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Intellectual Property - Copyright

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The goal of this module is to present the major issues surrounding intellectual property (IP): rather than attempt to discuss all four types of IP, trademarks, trade secrets, patents and copyright, we will focus on copyright. Our Faculty Expert for this module is Peggy Hoon, Director of the Scholarly Communications Center, NC State University. The Overview section presents two chapters from two well known textbooks on research ethics. In the Applied Ethics portion we discuss the idea of the labor contract and the idea of the Intellectual Commons to clarify some of the more complex issues. In the Central Theme section we focus on the resources here at NC State University, in particular, the Scholarly Communications Center and website. We also discuss some of the legal guidelines that affect graduate students and present a section on collaboration, noting concerns with documentation, record keeping and data management. Our Case Study is from the Association for Practical and Professional Ethics. We focus on plagiarism in our Study Question section and close, as usual, with a sampling of resources.

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1) Introduction

Copyright Defined

The issues surrounding Intellectual Property in academia are both critical and complicated. There are four types of intellectual property: copyrights, trademarks, trade secrets and patents. In this module we will focus on copyright issues. Our guide is Peggy Hoon, director of the Scholarly Communication Center, NC State University.

A good real-life illustration of the requirements for copyright protection is Feist Publications vs Rural Telephone Service, a case decided by the U.S. Supreme Court in 1991. In this instance Rural Telephone Service sued Feist for copying their white page directory information (names, towns, and telephone numbers) and combining it in a cd-rom with other such directory information for a wide area. The court ruled that names, addresses, and phone numbers are facts and affirmed that facts themselves are not copyrightable. A compilation of facts, as opposed to the underlying facts, can be copyrighted, but only if there is some originality in the selection and arrangement of the facts. In this case, "alphabetical order was not of sufficient originality to trigger copyright protection." The list of names, numbers and addresses was a series of facts of raw data that was in the public domain.

Every day, Peggy Hoon, fields questions from individuals seeking guidance and information about copyright law and proper intellectual property etiquette as well as queries about the spirit behind the laws concerning intellectual property. The intrinsic challenge is that the material in question—ideas—are intangibles. Gravity exists as a natural phenomenon. The laws of gravity are not Newton's; nobody owns gravity. What was copyrightable as his intellectual property was how he expressed his understanding of a force of nature. What Newton was able to copyright was not the intangible idea of how gravity works, but his concrete formula, F=ma. The specific artifact that Newton created to express his conception of how gravity works was

"Patents and copyrights are sometimes confused. Copyrights are applied to expressions such as written works, music or photographs. The words themselves (or the image) are protected, rather than the underlying idea. Someone who has discovered a new process may write about it and obtain a copyright on the description; that prevents others from using the same words but it does not keep them from making use of the technology that is described. With a patent, on the other hand, it is the idea that matters rather than the form of the description. Trademarks are another form of intellectual property. They are used to identify a product and, though sometimes of great commercial value, are not usually of concern to scientists."

Zatz, Joel L. *Intellectual Property: An Academician's Perspective,* American Journal of Pharmaceutical Education, Vol. 53 (Winter1989): 346.

quite possibly the most important piece of property of his life.

As a matter of fact, the minute a researcher sets her ideas down on paper, makes them tangible, they are her intellectual property. Take a group of people sitting around the table talking and sharing ideas: the ideas themselves are not capable of becoming intellectual property. However, the minute someone puts pen to napkin and creates a tangible object that is an expression of an idea, then you have a copyrightable item, a piece of intellectual property. Picasso's napkin scribbles with his scrawled signature are of greater financial value than a stamped lithograph five times larger. A napkin purported to be decorated by Picasso but lacking a signature could not become valuable property.

Immediately, we can see why proper documentation is critical. Whether or not the artifact is created by a seasoned researcher, a graduate student working independently in a lab or at a university with a detailed work for hire contract; the specific original expression of an intangible idea can, with proper documentation, become intellectual property. Some people in discussing intellectual property law use the phrase "intangible property" to indicate the fact that although ideas are inherently abstract, they can become property when made tangible, fixed in a particular medium.

"Your intellectual property—do you own anything else more valuable? How many years of schooling, the long process of study, your entire life has led to the point where you can create something that society values. Take the time to understand your rights as a copyright holder and manage your works responsibly. Think twice before you sign away the rights to your intellectual property to a third party."

Peggy Hoon, Scholarly Communication Librarian, NC State University Libraries

"It is commonly said that one cannot patent or copyright ideas. One copyrights 'original works of authorship,' including writings, music, drawings, dances computer programs and movies; one may not copyright ideas, concepts, principles, facts or knowledge. Expressions of ideas are copyrightable; ideas themselves are not. While useful, this notion of separating the content of an idea from its style of presentation is not unproblematic…One cannot patent the scientific principle that water boils at 212 degrees, but one can patent a machine (for example, a steam engine) that uses this principle in a specific way and for a specific purpose."

Hettinger, Edwin C. *" Justifying Intellectual Property."* Intellectual Property: Moral, Legal and International Dilemmas. Ed. Adam D. Moore. New York: Rowman & Littlefield Publishers, Inc., 1997. 18.

The Difference Between Copyright Law and Copyright Ethics

There are two other considerations, aside from the delicacy of attributing expressions to intangible ideas that make intellectual property issues in academia complicated. One is that many, if not most projects involve collaboration. Whose idea is central? Group brainstorming is part of the research task, so who owns what part of the project, the data set, the procedure, the assessment. If one person in a research group copies an idea for use in the project from someone else, is this copyright infringement or normal sharing among collaborators? Is it even plagiarism?

Copyright infringement and plagiarism are not exactly the same thing. For example, let us suppose that I am copying a large portion of someone else's work (more than a long paragraph or several brief paragraphs.) If I copy this without getting permission and without proper attribution, then I have both infringed and plagiarized. If I copy it with permission but without attribution, I have plagiarized, but not infringed. If I copy it without permission but with attribution, I have infringed but not plagiarized. Infringement and plagiarism involve more than the specific legality; what is involved here is proper etiquette, what we "ought" to do

In the box at the right, we quote from an article describing arguments between professors and students over not the actual letter of the law, but over expectations and good manners in academia. At what stage in the articulation of a hypothesis can you separate the idea from the expression and decide ownership begins? Copyright ownership begins the moment the original work is fixed into place. The issue of who should get credit for an original idea is something else. Part of how this is decided involves everyone's sense of fair play. Interestingly enough, in one case, the court specifically stated that the Misconduct Rules in place did not cover the problems of the case. This brings home the fact that sometimes the rules are just not enough.

"The main question, Stein now says, is whether a professor can use a student's ideas as the basis of his own research grant. It would be wrong to do so, Stein says, if the student had not published the work or received credit for it. But in this case, Stein says, Demas had published her thesis. Using ideas in the public domain is not misconduct, Stein says, even if it preempts a student from getting a grant. In his report, Stein wrote that 'Levitsky's preemption of Demas's ideas (i.e., the concept and the recipes) lies within the boundary of permissible academic entrepreneurial behavior and does not warrant further investigation.'"

Eliot Marshall, Two Former Grad Students Sue Over Alleged Misuse of Ideas, Science Magazine, February 23. 2000: 562-563.

2) Overview

Some Key Concepts

- Copyright—the legal right to exclusive reproduction, distribution, performance, display, transmission, and modification of an original fixed work.

- Original work—a manuscript of original research with your personally created data sets, figures, tables. "Original "in copyright law means independently created and possessing at least some minimal degree of creativity.

- Derivative work—"Derivative work" in copyright law means a work based upon one or more preexisting works such as translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgement, condensation, or any other form in which a work may be recast, transformed, or adapted.

- Plagiarism—presenting another's work or words as one's own, without proper attribution, or permission from the original author, ranging on one hand from not using quotation marks when quoting a source, all the way up to not obtaining permission from an author when publishing a data set as part of one's own work.

- Fair Use—the purpose of the fair use doctrine is to allow limited use of copyrighted material without requiring prior permission from the copyright holder. Generally speaking, it allows use of limited amounts of copyrighted works for purposes such as criticism, news reporting, teaching and research as long as there is limited impact on the market value of the work.

- Public Domain—works not protected by copyright including facts, ideas, works created by the federal government, and works whose copyright protection has expired. This includes raw data or primary information. This includes materials that were at one time were personal intellectual property but after specific periods of time, revert to the public arena. Work for hire materials, for example, become public domain after specified periods of time. See When Works Pass into the Public Domain.

Overview of Chapters from Books

There are a number of useful books that talk about copyright and intellectual property within the context of Research Integrity. The Responsible Conduct of Research, edited by Dore Beach contains a good review essay by Lawrence R. Oremland. He summarizes legal guidelines for intellectual property in general, and then reviews copyright procedures in a clear and succinct manner. He discusses the need for careful documentation for all stages of research and development and

touches on the difficulties of clarifying "fair use,"—reproducing works under copyright for "educating, teaching and research". There are some case studies as well.

"In the case of a work of authorship, proper documentation may be important for identifying the true authors, and may be useful in defending an author against a charge of infringement. For example, it is at least theoretically possible that, if two different authors working independently in different locales—neither having access to the other's work—create two works that are so similar that it would be natural to assume that one was copied from the other, it may be critical for the author who is charged with copying to be able to establish, by appropriate records and documentation, the manner and time frame in which the author created the work."

Oremland, Lawrence R. *"Intellectual Property."* The Responsible Conduct of Research, by Dore Beach. New York: VCH Publishers, 1996. 105. Chapter available via electronic reserve.

Another good overview chapter about intellectual property is the one written by Thomas D. Mays for the textbook, Scientific Integrity: An Introductory Text with Cases, (Washington, D.C., ASM Press, 2000) edited by Francis Macrina. Mays comments on what he calls the "serial advancement" process of science, where both discoveries and deeper understanding are based on the numerous contributions of many people.

The discussion on ownership of research data raises important questions for those working at a research university; for example, what does it mean to be an author when doing "work for hire?" There is also a collection of case studies, a selection of useful URL's and a valuable glossary.

"The analysis of ownership of research data begins with the question, Who collected the data? However, equally important is the question, Under whose intellectual direction and guidance were the data collected? If the answers to both questions are the same, that person(s) is the tentative owner. The third question that must be asked is whether or not there was a valid obligation to assign the rights in the data to another. This follows the old common law doctrine that workers are entitled to the benefits of their work product, unless they are obligated to give that work product to another, whether in exchange for money, under terms of employment, or under the terms of some rule or law." Mays, Thomas D. "*Ownership of Data and Intellectual Property."* Scientific Integrity: An Introductory Text With Cases, Francis L. Macrina, Ed. Washington, D.C.: ASM Press, 2000. 181.

A Useful Website About the Digital Environment

There are many websites with useful and important information about the specific rules and regulations covering copyright law. The Society of American Archivists has posted an excellent resource, Basic Principles for Managing Intellectual Property in the Digital Environment: an Archival Perspective. This document was written in 1997 as further commentary on the original version by the National Humanities Council. They have published ten principles: we reproduce principles 1-5 from their compact version in the list below.

1. Copyright law provisions for digital works should maintain a balance between the interests of creators and copyright owners and the public that is equivalent to that embodied in current statute. The existing legal balance is consonant with the educational ethic of responsible use of copyright properties, promotes the free exchange of ideas, and protects the economic interests of copyright holders.

2. Copyright law should foster the maintenance of a viable economic framework of relations between owners and users of copyrighted works.

3. Copyright laws should encourage enhanced ease of compliance rather than increasingly punitive enforcement measures.

4. Copyright law should promote the maintenance of a robust public domain for intellectual properties as a necessary condition for maintaining our intellectual and cultural heritage.

5. Facts should be treated as belonging to the public domain as they are under current law.

Intellectual property is a significant form of social capital, whose growth depends on its circulation, exploitation and use. As a major arena in which intellectual property is created and disseminated, educational institutions have nurtured an ethic of intellectual property based on:

- respect for the rights of creators and copyright owners;
- accurate attribution and respect for integrity;
- guarantees of preservation;
- promotion of dissemination and access; and
- economic viability of the scholarly communication system.

Basic Principles for Managing Intellectual Property in the Digital Environment: an Archival Perspective.

3) Applied Ethics

When we think about philosophy and intellectual property it is helpful to look at three kinds of discussions. One is how intellectual property relates to labor; another centers on the relationship between private ownership and community; while the third focuses on the interplay of freedom of speech and/or inquiry VS property law. Permeating all of these discussions is the concept of justice; what is fair treatment in a work for hire situation? What is fair and just when giving access of ideas to all who might benefit? If we think of ideas as a commons, will everyone have equal access? The easiest place to start in investigating intellectual property concepts is with that of the law as protecting our labor.

The Idea of Reward for Labor; the Contract Between the Worker and the University

Many discussions of intellectual property cite philosopher John Locke and his "labor theory," which states that property increases in value commensurate with the work done on it. Extrapolating from this notion, intellectual property is the fruits of labor. You do "work" "on an idea and create an artifact, a tangible expression of the idea. This tangible expression, when properly documented, can become private intellectual property, i.e. something you own, property, but the original idea is not copyrightable since it is an abstraction.

In academia, the "stuff" of research, the ideas, collaborations and results are the fruits of shared labor. There are formal agreements setting forth legal guidelines for students working in university supported programs as part of their education, and the university who is supplying the resources. Further, there are specific rules, both legal and unspoken between the faculty conducting research using university resources and the university.

The students agree to practice working on their ideas within the context of both the literal and intellectual space of the university and for the right to be educated they pay tuition. Their teachers also agree to a contract—in exchange for their labor they will earn a salary, benefits, and hopefully, tenure. Part of the contract is that they will teach, and protect their protégés. The currency is ideas.

"Scholarly Communication is Your System"

"Scholarly Communication refers to the formal and informal processes by which the research and scholarship of faculty, researchers and independent scholars are created, evaluated, edited, formatted, distributed, organized, made accessible, archived, used and transformed…Projects and proposals to transform the system are being shaped primarily by stakeholders outside of the faculty – publishers, librarians, administrators, state legislators, information technologists. Involvement by faculty is critical in ensuring a system that meets your needs and those of future scholars."

Scholarly Communication Center, NC State University

The legal rules such as copyright law are different from the unspoken etiquette or the ethics of what is considered right action. Although the copyright law may have left loopholes for the professor cited in the Science article, the rules of justice would say that he did wrong in not including the student, at the very least, on the grant and in the work in progress.

In the case of graduate students, proper research etiquette is that they are provided money (if working on a sponsored grant for instance) and guidance for their creative input and in most cases, their name as co-author on papers. Mentors are expected to give a fair deal to their students in exchange for labor. In Module III, Mentoring Graduate Students, Margaret King discusses the tough issue of empowerment, pointing out the need for, as she puts it, "right balance."

In the box at the right we quote from a provocative chapter from Peter Drahos' book on intellectual property. Do you think that scientific labour has become "alienated" and if so, alienated from what or whom?

"Traditionally, scientists organized themselves around the goal of extending knowledge. This goal is served by an ethos of science, which consists of four key values: universalism, communism, disinterested-ness and organized skepticism. Intellectual property, we have argued, plays a critical role in integrating creative labour into production. Through this process, intellectual property norms come to change the ethos of science…Open communication and the exchange of ideas are no longer so strongly endorsed by scientists because they might, among other things, defeat a proprietary claim to the knowledge. The direction of scientific research becomes increasingly determined by state-based priorities expressed through intellectual property rights. The fact that ideas can in one way or another be owned is itself symbolic of the fact that scientific labour has become alienated labour."

Drahos, Peter. "*Chapter 5: Abstract Objects in Productive Life: Marx's Stor."* A Philosophy of Intellectual Property. Brookfield: Dartmouth Publishing Company, 1996.105.

The Idea of the Intellectual Commons

The original idea of The Commons was the open pasture in a county, town or city in medieval Britain where all were free to let their animals graze. The unspoken contract was that there was enough to go around and it was assumed nobody took so much that it diminished the amount available to the group as a whole. This idea of the commons has been expanded to include intellectual property.

In other words, ideas are not diminished by use. My understanding of Newton's laws remains undiminished even if I teach them to someone else. The Laws themselves remain unchanged and gravity is for sure, untouched. This relates to

the idea of public domain, since ideas are not copyrightable and are even enhanced with use. As researchers create new expressions, data sets, and artifacts that are copyrightable they are making use of a commons that is inexhaustible.

Another way of talking about the intellectual commons is to say that an idea (or the commons) is the opposite of the idea of zero-sum. The quantity is not limited and taking some does not diminish the overall amount, when I take from the pool of ideas, I do not limit your "take" and vice versa. On the other hand, once someone copyrights their specific articulation or process to make an idea tangible, then that expression is no longer in the intellectual commons of abstract ideas. Thinking again about gravity, no matter how much research is done or new laws articulated, the amount of gravity remains infinite. In the best of all possible worlds this is perhaps true; freedom of ideas is an ideal goal. But when competition and pressure to succeed is part of our daily world, is this too much of an idealistic stance? Or, is part of the argument over intellectual property laws part of a larger conflict between the openness of a democratic system and the competition of a market economy?

"The intellectual commons, then, consists of those abstract objects which remain open to use. It is a resource which by its nature is inexhaustible but not necessarily accessible. So far the intellectual commons has been portrayed as a global entity constructed by the collective labours of all humanity over all time. One implication which might be readily drawn from this model of the intellectual commons is that it is a resource open to use by all."

Drahos, Peter. "Locke, Labour and the Intellectual Commons, Part 1, Part 2." A Philosophy of Intellectual Property. Brookfield: Dartmouth Publishing Company, Ltd., 1996. 56.

"Of course, information is, by nature, intangible and hard to define. Like other deep phenomenon as light or matter, it is a natural host to paradox. It is most helpful to understand light as being both a particle and a wave, an understanding of information may emerge into abstract congruence of its several different properties which might be described by the following three statements: Information is an activity. Information is a life form. Information is a relationship."

Barlow, John P. "*The Economy of Ideas; Everything You Know About Intellectual Property Is Wrong."* Intellectual Property: Moral, Legal and International Dilemmas. Adam D. Moore, Ed. New York: Rowman & Littlefield Publishers, Inc., 1997. 357. Essay available electronically.

Two keynotes of our society are the rights of the individual ("it's a free country") and freedom of speech. There are two interesting ways that these ethical values complicate copyright issues. Yes, a person has the right to profit from the labor he has put into a data set, but is this right more important than the public's right to free access?

In "A primer on the ethics of "intellectual property," a webzine publication, (http://www.ram.org/ramblings/philosophy/fmp/copying_primer.html). the author puts forth his idea that there is more good to be gained when ideas are there for all to use. He talks about the zero-sum argument saying that not only does the inventor lose nothing when an idea is in the public domain but also that restrictions interfere with the creative possibilities of society. He asks, if one of our society's most treasured values is freedom of speech, how can laws that restrict this freedom be good? He does not say that authors should not be compensated nor recognized; he has no problem with the work for hire concept. His complaint is that restrictions in the name of private property are a form of control that is unethical.

John Perry Barlow, a lyricist for the Grateful Dead, is another writer who quarrels with the concept of intellectual property law. He believes that with the increasing use of electronic data, the idea of making ideas into property is becoming obsolete. He prefers seeing information as dynamic.

In his essay Barlow talks of intellectual property ownership as an idea on the way out and a dependence on the idea of scarcity as something to be outgrown. Barlow notes that although there is no comparison between a live Grateful Dead concert and a tape, the band has granted access to free taping of concerts since the 1970s without any loss on their part either financially or in popular acclaim. For Barlow, justice and fairness are of greater ethical concern; the singers and songwriters are given credit for their work and paid fairly for their labors; then the "artifact" is freely distributed.

4) Central Theme: Working Collaboratively at NC State University

Data Management and Copyright Issues

The idea of "right balance" is a major theme throughout all of the modules because it is at the heart of many ethical dilemmas. What might seem to be an intellectual property conflict might really be a conflict in duties, interests or commitment. For example, what is owed to the university, what to the students assisting in the research and what might the inventor fairly take for herself?

In most cases the author holds the copyright, but in some situations someone working on a time-limited contract may have a "work for hire" agreement with the university. If the work is sponsored by a granting agency, sometimes the sponsor and the university have a specific agreement concerning publication. The point where you take on a new research task is the right time to investigate the copyright provisions that apply to you since it is in the interest of all workers to be sure exactly what of their own work they own.

You also should review the

Copyright Regulation - Copyright Implementation Pursuant to Copyright Use and Ownership Policy of the University of North Carolina, REG 01.25.03

This is an organized set of rules and grouping of information that you will need to refer to when you have questions. It is best to study and understand the main provisions here before beginning your work.

The Scholarly Communication Center here at NC State has several on-line tutorials on copyright basics; we quote from that site in the box at the right.

The Scholarly Communication Center at NC State University is the first place for information, training and resources about Intellectual Property and Collaboration. You will also find numerous hyperlinks to articles and online resources.

Balancing Act

"This passage of the constitution also sets up the competing interests that the copyright law must attempt to satisfy simultaneously; the creator's interests in rewards, control, and acknowledgment associated with his/her work vs. the public's interests in widest possible use and dissemination of information. Achieving these often contradictory goals and objectives involves a delicate balancing act which can be all too easily upset."

Retaining Rights to Use Your Works: Copyright Challenges for Scholars, Scholarly Communication Center, NC State University

Scope of Employment

What are the copyright guidelines for original research here at NC State? The key term is "scope of employment." The article you write on your own time will be owned by you, depending of course, on whatever arrangements you might make with the publisher. Here is where you want to read the contract with a journal or publishing house carefully to see that you retain your rights to use your own work for your own further research.

But for works where you use university resources, those tasks that fall within the direct umbrella of the university, "the scope of employment," the best answer to who owns what is, "it depends on a variety of factors."

One good way to begin to make sense of this is to continue thinking of the university as an intellectual commons and see the legal guidelines as a way to ensure that the commons is held open for continual cultivation. What is interesting, is that the default position is the creator owns the copyright to their own work; the guidelines set out all the exceptions under which a multitude of different sorts of artifacts are created within the university intellectual commons.

Before you start a project, consult the copyright guidelines to be clear as to the sponsor. Someone working as SPA employee in a lab run by a university department is under a different rule than a graduate student working on a team as part of project sponsored by a granting agency. An independent contractor--for example, the author/editor of these modules-- is in a work-for-hire situation, with the university holding the copyright to the modules.

Often the most valuable part of a web site is the FAQ section. Due to the nature of copyright questions and their propensity to have different responses depending on different fact scenarios, there are virtually an unlimited amount of questions that could be placed in this section. Many of the possible questions have been addressed already in different areas of this site but will be repeated here for organizational symmetry and for those who go directly to FAQs, hoping for their answer.

Frequently Asked Questions for Graduate Students.

Documentation and Record Keeping

Matt Ronning, Associate Vice Chancellor, Research Administration, NC State University, has put together a power point presentation, Research Ethics: Record Keeping and Integrity. Regardless of discipline, the research notebook, --your diary of recorded observations—is where you need to be certain of your ideas. Make careful entries, dated and witnessed. It makes good sense to keep a chronology of events, dated and signed. Data sets generated on a computer should be pasted into the notebook, dated and signed. Entries need to be in ink. Many arguments over ownership that end in misconduct charges are attributed to sloppy data keeping; this can be avoided by balancing time spent both in research and paper work. The day- to -day collaboration that is documented will go a long way to ensure everyone is on the same page. As the SPARCS website states: "Records-when made a matter of routine-take only a small amount of time and effort, become an invaluable asset to work in progress, and may ultimately reserve for the inventor those rights to which he or she is, by priority, entitled." (Scholarly Data Management and Ownership)

Intellectual Property Rights of Students- a Contracted Collaboration

It might seem that all these rules can stifle invention, discovery and the free exchange of ideas so basic to the scientific endeavor. In reality though, clear boundaries, since they protect original material for their creators, can actually increase open communication; restrictions on resources assure that there remains enough for all. Working in a university community presents special challenges in copyright law since education is seen as a public service. What is fair to those researchers who both teach students and work in their own discipline? In instances when the university holds the copyright, we can see how publication becomes so prized; getting one's name on a paper, though perhaps not of monetary value is coveted when financial rewards are not easily forthcoming.

For students, the situation is even more challenging since they are usually working on other people's projects. In this special kind of collaboration all parties need to work hard for "right balance" in terms of fairness. If we think of the university as an intellectual commons, we can share in the ideal. But given the reality of competition and the stress of achievement, are the published guidelines enough to assure justice for students in all cases?

A student holds the copyright to original work unless:

1. The work is sponsored or externally contracted (by a granting agency or company collaborating with NC State) or
2. The work is created within the scope of their employment as a student employee.

The NC State University of Office of Legal Affairs is another resource for you to become familiar with.

See their Intellectual Property site for information on patents and copyrights.

5) Case Study

This case study is from the collection published by the Association for Practical and Professional Ethics (APPE), posted by the Online Ethics Center hosted by the National Academy of Engineering. The case, New Technology - Who is the Designer? brings out the complexity of research in this day and age.

We will present a summary of the Case Study here in the box to the right, but reading the original Case Study, Discussion Questions and Commentaries will enable you to go more deeply into the issues. You will find that with this case, as well as with most case study scenarios, there are two levels of questions and/or concerns; firstly there will be the specific dilemmas in terms of human subjects in this particular situation and then secondly, the deeper, more complex societal implications to ponder.

Edgar, a civil engineer, is doing university sponsored research involving environmental sampling. He has some ideas about an improved sampling system that he would like to see developed and contacts Fabio, a vendor who supplies equipment. Working with Edgar's general design, Fabio creates a prototype. They test this out at Doris' site, where Edgar has already been working. In addition, during the development period, Mac, a post-doc has also worked on the sampling equipment design. At a later date, Edgar discovers that Fabio has applied for a patent on the sampling system without naming Edgar as a co-inventor. One of the key issues is Edgar's documentation in terms of who "owns" the ideas that went into the new design. How should the patent be organized?

This case brings up several key points we need to consider when thinking about intellectual property rights, especially as they relate to new technologies.

There are also the deeper issues to consider, e.g. what is the role of the post-doc here and does his work qualify him to have a place on the patent? In this day and age of collaborative work, how does one separate out designs from implementations of the designs? Also, who should decide these complex matters? Is the patent office the correct place to go with concerns that involve creative work?

Suggested Methodology:

Access the original Case Study and read it thoroughly, including the Discussion Questions. As we have done in the other modules in this series, review *Tom Regan's Check List* from page 4 of Module 1. Doing this will enable you to see the inter-relationship of research ethics in general to the context specific concerns of human participants in research.

For example, the "*responsibility for and leadership of the performance of the study*" [in this case, design of the new equipment] – how does that link to Regan's point 8: "*Are any duties of justice involved? If so, who has what rights? Against whom?"*

Cast a wide net in your thinking in terms of Regan's *Morally Relevant Questions.*

Again, as in previous Case Studies,
What seems to you to be *resolved* in your own mind?
What seems to you to be *unresolved* in your own mind?
What do you find challenging to *articulate*?

Now review the Commentary by Michael Pritchard, that accompanies this case. Reading his ideas when you have already struggled with this case will add to your ability to become articulate with the ethical issues and help you work on areas that are still unresolved and will help you articulate the deeper issues of this case. One of the realities of both case studies and real life situations that involve moral dilemmas is that you might have decided on how to go forward, and yet still feel the pull of the dilemma or find that there are still areas that feel unresolved to you.

6) Study Question: The Complexities of Original Work vs Plagarism

One of the most challenging problems is knowing when you have articulated an idea in your own words as opposed to using somebody else's "expression". We have said that ideas are in the public domain, the wide-open space of the intellectual commons, but how to create a completely original artifact when research is necessarily built from past work, takes careful attention to detail.

Proper documentation, so central to creating your own work, is the first step. When taking notes, make sure you use quotation marks constantly and create your private symbols to quickly separate your ideas from those of others. Take the extra time to write down your sources; the phrases "based upon the comments of," or "as expressed in the article by," are never a waste of space or time. Again, it is a question of right balance; you want to pay respects to the lineage of researchers before you and place yourself in their context as well as make your unique contribution.

A useful place to begin your self study on this topic is the NC State University Scholarly Communication Center's Tutorial on Plagiarism.

There are several electronic programs to detect plagiarism as well. In fact, one of the current discussions in intellectual property circles is about the ethics of using this kind of software in the first place. Students can check their own work via websites, e.g. see PlagiarismDetect.com to be sure there is no inadvertent mis-copying. Or, a professor can run papers through the program to locate plagiarized text. One of these websites is http://www.turnitin.com.

Do you think this is a good idea?

To plagiarize is to appropriate and use someone else's words, ideas, or images as one's own and/or to use someone else's words, ideas, or images without properly citing the source. Although the societal consequences of plagiarizing are debilitating to the integrity of knowledge, the specific consequences to the culprit include severe administrative sanctions up to and including dismissal from employment or expulsion from the institution. However, the most important consequence is the contribution a violation makes to the culprit's own incompetence, caught or not.

SPARCS Plagiarism Resources and Tutorials

"H. Gilbert asks, should I cite the sentence 'Proteins are made of amino acids?' My rule of thumb is this: If you have a source document in front of you, then you should cite it. If the fact is, instead, from your accumulated wisdom and therefore likely to be part of the professional knowledge base, you can not cite it."

"How to Cite Skillfully and Avoid Plagiarizing" from the Baylor College of Medicine

7) Resources

Articles

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An online journal, International Journal of Communications, Law and Policy.

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Intellectual Property, University of Connecticut, School of Law. They have a degree program in Intellectual Property as well.