

FAIRPLAY OR GREED: MANDATING UNIVERSITY RESPONSIBILITY TOWARD STUDENT INVENTORS

Carmen J. McCutcheon¹
Duke University School of Law
carmen.mccutcheon@law.duke.edu

Over twenty years have passed since the enactment of The Patent and Trademark Law Amendments Act (Bayh-Dole Act) and universities continue to struggle with their technology transfer infrastructures. Lost in that struggle are those who could be considered the backbone of university research: the students. Graduate and undergraduate students remain baffled by the patent assignment and technology transfer processes within their various institutions. Efforts should be undertaken by universities to clarify the student's position in the creative process.

INTRODUCTION

¶1 On July 1, 1981 the Bayh-Dole Act (the “Act”) initiated a massive movement amongst universities towards developing technology transfer relationships with corporations. These new relationships almost always required that universities create technology transfer offices charged with aiding scientists in taking advantage of the new option for products of federally funded research. Prior to the Act, all patents on federally funded research were assigned to the federal government² who in turn could grant commercial entities non-exclusive licenses to the patented item.³ This system failed miserably when it came to bridging the basic science/ commercial science gap because obtaining a non-exclusive license was not economically wise for most corporations. The Bayh-Dole Act ended that era by allowing elected patent assignment to universities and also by creating a vehicle for direct contact between universities and commercial entities.⁴ The Act also ensures that the inventor receives financial and other benefits from a university assignment.⁵ Unfortunately, the system formed under the Act has raised a host of new concerns regarding the university's recognition and appreciation of its student inventors and innovators.

University Research Infrastructure

¶2 The assignment of roles in a university research lab is fairly standardized. The principal investigator (the “PI”) is responsible for obtaining the main funding and overseeing all projects in the lab. She is also considered the primary intellectual driver of a laboratory. Post-doctoral fellows are in the lab to gain more

¹ J.D. /M.A. (Public Policy) Candidate, 2005, Duke University School of Law; B.S. (Biology), Spelman College. Special thanks to Gloria McCutcheon for her professional and personal input.

² Council on Governmental Relations, *The Bayh-Dole Act: A Guide to the Law and Implementing Regulations* (Sept. 1999), available at <http://www.ucop.edu/ott/bayh.html>.

³ *Id.* at 2.

⁴ *Id.* at 4.

⁵ *Id.* at 5.

practical and publishing experience prior to obtaining a PI position. Graduate students obtain more specialized training in a chosen research area with the hope of creating and overseeing an “original work” of their own.⁶ In addition to gaining specialized training, graduate students are charged with learning the techniques and analytical skills involved in good general science.⁷ The lab technician is somewhat of a lab manager, in that she is responsible for much of the logistical side of what goes on in a lab. This person may also perform much of the basic research functions in the lab. Finally, there may be a few undergraduates and even high school students rotating in and out of the lab in an effort to gain experience. These roles may vary slightly from lab to lab, but they do not differ significantly.

¶3 Graduate students are often classified as staff by the university because of their teaching roles. As a result of the Bayh Dole Act, all universities are required to have their faculty and staff sign contracts and policy statements relating to the patent assignment process.⁸ Some universities have developed policies for all students using their facilities. Stanford University’s Senate of the Academic Council Committee on Research makes it clear that all “intellectual property . . . created at Stanford and/or [that makes] use of Stanford resources and facilities shall be disclosed and assigned to Stanford.”⁹ This means that a graduate student who uses Stanford’s equipment – while she may be completely funded by an outside entity - must assign any patentable results of her work to the university.

¶4 When questioned on their understanding of university policies regarding student invention, graduate students in several programs across the nation express confusion. They mention the existence of technology transfer office seminars designed to elaborate on a student’s role in the lab and her responsibilities as a student, but rarely is it clearly explained how credit for inventorship will be assigned.¹⁰

Patent Assignment and Inventorship

¶5 A graduate student’s environment does not lend itself to a lawsuit between the student and her supervising faculty member or the university. The stigma of litigation remains attached to a person as he attempts to obtain an academic position later in life. There are two prominent instances in which students have been involved in litigation regarding their rights as inventors. *University of West Virginia, Board of Trustees v. VanVoorhies*¹¹ and *Chou v. University of Chicago*¹² both involved students with rights in their inventions but without a clear and proper avenue through which to lay claim to their work.

⁶ Sandip H. Patel, *Graduate Students’ Ownership and Attribution Rights in Intellectual Property*, 71 IND. L.J. 481,483 (1995).

⁷ Telephone Interview with Robert Green, Ph.D. Candidate, Purdue Univ. (June 25, 2003).

⁸ Council on Governmental Regulation, *supra* note 2.

⁹ Mem. for the Comm. on Research to the XXXI. Senate of the Acad. Council of Stanford Univ. 1 (June 1, 1999).

¹⁰ Telephone Interview with Vanessa Green, Masters Candidate, N.C. State Univ. (July 4, 2003).

¹¹ *University of West Virginia, Board of Trustees v. VanVoorhies*, 278 F.3d 1288 (Fed. Cir. 2002).

¹² *Chou v. Univ. of Chicago*, 254 F.3d 1347 (Fed. Cir. 2001).

Patent Assignment

¶6 Kurt VanVoorhies completed both his doctoral and post-doctoral work at West Virginia University (“WVU”).¹³ VanVoorhies finished work on an invention started during his doctoral work, in the interval between his graduate and post graduate work.¹⁴ Prior to completing his dissertation he filed a preliminary invention disclosure with WVU’s patent council.¹⁵ WVU filed a patent application for the invention which issued during the course of VanVoorhies’ postdoctoral studies.¹⁶ VanVoorhies filed for and was rewarded a patent for the exact same work, listing himself as the sole inventor and assigning it to VorteKx.¹⁷ WVU brought a patent infringement action against VanVoorhies alleging that he breached a duty to assign the work to WVU.¹⁸ The district court granted summary judgment in favor of the University and the Court of Appeals for the Federal Circuit (“CAFC”) reviewed the decision de novo.¹⁹ The CAFC determined that unless there was significant proof that VanVoorhies was not university personnel at the time of the invention, he was obligated to assign the invention to WVU.²⁰ The court also held that VanVoorhies’ alleged ignorance of the university patent assignment policy did not excuse him from being responsible for the provisions in the policy.²¹

Inventorship

¶7 Joany Chou completed both her doctoral and post-doctoral work at the University of Chicago²² where she and her advisor, Bernard Roizman agreed to share royalties from a pending patent application on her doctoral work.²³ However, Chou was not aware of another patent application pending on different work in which she had participated, for which Roizman was named the sole inventor.²⁴ Chou was asked to leave the university prior to learning of the existence of the second patent application.²⁵ Chou sued the university, Roizman, and Aviron, the patent assignee, asking to be named as sole inventor or co-inventor.²⁶ The university maintained that Chou would have had to assign the invention to them anyway, so the issue of inventorship was moot.²⁷ The district court dismissed Chou’s suit because it determined that Chou lacked

¹³ Univ. of West Virginia, 278 F.3d at 1293.

¹⁴ *Id.*

¹⁵ *Id.* (finding that the invention was initially disclosed as a continuation of work completed during VanVoorhies’ doctoral studies).

¹⁶ *Id.*

¹⁷ *Id.* (finding that VanVoorhies was president and majority shareholder of VorteKx).

¹⁸ *Id.* at 1294.

¹⁹ *Id.*

²⁰ *Id.* at 1298.

²¹ *See id.*

²² Chou v. Univ. of Chicago, 254 F.3d 1347, 1353 (Fed. Cir. 2001).

²³ *Id.*

²⁴ *Id.* at 1354-59.

²⁵ *Id.*

²⁶ *Id.* (holding that the university was “obligated to provide ‘faculty, student, and staff inventors . . . 25% of the gross royalties and up-front payments for licensing activities’”).

²⁷ *Id.*

standing to apply for inventorship correction.²⁸ The CAFC affirmed that Chou would have had to assign the invention to the University under in-house policy, but disagreed with the reasoning that Chou lacked standing to sue for correction of inventorship.²⁹ In dicta, the CAFC agreed with Chou's assertion that an inventor without any ownership interest does have a reputation interest in the invention, but declined to so hold because Chou also had a financial interest in the invention.³⁰ The CAFC concluded that "parties with an economic stake in a patent's validity may be subject to a § 256 [inventorship correction] suit."³¹

DISCUSSION

¶8 The patent system in the United States is premised on the Constitutional declaration that "The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective . . . Discoveries."³² What does a student deserve when the invention in question could not have been created without the university's facilities? In light of the student's payment of tuition, is it fair to simply require the student to donate her work product to her institution simply because she made use of its facilities and resources? The university provides the resources that the student would be otherwise unable to access on his own, though the idea for a patentable invention may be hers and hers alone. The university has a major responsibility in defining the student's role, and the CAFC has offered additional though limited guidance in the past.³³ Though one may not recall signing a university policy on patents, it is required that such a policy be in place; furthermore faculty and staff are bound by it whether there is a signed contract or not.³⁴ Also, those with any financial interest in an invention have a right to sue for correction of inventorship.³⁵ Though these small steps represent progress, the student's role in inventorship is still ill-defined. The remainder of this iBrief will discuss the basis of a university's duty to better define a student's role in the patenting process and suggest possible mechanisms by which they can do it.

Basis of Duty

¶9 Prior to suggesting how a university should better define the student's rights as inventor, the basis of that duty must be defined. Though the theory that universities act as parents has been rejected over time, it

²⁸ *Id.* at 1356.

²⁹ *Id.* at 1354.

³⁰ *Id.* at 1357.

³¹ *Id.* at 1359. *But see* Airport Surface Technologies, L.L.C. et al. v. Fieldturf, Inc., 268 F. Supp. 2d 999, 1003 (N.D. Ill. June 23, 2003) (noting that the inventorship correction language in the statute relied on in *Chou* is only relevant when the patent has already been issued).

³² U.S. CONST. art. I, § 8, cl. 8.

³³ *See, e.g., Chou*, 254 F.3d at 1357.

³⁴ *University of West Virginia, Board of Trustees v. VanVoorhies*, 278 F.3d 1288, 1298 (Fed. Cir. 2002).

³⁵ *Chou*, 254 F.3d at 1359.

has been suggested that universities have a minimal fiduciary duty to the student in very specific areas.³⁶ One such specific area is sexual harassment.³⁷ Universities are also assigned duty via respondeat superior when its agents, professors and academic committees have a fiduciary duty to the student.³⁸ In *Chou v. University of Chicago*, the CAFC stated that an informal fiduciary duty could arise “when one party places trust in another so that the latter gains superiority and influence over the former.”³⁹ The research environment is a prime example of a situation in which the student places trust in the advisor for guidance, whether on the graduate or undergraduate level.

Patent Assignment

¶10 The current policy of requiring all faculty and staff to assign all patent rights to the university does not always apply to students. Graduate students are often considered staff, but it is a very loose nexus. Clarity must be provided regarding the definition of a graduate student as staff or student. If there is to be a dual designation, then efforts should be undertaken within each university to define when the student designation applies and when the staff designation applies. Federal law is fairly clear in that the university would probably receive all assignments but in a case like *VanVoorhies*, a designation would be important because a staff member that improves upon existing work completed at the university would be obligated to assign to the university where a student would not.⁴⁰ However, the best possible action would be to require all lab workers – including students, faculty, and staff – to sign a document assigning all inventions and continuations to the university. The opposition to such a blanket document emphasizes the inefficiency inherent in developing a policy that attempts to address the needs of all.⁴¹ Also, this type of policy could be viewed as “antithetical to the educational mission of the university and highly exploitative of undergraduate labor.”⁴² However, the obstacles a university may face when developing such a protectionary standard for technology transfer do not minimize the need for a definitive and just policy.

Inventorship

Financial Benefit

¶11 As required by the Bayh-Dole Act, all universities should have implemented a policy that rewards the named inventors of a patented item. That person may receive a percentage of any licensing proceeds and

³⁶ Kent Weeks & Rich Haglund, *Fiduciary Duties of College and University Faculty and Administrators*, 29 J.C. & U.L. 153, 154 (2002).

³⁷ *Id.*

³⁸ *Id.* at 164.

³⁹ *Chou*, 254 F.3d at 1362.

⁴⁰ *See University of West Virginia, Board of Trustees v. VanVoorhies*, 278 F.3d 1288, 1298 (Fed. Cir. 2002).

⁴¹ The ratio of students, faculty and staff working in labs to those who will likely invent something patentable is large; therefore the time and money spent developing a policy could be seen as inefficient.

stock in any company that arises out of the invention.⁴³ WVU's inventors are compensated with "thirty percent of the net royalty income receives after subtracting expenses incurred from the procuring and licensing of the patent rights."⁴⁴ It is very important that students receive credit when their intellectual energy represents the drive behind the creation of an invention. A license could potentially become very lucrative for a university⁴⁵ and justice requires that the student reap some of that benefit. In order for the student to be adequately compensated within established university paradigms, inventorship must be assigned.

¶12 An analogy can be drawn to National Collegiate Athletic Association ("NCAA") rules prohibiting financial bonuses. Some believe that when the most generously compensated state employee is the football coach of a Division I football or basketball team, the players should receive an added bonus as well.⁴⁶ It is argued that the "free education" of the student-athlete is not enough because they work long and hard outside of the classroom to keep their institutions at the top of the rankings.⁴⁷ Similarly, although graduate students do receive an indirect benefit when revenue enters a department, they deserve more of a direct benefit. As beneficiary, the university should develop a policy that shares a greater percentage of its wealth with the student.

Reputational Benefit

¶13 Reputation is of supreme importance in academia. It takes years to build a good reputation, but there is no rule that says that reputation building by a student cannot begin prior to completion of a degree. In a world in which every publication is another proverbial "notch on the belt," original work that warrants a patent is an extremely valuable tool with which to build a reputation.⁴⁸ A professor or student working in a system that rewards publications and patents would naturally be more sensitive to the implications of being named an inventor on a patent. Principal investigators are not standardized in their attitudes about what credit is due a student; therefore it is the responsibility of the university to ensure that all opportunities for professional reputation building are afforded the students of a university.

Encouraging Environment

⁴² K.J. Nordheden & M.H. Hoeflich, *Undergraduate Research and Intellectual Property Rights*, 6 FALL KAN. J.L. & PUB. POL'Y 34 (1997).

⁴³ See Purdue Univ. Office of the President, *Executive Memorandum No. B-10*, (July 10, 2003), available at <http://www.adpc.purdue.edu/VPBS/b-10a>.

⁴⁴ University of West Virginia, 278 F.3d at 1292.

⁴⁵ Louis P. Berneman & Dr. Kathleen A. Dennis, *University Licensing Trends and Intellectual Capital*, 718 PLI/Pat 551, 557 (2002) (reporting that the 2000 Assoc. of Univ. Tech. Managers university survey showed 1.3 billion dollars in gross revenues from licensing).

⁴⁶ Hannah Cho, *Friedgen, Williams Take-Home Pay Tops Highest-Paid State Employees*, CAPITAL NEWS SERV., April 19, 2002, available at www.newsline.umd.edu/schools/specialreports/cole/coachsalaries041902.htm.

⁴⁷ See *Id.*

⁴⁸ See Graeme Eisenhofer, *Scientific Productivity: Waning Importance for Career Development of Today's Scientist* at <http://his.com/graeme/pandp.html> (Sept. 9, 1996).

¶14 Written in many university mission statements are sentiments about “encourag[ing] intellectual curiosity” and developing valuable contributors to society.⁴⁹ University classes today are larger than ever and it is very easy for a student to get lost in the university shuffle. Though the number of undergraduate students receiving opportunities to work in labs is increasing, it would be more of an incentive if the potential benefits of the research exceeded mere experience and resume padding. Universities have an incentive to encourage undergraduates to participate in extracurricular research. Major grantors like the National Science Foundation (“NSF”) provide incentives to grantees that include undergraduates in research projects.⁵⁰ With incentives for both student and scientist, it follows that researchers would want to attract students into the laboratory. A student-friendly patent policy would aid in encouraging student participation in lab research.

¶15 There have been assertions that the Bayh-Dole Act’s creation of a more favorable environment for technology transfer has had a negative effect on graduate students. This is due to the fact that the time to completion for most graduate programs has increased because of the financial benefits inherent in an extended graduate student tenure.⁵¹ If benefit sharing were facilitated by universities, graduate students would be more willing to invest their time in graduate education and thus science would progress with greater speed.

CONCLUSION

¶16 The Bayh-Dole Act has facilitated the creation of a system in which universities can reap numerous benefits from basic scientific research. The benefit to the public of ensuring a correct designation of inventorship is obvious. The United States Patent and Trademark Office has a part of its responsibilities the task of “safeguarding consumers against confusion and deception in the marketplace.”⁵² Unfortunately, much of the innovation arising from research institutions is the work product of diligent students who are currently without claim to the patent rights of their inventions. An independent party should not be named as the expert when in fact the idea was conceived and reduced to practice by a student. Universities across the nation should take affirmative and standardized action to ensure that students get the best educational experience possible while simultaneously instilling in them an appreciation of the value of their intellectual input.

⁴⁹ See, e.g., N.C. Cent. Univ. Bd. of Tr., *Mission Statement*, at <http://web.nccu.edu/about/mission.shtml> (Feb. 24, 1994).

⁵⁰ Nat’l Sci. Found., *Research Experiences for Undergrads*, at <http://www.nsf.gov/home/crssprgm/reu/>.

⁵¹ Patel, *supra* note 6, at 486.

⁵² United States Patent and Trademark Office, *Our Business: An Introduction to the PTO*, at <http://www.uspto.gov/web/menu/intro.html>.