to achieve increased awareness

The wide distribution of responses to the Monash survey regarding sources of information and knowledge demonstrates the value of a program that adopts more than one method. The active methods used at Monash include seminars and print and internet publications. While seminars educate those who attend, they traditionally reach limited numbers. Furthermore, regular seminars at different venues use significant resources because they are labour intensive and rely upon expert presenters. Print and internet publications are an essential resource due to their permanence, accuracy and ready accessibility. However, the data suggests that few read them.

Therefore, despite efforts to disseminate information in these traditional forms they are unlikely to reach all academic staff. A university must find improved, as well as additional and more immediate and direct, methods for increasing knowledge. Academics face an overload of information and time constraints. Hence, they are likely to be selective in what they read and absorb and in their attendance at seminars. Unless intellectual property issues are of immediate relevance to them, they are likely to throw seminar notices in the bin, to file information after scant attention to unfamiliar notions or without reading it at all.

One means of improving attendance at seminars is to devolve responsibility to faculties and departments. The tendency to have one university-wide seminar that covers a variety of issues uses less resources but is less effective than focussed sessions that deal with specific and relevant issues for academic staff from a particular discipline. Annual seminars could be organised in each faculty or department by the Associate Deans (Research & Teaching) to meet its specific needs. The content would be relevant and the physical proximity to staff would minimise loss of time in attendance. There could be a faculty or departmental expectation that all staff would attend these seminars, and where appropriate special programs could address specific problems, such as collaborative research involving students, visitors and industrial sponsors.

In addition to such a procedure, effective operation of intellectual property policies requires the issues to be constantly in the minds of the creators. The internet provides an ideal means for reaching staff who see no immediate relevance to them or have no time to read publications or attend seminars. It provides a simple means of supplementing the current educational methods in many areas with short and snappy email bulletins. The main issues of which staff should be aware could be broken into small digestible pieces which would form the basis of a regular program of bulletins on intellectual

property. Messages could be sent to all members of academic staff periodically, to remind them of the existence of the intellectual property statute, with perhaps a brief summary of the main provisions. Short, catchy and continuous bulletins are likely to start staff thinking about intellectual property and the importance this has in the university for all parties. A certain amount of repetition is necessary to allow unfamiliar concepts time to settle and to keep the main issues in their minds. Messages could be topical to encourage staff to read them and perhaps highlight different issues in successive mailings. Hyperlinks could direct them to the appropriate sections of the statute and the regulations. Counters could be placed on these pages to identify the extent to which the sites are visited and, if possible, the source of those visits. In this way, particular faculties and departments could be targeted for individual seminars where necessary.

There is a word of warning here. If staff are suddenly sent bulletins about intellectual property, alerting them to reporting requirements, ownership issues, licences that the university holds in the works and so on they may view this with suspicion - 'big brother' trying to take away their property. Any continuing program to educate staff and notify them of their obligations and rights must assume the risk of misunderstandings and a potentially suspicious recipient. Hence, it seems wise to focus upon reinforcing the University's continuing respect for academic ownership of scholarly publications and their freedom to publish when and where they choose. It should highlight how the University policy protects and supports those rights that academics view as important; such things as moral rights of attribution, shares of profits from commercialisation for either personal use or further research purposes, and ability to take materials to new employment.

After these fundamental principles are buttressed, necessarily, the focus must be upon rights as opposed to ownership; upon co-operation for a common good as opposed to segmentation and self interest. The ease with which the intention behind email bulletins may be misread or misinterpreted does require care and restraint. Ideally, all staff would first attend an annual seminar that is faculty or department based. The basic structure of rights and obligations could be explained, so that subsequent bulletins would reinforce and consolidate already familiar messages.

The ARC/HEC Report highlighted the need for improved awareness of intellectual property issues by academic staff in the higher education sector. This and other reports stress the significance of awareness where there is collaboration between researchers from industry and the higher education sector. In addition, increased awareness is equally important for internal relations within the institution. For intellectual property awareness for both purposes to increase in a diverse and geographically scattered environment, a university must commit sufficient resources to this exercise. This requires a person who has the specific duty and the time to design, co-ordinate, supervise and review an ongoing and varied awareness raising program that may contain some of the above suggestions.

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Thomas, John, (1999), "The Patenting of the Liberal Professions" *Boston College Law Review,* XL(5), pp1139-1185.

Endnotes

1 Copyright Act 1968 (Cth) s32.

2 Copyright Act 1968 (Cth) ss85, 89, 93 & 97.

3 Copyright Act 1968 (Cth) ss86, 90, 94 & 98.

4 Copyright Act 1968 (Cth) ss87, 91, 95 & 99.

5 Copyright Act 1968 (Cth) ss88, 92, 96 & 100.

6 Copyright Act 1968 (Cth) Part XIA – Performers' Protection.

7 *Patents Act* 1990 (Cth), s18.

8 *Trade Marks Act* 1995 (Cth) s17.

9 *Designs Act* 1906 (Cth)

10 From an original sample of 1500 records which was selected from the 31 March 1997 DEETYA file, 704 records of academics with FTE of .5 or greater and currently employed at Monash University were selected.

11 Clayton; Gippsland; Parkville; Peninsula; Caulfield; Berwick.

12 A second copy of the questionnaire was sent three weeks after the original mailing.

13 Arts; BusEco; Education; Law

14 Computing & IT; Engineering; Medicine; Pharmacy; Science

15 6 respondents (1.6%) did not disclose their faculty.

16 See Appendix

17 The final draft legislation was approved by Council on 27th June 1994 and by the Governor-in-Council on 19th July 1994. The intellectual property regulations were promulgated on 21st July 1994.

18 State Street Bank & Trust Co v Signature Fin. Group, Inc. 149 F.3d 1368 (Fed. Cir. 1998). For a discussion of the extension of patents into the "liberal profession" see: Thomas, John, (1999), "The Patenting of the Liberal Professions", *Boston College Law Review*, XL(5) pp1139-1185.

19 47.2%

20 33.0%

21 21.7%

22 Another institution (17.7%); NTEU (11.8%); Other - the study and practise of law; publishers and literary agents; professional associations; working in industry; friends or family in the legal profession; working with software (16.4%).

23 My university; another institution; the NTEU; the media; a government agency; a research funding source; Australian Vice-Chancellors' Committee; a colleague; other.

24 Statute 11.2 - Intellectual Property, s3.

25 Regulation 6.

26 Statute 11.2 - Intellectual Property, s2.10.

27 'Are you aware of any obligations under the statute to report intellectual property that you create to the University?'

28 Humanities based: 9:10; Science based: 19:23

29 Statute 11.2 - Intellectual Property, s2.1.1. For a discussion of these issues see: Monotti, Ann, (1994), "Ownership of Copyright in Traditional Literary Works within Universities", *Federal Law Review*, 22(2), pp340-374.

30 Statute 11.2 - Intellectual Property, s 2.5 & Regulations 2.1.1

31 Statute 11.2 - Intellectual Property, s2.1.2. The validity of a claim like this is dependent upon the existence of an enforceable agreement with the originator. Monotti, Ann, (1997), "Who Owns my Research and Teaching Materials?, My University or Me?" *Sydney Law Review*, 19(4), pp425-471.

32 Statute 11.2 - Intellectual Property, s 2.14.

33 For a discussion of allocation of rights in universities, see: Monotti, Ann, (1999), "Allocating the Rights in Intellectual property in Australian Universities: An Overview of Current Practices", *Federal Law Review*, 27(3), pp421-470.

34 Humanities: 56:177 (32%); science 68:189 (36%).

35 Humanities: 29:177 (16%); science 35:189 (19%).

36 There is considerable debate about which academic works come within the duties of employment, and the existence of an implied term that academics own their creative scholarly works. For discussion of these issues see: Monotti, Ann, (1994), "Ownership of Copyright in Traditional Literary Works within Universities", *Federal Law Review*, 22(2), pp340-374; Cornish, William R., (1992), "Rights in University Inventions: The Herchel Smith Lecture for 1991", *European Intellectual Property Review*, 1 pp13-19.

37 In the case of copyright works of joint authorship, the authors collaborate to produce a work in which their contributions cannot be separated. *Copyright Act* 1968, s10(1)

38 *Cescinsky v George Routledge & Sons* [1916] 2 KB 325 at 330; Powell v Head [1879] 12 Ch D 686.

39 A different principle applies in relation to patented inventions.

40 Humanities based: 25:177 (14%); sciences: 30:189 (16%).

41 Humanities based: 39:177 (22%); sciences: 69:189 (36%).

42 Humanities based: 32:177 (18%); sciences: 32:189 (17%).

43 Not effective: professor: hum 3:21 - 14%; science 13:22 - 59%; Assoc professor: hum 9:21 - 43%; science 8:23 - 35%; sen lecturer: science 20:62 - 32%; lecturer: science 18:49 - 37%.

44 Copyright Act 1968 (Cth) s197(3).

45 Copyright Act 1968 (Cth), s88.

Appendix

Question: In which of the following forms do you produce your research results?

Form of research	Science & Technology	Humanities
Literary works	130	152
Patentable inventions	27	11
Confidential information	23	20
New plant varieties	1	0
Circuit layouts	1	2
Computer programs	25	21
Multimedia	12	12
Other digital	15	12
Videos or films	10	8
Sound recordings	7	4
Musical arrangements	0	2
Artistic works	7	1

Question: In which of the following material forms do you create, present or distribute materials for teaching a subject?

Print eg notes, overhead slides	95.4%	Video or film	31.6%
Sound recordings	17.7%	Musical compositions	2.4%
Computer presentations	46.4%	Computer programs (not multi media)	15.8%
Multimedia works	10.5%	Other works in digital form - eg internet	22%
Artistic works - eg paintings and sculpture	2.7%		