"Intellectual Property Program of the Franklin Pierce Law Center - Past Developments, Current Situation, and Future Tasks, with particular emphasis on its Educational Methodology to Develop Human Resources Meeting Social Needs."

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1. INTRODUCTION: The Three Disciplines of Intellectual Property Education at Franklin Pierce Law Center

Intellectual property teaching in the curriculum of Franklin Pierce Law Center seeks an accommodation between the necessity to observe the traditions of university teaching in the faculties of law and the faculties of technology (neither of which in the past granted much recognition to the importance of intellectual property studies), and the rapid rise in importance of intellectual property protection for modern commercial firms which is challenging the relevance of those traditions. Among the causes of the latter are rapid changes in technologies (such as those in the computer, media, telecommunications, biotechnology, and environmental industries) . Commercial innovations in these technologies are now conceded by most (if not all) authorities to be dependent on adequate and effective intellectual property protection. When Franklin Pierce Law Center was founded three decades ago, such thinking was unheard of in the United States.

Moreover, the intellectual property curriculum is confronted with the challenge of global encroachments on national borders and national sovereignty, abetted by the global information technology revolution and expanded international trade in goods and services. These developments and influences have placed great strain on the territorial principles which form the basis of law teaching in general and intellectual property law teaching in particular in all countries -- both in the developed and the developing world. Intellectual property education at Franklin Pierce Law Center stands at the interface between three disciplines: the legal academy, the university and corporate research facility, and corporate strategic management.

The level of understanding between the three disciplines has been far from ideal in the past, and remains so. Irrational behavior has negatively affected the ability of career professionals within the three disciplines to understand one another. Competitiveness in the modern technology economy begins with interdisciplinary education and the development of understanding within each of the three realms of the traditions of the other two. In the past, interdisciplinary education and mutual understanding have been deplorably lacking.

A proper consideration of the question must include an understanding of the traditions of university legal education and how the challenges to those traditions mentioned above have been met.

2. CONSIDERING THE SCOPE OF THE CAREERS FOR WHICH STUDENTS OF A COURSE ON INTELLECTUAL PROPERTY ARE BEING TRAINED: EXISTING AND FORESEEN NEEDS

A primary consideration in developing curricula and teaching materials on intellectual property is the scope of the career paths for which students in the course of study are being trained. The subject area of intellectual property is very broad. Patents, copyrights and neighboring rights, trademarks and unfair competition, trade secrets, and technology transfer (licensing) are among the major areas of study. Skills which may be critical for one career path may be less useful for another. Study of one subject may be influenced by whether or not a student has been exposed to other subjects. In general, the potential career paths for students of intellectual property may be divided into several general trajectories.

The first such career trajectory, of course, includes future intellectual property lawyers and legal workers. As used here, "lawyer" and "legal worker" are not synonymous terms. In many countries, the term "lawyer" refers to a person who is admitted to represent parties before the courts. Oftentimes, there are many graduates of law faculties who do not become admitted to practice before the courts but who nonetheless do engage in legal work. Most specifically, in the area of intellectual property practice, there are legal workers who perform such services as representing clients to apply for patent or trademark application, assist lawyers in preparing documents for use in court proceedings, or assume positions in government agencies as trademark examiners, legal advisors to patent or trademark offices, international trade agencies, or government prosecutors involved in enforcing intellectual property rights, etc.

A second core group of potential participants in intellectual property courses are persons with training in technology who have no legal training. Primary, of course, are prospective patent examiners. In the United States, less than one-half of all patent examiners have any training in intellectual property law. This is true in most other countries as well. Patent examiners are chosen for their technical skills and are trained by their patent offices to apply the legal standards of utility, novelty, and inventive step or nonobviousness through training courses usually conducted within the respective offices. In addition to patent examiners, however, there are also the many engineers and technical people who may find careers working closely with patent attorneys in law firms or in patent departments in corporations who assume primarily responsibility for drafting

patent applications. Rarely do these technically trained individuals undergo significant substantive training in intellectual property.

A third group of potential participants in intellectual property courses are persons in government service who have not received formal training either in law or in technology. Most such individuals have a university education in liberal subjects such as languages, public administration and public policy, or political science.

An area of growing importance are professionals to staff technology transfer offices (TTO's) in universities. Some such functions are conducted by lawyers in the office of the general counsel of the university, particularly concerning cooperation with corporations for sponsored-research or issues of ownership between the university and its knowledge workers. But TTO's also file patent applications and manage intellectual property assets for professors and for the university. Franklin Pierce Law Center now offers courses in "Non-Profit Tech Transfer" and "Managing University Knowledge Assets" taught by Professor Karen Hersey, formerly in the Office of General Counsel at MIT.

Another area of importance is training professionals (usually business lawyers and business executives) to oversee start-up companies and securitization of intellectual property assets. Franklin Pierce Law Center offers courses in intellectual property regulation under the federal bankruptcy and securities codes as well as decision-making for venture capital and publicly-traded investment in start-up enterprises. The latter is taught by Professor John Orcutt of Franklin Pierce Law Center, a former investment banker and securities lawyer. Professor Orcutt also teaches "Intellectual Property and Foreign Direct Investment" at the Pierce-Tsinghua Intellectual Property Summer Institute in Beijing, with specific focus on the protection of intellectual property assets for companies investing in China. Because of the increasing importance of intellectual property assets in international business transactions, such courses are a necessary component of any intellectual property curriculum.

Preparation of curricula and teaching materials on intellectual property must take the career goals of all these potential recipients of intellectual property education into account.

3. CONSIDERING THE EDUCATIONAL LEVEL AND BACKGROUND OF STUDENTS OF A COURSE IN INTELLECTUAL PROPERTY: QUALIFICATIONS NECESSARY TO SATISFY THE NEED

A second consideration when developing curricula and teaching materials on intellectual property is the level of education and the subject matter of such education for those who will be the students in the course. In most civil law countries, students of law are university students who have not yet received the Bachelor's degree. In the countries which have adopted the British system, including Canada and Australia, the study of law is usually integrated with other courses in the university curriculum in a five-year program. By

contrast, in United States and India, for example, the program in law is a three-year program which does not begin until after the student has already acquired the bachelor's degree. Thus, the level of education of a first or second-year university student is quite different from that of a university graduate. In Korea and China, now the law schools have started offering two-year "Master of Laws" programs for IP professionals who have an undergraduate education in another discipline. This differs from the traditional "Master of Laws" [LL.M.] program in Europe or the USA which is an academic degree offered only to those who hold a first law degree.

In the United States, most, but not all, intellectual property curricula and course materials are developed for use by students at the post-university graduate level -- primarily in law schools. Thus, no matter what the major area of undergraduate study, a program has been developed for general applicability to students no matter what the subject area of their university degree. Law graduates and technology graduates are at a similar level of
educational development, and should be able to enroll in courses side by side without undue frustration. In my eighteen years of experience with graduate students with backgrounds in law, technology, business, languages, and public administration taking classes together, while there have been certain differences between the expectations of the various disciplines, this is more than compensated for by the degree to which diverse viewpoints expressed by
differently-prepared participants contributes to an overall understanding of the materials.

Programs can be offered to university students in legal or technical studies as well, but must take into account the capabilities of the class of individuals enrolling in the courses. For example, while it seems possible that undergraduate students in law and others trained in technology could conceivably take the same courses in intellectual property, it is to be expected that the level of frustration caused by different expectations would make such a course more difficult than at the graduate level.

4. THE CURRENT SITUATION WITH REGARD TO THE TEACHING OF INTELLECTUAL PROPERTY AT FRANKLIN PIERCE LAW CENTER IN THE CONTEXT OF THE GENERAL STRUCTURE OF U.S. HIGHER EDUCATION – AND ESPECIALLY LEGAL EDUCATION

In the United States, up until very recently, few universities and technical institutes offered training of any kind in intellectual property, outside of the law schools. The reasons are many and varied. One reason why intellectual property was not taught in the undergraduate curriculums of the universities was that training in legal subjects -- especially in an extremely complex legal field such as intellectual property -- had been relegated entirely to the graduate professional schools -- particularly to the law schools, which have remained physically and institutionally separate from other disciplines of higher education. Even today, few graduate schools other than law schools offer courses in intellectual property, and the graduate business schools offer perhaps a single class or two on "intangible assets" in the context of a course on general business law. This is no longer adequate in the competitive international technological environment.

In the United States, what is called "higher education" or "post-secondary education" takes place after 12 years of primary and secondary education. Traditionally, primary education takes 8 years and secondary education requires an additional 4 years. Following completion of secondary school, students who go on to higher education enter what is called the "undergraduate" curriculum in universities and technical institutes. Within the large universities, education is divided into the "undergraduate" curriculum and the "graduate" curriculum. The term "college" is generally used to describe an institute offering the undergraduate curriculum. Sometimes, a "college" is an independent educational institution. At other times, an undergraduate college is part of a larger university which also has one or more graduate or professional Schools under the same administrative umbrella.

4.1 Government-funded and Private Institutions

In general, institutions of higher education in the United States may be funded and operated by state governments or privately. In the case of state colleges, universities, and technical institutes, salaries are paid by the state and professors are state employees. State governments also pay for the construction and maintenance of physical facilities. The costs of attending a state university are comparatively low (approximately one-half to one-fourth the cost of attending a private university), and facilities are generally quite good. There are no longer any state universities in the United States where students may attend for free. (The University of California system was one of the last systems in the United States to offer free education to state residents. The system of free higher education in the United States has been discontinued for budgetary reasons.) However, state universities and technical schools can be severely impacted by cuts in government funding, and have been so in recent years. The federal government of the United States has not established any national universities or technical institutes. Such government-funded institutions of higher education as exist have all been established by individual states or municipalities. Examples of state universities are the University of California, the University of Michigan, the State University of New York, and the City University of New York. Every state in the United States has a state-operated university. Federally funded (non-teaching) research institutions include the National Institutes of Health (NIH) and government owned and government or contractor operated national laboratories such as Lawrence Livermore and Los Alamos National Laboratories.

Private universities and other private teaching institutions in the United States are generally operated without any intervention by the state but may receive research funds from the government. The majority of universities and technical institutes in the United States are privately operated. Most are "not-for-profit" institutions; that is, the funds collected from student tuition payments and from charitable endowments are used to pay for salaries and physical facilities, with the entire remainder reinvested for the benefit of the institution. In exchange for maintaining not-for-profit status, private universities and technical institutes are granted considerable exemptions by state governments from taxation of the properties they own or of the charitable gifts donated to support their activities. In addition, many private institutions receive generous grants from federal

government agencies to conduct teaching and research. For example, the Massachusetts Institute of Technology receives over $250,000,000 from the United States government each year to conduct research. Some schools in the United States which appear by name to be public institutions are actually private: for example, Massachusetts Institute of Technology, The George Washington University, New York University, and the University of Chicago are all private, not-for-profit institutions which are not directly or indirectly controlled by any state agency.

4.2 Independent Graduate Institutions

Although most graduate programs are affiliated with undergraduate programs in large universities, some graduate schools are entirely independent. Examples of private, independent graduate and professional schools are Jefferson Medical College in Philadelphia, Rockefeller University in New York City, Claremont Graduate School in California, John Marshall Law School in Chicago, and Franklin Pierce Law Center in New Hampshire. None of these schools offer programs in undergraduate curriculum and none are affiliated with universities. Students accepted into these schools must have already received a Bachelor's degree from another university or technical institute before they can enroll.

4.3 Undergraduate Curriculum in the U.S.A.

The undergraduate curriculum is traditionally 4 years long, and leads to the award of the Bachelor's Degree. Law is not an academic subject in the curriculum. The Bachelor's Degree in the United States is awarded in Liberal Arts (Business, Economics, Language and Literature, History, Social Science, Art, Mathematics, etc.), in the Natural Sciences (Biology, Chemistry, Physics, etc.), and in Engineering (Mechanical, Electrical, Chemical, etc.); however, the Bachelor's degree is not awarded in Law in the United States. A student must receive a Bachelor's degree in some other subject before being admitted to the study of law. The only academic institutions where intellectual property has been taught are graduate schools of law. Therefore, there has traditionally been no intellectual property "curriculum" in most U.S. universities and technical institutes for undergraduate students..

4.4 Graduate Curriculum: Academic Programs

Upon completion of the undergraduate curriculum and receipt of the Bachelor's Degree, students in the United States may continue on in the graduate curriculum. Graduate programs are generally located in the universities along with undergraduate programs. The graduate curriculum is divided into [1] academic programs to prepare students for careers in teaching and research, leading to the award of the Doctor of Philosophy (Ph.D.) and [2] professional programs. The professional programs are primarily concentrated in law, business and medicine. Because intellectual property traditionally was strongly associated with law rather than with science or business, there are no academic programs in intellectual property in the United States other than "academic law" programs in the law schools. Therefore, it is impossible to enroll in a Ph.D.

program in intellectual property studies in the United States because there are virtually no schools which offer the Ph.D. degree in law in the United States.

4,5 Graduate Curriculum: Professional Programs

Medical schools offer the professional degree of Doctor of Medicine (M.D); and in order to practice medicine in the United States, the M.D. degree is required. Business schools offer the Master or Doctor of Business Administration (M.B.A. or D.B.A.) degrees. The majority of M.B.A. graduates assume management positions in corporations. D.B.A. graduates generally become teachers of business in graduate business schools and in business programs in undergraduate institutions. Textbooks on business law for business students tend to devote little time or space to intellectual property studies. A survey of business law textbooks for undergraduate and graduate business students done recently at Franklin Pierce Law Center shows little attention to intellectual property matters in general textbooks in business law. Where such textbooks devote a few pages to intellectual property issues, rarely does the discussion go beyond a general consideration of trademark registration requirements. Because of advances in the biomedical sciences, interest in intellectual property is growing among faculty and students at medical schools, where significant research in biotechnology, diagnostics, and therapeutics is being conducted -- research which may lead to significant social benefits by reducing both the economic costs of illness and medical treatment but the non-quantifiable costs of human suffering. However, to this writer's knowledge, no courses in intellectual property are offered at any U.S. medical school.

In the past, colleges of engineering and technical institutes in the United States rarely offered courses in intellectual property. Colleges of engineering generally award Bachelor's, Master's, and Ph.D. degrees in engineering. Colleges of Engineering are sometimes called "technical institutes"; however, this appellation can be deceiving. For example, the Massachusetts Institute of Technology (MIT) is actually a large private university with an undergraduate and graduate curriculum in arts as well as sciences. The Sloan School of Business at MIT, awarding the Master of Business Administration [M.B.A.] and Master of Management in Technology [M.O.T.] degrees, The latter is an illustration of the growing trend toward institutional convergence between different academic disciplines (but does not focus on intellectual property studies.) One practical reason why colleges of engineering and technical institutes in the United States rarely offered courses in intellectual property was that there was almost never any member of the faculty who was qualified to teach the subject. A second reason was that the engineering curriculum at most schools of engineering and technical institutes is very concentrated and focused on acquisition of the knowledge
professional skills needed to become licensed as engineers. Since none of the professional engineering organizations required an understanding of intellectual property as an area of knowledge within the discipline of engineering, intellectual property was not taught at such technical institutes.

4.6 Basic and Advanced Professional Programs in Intellectual Property Law

As has been mentioned above, students who wish to study law in the United States must receive a Bachelor's degree in some other subject before entering law school. Law schools award the Doctor of Law (Juris Doctor or "J.D.") degree as a general professional degree, and most states of the United States (48 out of 50) require a person to obtain the J.D. degree before he or she can be admitted practice law. Thus, the J.D. degree is the "basic" law degree in the United States. Some law schools also offer "advanced" law degrees for persons who have already received the J.D. Examples of "graduate law"
degrees are the Master of Laws (LL.M.), Master of Comparative Law (M.C.L.) and Doctor of Juridical Sciences (S.J.D.) in specialized subjects (international law, corporate law, tax law, etc.). The majority of both lawyers and law professors in the United States possess only the basic law degree, the J.D. degree. Only a minority of U.S. law professors have advanced law degrees such as the LL.M. or S.J.D., although an increasing number also have academic credentials in other subjects such as technology, economics, and international relations.

Curiously, until recently, few law schools offered advanced programs in intellectual property: in the United States, only five law schools offered the Master of Laws degree (LL.M.) in intellectual property law: Franklin Pierce Law Center, The National Law Center of The George Washington University, New York University (in Trade Regulation), John Marshall Law School, and the University of Houston Law Center in Texas. While three of these programs are old and well-established, the programs at Franklin Pierce and the University of Houston are relatively new. Furthermore, until recently, of the 182 remaining accredited law schools in the United States, only a few offered more than one or two courses in intellectual property for J.D. students. The situation is changing dramatically. New LL.M. programs are now offered at University of Akron School of Law, Albany Law School of Union University, Boston University School of Law, Cardozo School of Law, Chicago-Kent College of Law, DePaul University School of Law, George Mason University School of Law, Golden Gate University School of Law, University of San Francisco School of Law, Santa Clara University School of Law, Suffolk University School of Law, Thomas M. Cooley Law School, Washington University (St. Louis) School of Law, and University of Washington-Seattle School of Law. But only Franklin Pierce Law Center offers the interdisciplinary Master of Intellectual Property (MIP) degree. No other law school offers a Master's level degree in intellectual property for non-lawyers, although at least two of the above law schools admit patent attorneys from countries such as Japan (*benrishi*□□□) to enroll in their graduate LL.M. programs, despite the fact that such individuals do not have a prior law degree.

4.7 Franklin Pierce Law Center's Unique "Interdisciplinary" Approach

Why do the other law schools not offer interdisciplinary degrees? The reasons for a lack of emphasis on interdisciplinary intellectual property teaching in the traditional law school curriculum are several. First, because of the fact that in the United States, an attorney who wishes to practice patent law is required by government regulation to have training in a scientific or technical subject, this area of legal practice was not available to

most students in law, who tended to have undergraduate degrees in political science, government, or history. As a result, the law professors in the law schools, who rarely had such technical training, were also unfamiliar with patent law, if not downright suspicious of the ability of technically trained patent lawyers to deal with general legal questions of broad scope and import. Patent lawyers were (and still are!) often perceived by general legal practitioners as legal technicians or specialists to be consulted for legal advice narrowly, and only to draft patent applications or to construe minutiae of the patent law. Since patent law was not taught in the law school curriculum, persons with technical training who attended law school were required to wait until they began to work in a law firm before they could receive on-the-job training in patent law. There are many so-called "continuing legal education" or "CLE" courses in the United States in intellectual property subjects. Until recently, such courses were offered primarily by professional associations rather than law schools. Recently, a number of law schools have begun to offer "CLE" (continuing legal education) programs to practicing lawyers in intellectual property subjects. However, these programs are not available to persons who are not lawyers.

Second, a large number of patent practitioners were formerly patent examiners who chose to attend law school to become patent attorneys. (The term "attorney" and the term "lawyer" mean the same thing in the United States.) Because former patent examiners were thought to already understand patent office procedures, it was perceived (often incorrectly) that such individuals did not need academic training in intellectual property. Such an attitude furthered the perception that intellectual property was an inappropriate topic for the general law school curriculum.

Third, in the United States, the practice of trademark law was traditionally a preserve of the patent attorneys who deal regularly with the Patent and Trademark Office. There are no "trademark agents" who are not also attorneys in the United States. Even today, many general legal practitioners are under the misconception that a lawyer must have technical training to practice trademark law in the United States.

Finally, the practice of copyright law, when not practiced by patent and trademark attorneys, was generally the preserve of lawyers who dealt with the literary, publishing, and artistic communities. Copyright law was perceived as a small and relatively unimportant area of practice for the general legal practitioner. The development of copyright protection for computer software, graphic user interfaces and in connection with the internet has transformed the entire field of copyright law.

But in the modern intellectual property practice, career paths are not completely dominated by lawyers. The tech transfer professional, the patent examiner, the government official with training in public administration, the licensing executive, the translation expert, human rights activists, even laboratory supervisors and artists may benefit from intellectual property education.

Thus the main vehicle for interdisciplinary studies at Franklin Pierce Law Center is the Master of Intellectual Property [MIP] degree, open to all the above potential

intellectual property professionals. Law students in the Juris Doctor [JD] degree program may earn the joint JD/MIP degree in the same period of time as the basic law degree by taking summer courses. More importantly, having non-lawyers in the classroom changes the dynamic of the educational experience in profound ways. Lawyers and law students tend to be very conservative in their attitudes. Business executives and entrepreneurs tend to be more likely to take risks and propose new solutions to business problems. Creative individuals come up with creative solutions. The most useful invention in the design of the Franklin Pierce Law Center intellectual property curriculum has been to bring creative people (inventors, entrepreneurs, and artists) into our curricular design process. As the philosopher Alfred North Whitehead (1861-1947) said of Thomas Edison's Menlo Park research facility, "The greatest invention of the 19th century was the invention of the method of invention." At Franklin Pierce Law Center, "the best idea for designing an intellectual property curriculum has been to bring inventors, artists, and entrepreneurs into the curricular design process."

5. FACULTY RESOURCES: COMPARING FRANKLIN PIERCE LAW CENTER TO THE OTHER SCHOOLS

5.1 Full-Time IP Professors

The challenges of rapidly changing technologies and increased international cooperation in intellectual property matters have had a genuinely positive impact on intellectual property training in U.S. law schools. In 1990, the Association of American Law Schools [AALS] established an Intellectual Property Committee to raise the general familiarity of law school professors with intellectual property issues. The most recent issue of the "AALS Directory of Law Teachers" in the United States lists almost 600 law professors in the United States who now teach intellectual property subjects. (Five years ago it was less than 300.) While it is quite difficult for general law faculty members unfamiliar with the time-honored and established traditions of intellectual property studies to become familiar with intellectual property, the trend is toward more teaching of intellectual property in the law schools. In addition, because general law professors bring a fresh perspective to the subject of intellectual property scholarship, the study of intellectual property gains prestige in and utility to the general study of law. Unfortunately, few law schools which have a resident faculty member who teaches intellectual property expect that faculty member to devote themselves full time to the study of intellectual property. Rarely in the past did a law school have more than a single resident faculty member who teaches intellectual property. Franklin Pierce Law Center has the largest resident intellectual property faculty among U.S. law schools. Currently, eight full-time professors teach primarily courses in intellectual property at Franklin Pierce. In the near future, the number of law faculty positions in intellectual property in other law schools throughout the United States is likely to increase dramatically.

5.2 Adjunct Professors Are Chosen More for their Practical Experience and Teaching Effectiveness than for their Academic Credentials

A second characteristic at Franklin Pierce is that an increasing number of intellectual property practitioners from all over the United States and around the world with a wealth of experience in intellectual property practice have entered the Law Center teaching faculty as adjunct professors. Professional associations such as the American Intellectual Property Law Association [AIPLA], the International Trademark Association [INTA], the Copyright Society of the United States, and the Licensing Executives Society [LES] also have established education committees to study ways of improving the teaching of intellectual property in the United States and elsewhere. One of the roles of these professional committees is to encourage practicing intellectual property attorneys to become interested in teaching intellectual property as "adjunct" professors in law schools and, increasingly, in technical and business schools as well. Franklin Pierce Law Center employs a wide variety of adjunct professors in its IP curriculum. For example, the current president of AIPPI, Professor Gerd Kunze, teaches international and comparative trademark law. A number of such adjunct professors are non-lawyers. For example, Dr. Conrad Becker former director of patents at Novartis, and Dr. Hans Goldrian, former head of patents at Siemens, are currently teaching international and comparative patent law. And Mr. Gordon Smith, president of AUS Consultants and an accounting expert, teaches intellectual property valuation,

Another important source for such a cadre of instructors is the pool of the Law Center's own graduates. Currently, several Law Center graduates teach in the area of patent searching, patent practice and procedure, trademark registration practice, research and writing, and trademark law.

Adjunct professors require support from the institution and the resident faculty. Teaching skills are not skills which a teacher develops overnight. In our experience, sometimes a teacher who is highly motivated is not very successful the first time teaching. However, if given enough time, that teacher may develop skills to a highly effective level. Conversely, a teacher who has effective communications skills but is lacking in enthusiasm for the subject matter or the student will be found out by the students. Keeping such a person in the classroom is not advisable. Finally, older practitioners may be highly motivated to participate as teachers of intellectual property and should be given every consideration. In addition to their wealth of knowledge, older practitioners who have the time, are motivated to teach, and genuinely care for the welfare of their students will be the most excellent role models for students.

5.3 and Impact of Changes in the Substance of Intellectual Property On Those Teaching Researching at Franklin Pierce Law Center – New Scholarship, New Issues, New Technology

Because of the expansion of the economic sectors the growth of which is tied to intellectual property protection (such as computer technology, telecommunications, biotechnology, and environmental technology), the teaching of intellectual property subjects at Franklin Pierce Law Center has expanded rapidly over the past three decades. So has the size of its intellectual property faculty.

Professor Thomas G. Field, Jr., a former patent examiner and lawyer, was the founding member of the intellectual property faculty, joining at the founding of the school in 1973. He is still a senior member of the faculty and is the author of two recent books on "Fundamentals of Intellectual Property" and "Introduction to the [Intellectual Property] Administrative Process. The teaching of patent practice and procedure at Franklin Pierce Law Center began with the offerings of Professor Robert Shaw, formerly patent attorney at MIT. With the arrival in 1985 of Professor Homer Blair, former president of the Licensing Executives Society (US/Canada) and of the International Trademark Association, new course offerings appeared in patent and trademark licensing and managing intellectual property. Professor Blair became the first Director of the Germeshausen Center for the Law of Innovation and Entrepreneurship. He was succeeded by Professor Karl Jorda in that position in 1989. Professor Jorda is still the Director of the Germeshausen Center and designer of the annual Advanced Licensing Institute. Other additions included myself, Professor William Murphy, formerly with the Antitrust Division of the U.S. Federal Trade Commission, Professor Craig Jepson, a patent attorney with the law firm of Seed & Berry, Professor Susan Richey, a trademark and advertising litigator with the Los Angeles law firm of Riordan & McKenzie, and Professor Karen Hersey of the Office of General Counsel at MIT.

Beginning with the establishment of the MIP program in 1986 and the IP Summer Institute in 1987, new courses were added in succession, expanding to include complete courses in trademark and copyright law, international and comparative patent, trademark, and copyright law, intellectual property and world trade, and various "special industry" courses in publishing and media, music management and licensing, multimedia rights management, biotechnology patent law, sports law, and computer software licensing. In each of these specialized courses, instructors were selected from outside the Law Center because of their practical experience in the field at issue. A distinctive entertainment curriculum was designed and first taught by Professor Jeremy Williams, now Senior Counsel at Warner Brothers Pictures. Professor Williams also team-taught an innovative course for first-year law students on the law of both real and intellectual property.

These rapid-growth industries are often inadequately served by the traditional concepts and categories of intellectual property (such as patents, trademarks, and copyrights). Practices may vary from one industry to another: for example, the licensing practices in the computer software industry may be radically different from those in the entertainment industry. Even within an industry such as the entertainment industry, practices may differ radically depending on whether the question arises in music, film, or theater.

New issues such as intellectual property protection for information in computer databases, for collections of genetic information and "biodiversity," for electronic information networks, and for new digital telecommunications and media technologies are now receiving attention . Furthermore, as the economic importance of intellectual property has grown, there is a growing recognition within the law faculties that all lawyers who deal with business, commercial, and technological clients must not merely be familiar with intellectual property concepts, but well-versed in them. The central role

of information, technology, and "know-how" to the modern competitive business in the global economy requires heightened awareness of intellectual property among all members of the commercial legal community. The "IP Mall" at the Franklin Pierce Law Center website has become an important educational tool throughout the institution and in reaching the larger intellectual property community worldwide. (see www.ipmall.piercelaw.edu)

6. BEYOND DEGREE PROGRAMS TO SHORT TERM COURSES AND EDUCATIONAL PARTNERSHIPS

Summer Intellectual Property Training Institutes for Law Students and Non-Law Students – IPSI and CHIPSI

Summer Intellectual Property Training Institutes for both lawyers and non-lawyers have been offered by Franklin Pierce Law Center since 1987. In 2003, 120 law students, university and corporate technical people, business executives, practicing attorneys, and government officials attended this program. These programs are open to both lawyers and non-lawyers who have technical or business backgrounds. The modern trend is for intellectual property to be viewed increasingly as an area of interest to persons with training and business and technology as well as those with training in law. It is important to create an atmosphere for intellectual property teaching in which both lawyers and non-lawyers in technical, business, or government positions can participate together. In this way, the theory and practice of intellectual property can be integrated.

Another important advantage of such summer programs is that students from universities and technical institutes which cannot devote a faculty member to teach intellectual property can take advantage of well-taught courses by professional intellectual property teachers. This, of course, is no substitute for a more general integration of intellectual property teaching into the curriculum of other institutions. Many participants in interdisciplinary programs who are not lawyers can become qualified to teach intellectual property subjects themselves in business and technical programs.

A cooperative program was established between Franklin Pierce Law Center and the International Intellectual Property Training Institute [IIPTI] in Daeduk, Korea in 1991. IIPTI is not a law faculty but an institute devoted to the training of persons with technical or other background in intellectual property. Students may take courses at IIPTI and apply them in part toward the requirements of an MIP degree at the Law Center. In 2002, Franklin Pierce Law Center established a joint Intellectual Property Summer Institute with the faculty of Tsinghua University School of Law in Beijing, China. Tsinghua University is the premier university of science and technology in China. Its new law school was established in 1999. The courses offered in the Institute have been approved for credit by the American Bar Association for American law students.

The philosophy at Franklin Pierce Law Center is that artificial barriers between the disciplines of civil law, commercial law, business administration, public

administration, technology management, and finance that had been allowed to persist because of entrenched interests of constituent groups need to be dismantled. Internationally, despite political and cultural differences, the world economy is rapidly becoming integrated. Intellectual property is a field of study which requires an understanding of and facility in dealing with all these areas. Therefore, it is suggested that intellectual property teaching should be moving rapidly toward institutional partnerships. At the same time, the law faculties should remain the major source of knowledge and of innovation in intellectual property teaching and research.

In the modern "value-added" concept of organization, knowledge and expertise from diverse sectors, when effectively combined, increase the capacity of economic entities to adapt rapidly to changing circumstances in local and distant markets. Organizations which maintain rigid separations of disciplines will be unable to compete effectively in such an environment. Investment in human resources (education) is as important -- if not more important -- than investment in research parks, laboratories, and manufacturing facilities. Effective organization requires effective cooperation between business, academic, legal, technical, and government sectors to create intellectual property protection which adds value to the contribution of all participating sectors. Effective intellectual property teaching -- whether in law faculties or in technical or business school environments -- is emerging as a key component in adding value to the fruits of human creativity, innovation, and organization, thereby promoting a more general social well-being.

7. DEVELOPMENT OF TEACHING METHODS AND TEACHING MATERIALS ON INTELLECTUAL PROPERTY AT FRANKLIN PIERCE LAW CENTER

A I have emphasized above, among the important considerations in development of curricula and teaching materials on intellectual property are the scope of the careers for which students are being trained, the educational level and background of students, the special characteristics of the law and practice of intellectual property in a particular country, the availability of seasoned and knowledgeable intellectual property teachers, and the nature of the intellectual property subject matter. Equally important considerations are to the various methods of teaching the subject matter, and to the various materials for use in teaching.

The development of teaching methods and teaching materials on intellectual property is a critically important aspect of an effective teaching program. It is not something which can be done overnight. As in the case of an inventor attempting to reduce the concept of an invention to practice, a writer struggling over the creation of a work of literature, or an entrepreneur attempting to establish a successful business from nothing, we who teach intellectual property can learn how to develop teaching methods and teaching materials only by trial and error, constant experimentation and inquiry, and, inevitably, by making many mistakes. Also, the development of teaching methods and

teaching materials on intellectual property at one institution must be able to profit by the experiences, successes, and failures of other institutions who have gone before in developing such curricula and teaching materials. This paper is an attempt to describe the process of the development of teaching methods and teaching materials on intellectual property over the course of 30 years at Franklin Pierce.

7.1 The Choice of Teaching Method

An important consideration in selecting a teaching method is attention to the special characteristics of the educational systems in a particular country, and responding to student expectations. For example, in countries which have followed the British system of law -- and particularly in the United States -- the "case method" of teaching is prevalent.

7.1.1. The "Case Method

Under the "case method", the principles and application of intellectual property law are taught by having the students read actual judicial and administrative decisions and then requiring them to abstract the relevant legal principles from the way the substantive standards of law were applied by the court to the specific facts of the case. Use of the
"case method" in intellectual property education may be less appropriate in continental law jurisdictions such as China, Germany and Japan. For one thing, court opinions on specific cases in such jurisdictions are rarely available. Where such decisions are available, they carry no precedential effect. Therefore, use of the "case method" of teaching intellectual property may be inappropriate for many countries and lead students more to frustration than to enlightenment.

Nevertheless, for example in teaching admiralty law, the "case method" is used throughout the world. This is because the applicable legal principles have generally been adopted from the British system. Moreover, the European Court of Justice has adopted a modified version of application of legal precedent which makes the "case method" useful for understanding its jurisprudence -- including in intellectual property cases. Therefore, the extent to which the "case method" could be extended to the study of both continental and United States intellectual property law requires further examination and reflection.

7.1.2. The Problem-solving Method

In the United States, the "case method" of teaching is predominant; however it is not the only method of teaching. A second method of teaching is the "hypothetical problem" approach. The instructor crafts a hypothetical problem and asks the students to craft a solution to the problem which correctly analyzes the facts of the problem and correctly applies the applicable intellectual property law. Sometimes the problems are interspersed with relevant readings, and the hypothetical problems provide comparatively brief situations which are intended to make the purpose and relevance of the readings clear. The clear advantage of the problem-oriented approach over the "case method" is

that the facts of real cases are very messy. Often, several disparate and perhaps unrelated areas of law may be implicated an a single set of facts. In their attempts to analyze these facts, several legal considerations may overlap, which leads the student to more frustration. Therefore, in particular situations, the problem-solving method may be more appropriate. On the other hand, the strong argument in favor of the "case method" over the problem-solving method lies in that very factual complexity and frustration experienced by the students: that is, upon completion of the course, the student will not be inexperienced in facing the fact that real-life legal situations are always messy and difficult to solve. Problem-solving is a good approach to evaluating the student's understanding of the materials covered in any course in intellectual property.

7.1.3. The Simulation Method

The simulation method attempts to teach in a classroom atmosphere the same skills and thought processes which are taught to an apprentice by a mentor in more traditional educational systems. In the modern world, students often have little opportunity to locate a
mentor actually in the practice of intellectual property. Moreover, because of the strains and pressures of competition in both developed and developing societies with respect to the efficient use of time, experienced practitioners are often so busy with their work that they have little time to devote to a young apprentice. A resolution of the problem of the lack of availability of experienced mentors for the growing flock of potential apprentices is to
conduct a class in which several or many students are given the same exercise by the instructor, who explains to them how the problem should be solved. The simulation method is related to the problem-solving approach, but is more effective where actual skills are being taught and the correction process consists in gently and persistently monitoring the acquisition of skills by the student so that the student can develop some of the natural instincts and intuitions of the master. A particularly fruitful application of the simulation
method is useful in teaching patent prosecution skills. Students can be given a patent specification with no claims attached and asked to write a set of claims specifically setting forth the content and scope of the invention. The master-teacher then can assume the role of the patent examiner and "reject" the student's claims. Perhaps the students can be provided with references to the prior art which make the invention according to the claims
"unpatentable", and then request the student to amend the previously drafted claims to overcome the "examiner's" rejection. The simulation method is used to teach patent prosecution skills at Franklin Pierce Law Center. It is also used in the course in trademark registration practice and to develop oral advocacy skills.

7.1.4. The Doctrinal Method

A fourth method is to present the student with the applicable legal standards and to illuminate the doctrine with an explication of how the law is applied. The clear advantage of the doctrinal method is that the principles of intellectual property can be

explained with great clarity and theoretical precision. Secondly, students absorb materials much more readily
when they are presented in a straightforward and logically organized way. However, there are two related disadvantages to the doctrinal approach -- particularly for students who must leave the academy to apply the knowledge learned to actual situations in the real world. One is that students have not been taught to analyze or identify the true nature of the legal issue present in a complicated factual situation. Students may understand the substance of
the intellectual property law but may not be adept at identifying the specific factual situations in which the law should be applied. Second, because of rapid changes in the subject matter of intellectual property protection, particularly in connection with such rapidly-developing areas as biotechnology, computer technology, information databases, telecommunications and electronic media, and environmental technology, the subject categories of the prior law may have little relevance to new areas of potential intellectual property subject matter. Doctrinal purity has its price. Furthermore, giving students an examination which asks them to recite doctrine is not conducive to understanding the content of intellectual property or how to apply intellectual property principles. Rote memorization of doctrine is not a suitable method for teaching intellectual property.

7.1.5. The Clinical Method

A final method sometimes used to teach intellectual property is the so-called clinical method. In the ideal clinical method, the approach used is identical to the traditional master-apprentice approach mentioned above; however, the students work on real client problems rather than simulations. Students are allowed to observe actual interactions between inventors and patent attorneys and assist the master to provide legal services at low cost. The clinical method also can take place in a teaching institution, in which actual persons with actual intellectual property problems seek the advice of the master-mentor while the actual services are provided for by the apprentice-student. At all times, of course, the instructor must maintain adequate supervision over the work of students or else the persons seeking assistance may suffer. Moreover, this method only works effectively with a very small number of students in a situation where services can actually be provided. At Franklin Pierce Law Center, the clinical method has been used to teach intellectual property through an “Inventors Assistance Program” conducted in cooperation between the Law Center and the Department of Economic Development of the State of New Hampshire. The use of the clinical method is contemplated in connection with a small “master class” to provide certain parties with assistance with their intellectual property assets which do not implicate the rights of third parties. A great disadvantage of the “clinical method” is that in order to be effective, only a very small number of students can be involved. Despite the disadvantages of the clinical method, the learning experience for those students lucky enough to find a mentor is profound. The Law Center does not currently offer clinical experiences because of the difficulty in finding the proper professional to staff such a position, but is actively seeking to restore its intellectual property clinical program. In the meantime, externships and internships have taken up the slack.

7.1.6. Placement of students in law firms, corporate intellectual property departments, non-profit organizations, and court clerkships

A very promising avenue for training intellectual property professionals is through placements in supervised internships or externships at law firms, corporate intellectual property departments, and court clerkships. The success of the program requires a faculty member from the Law Center to supervise the placement. The student receives academic credit for working in the firm, corporation, or court instead of receiving pay. The host organization provides a public service and may actually benefit from the work that the student intern or extern does. The student keeps a log of all the assignments accomplished during the placement, which may last for a period of one to four months. A faculty member from the Law Center makes at least one supervisory visit to the host institution to meet with the host supervisor, to interview the student and review his or her progress, and to inspect the general conditions of the relationship. A strong commitment from members of the law faculty to visit student interns at the site of the placement is necessary. Without the willingness of professors to go out to visit the students in the field, an internship or externship program is doomed to failure.

In summary of teaching methods, the best curricula tend to combine a number of different approaches into the courses. At Franklin Pierce Law Center, courses in Copyright Law are taught by a strict case method. Courses in survey of intellectual property, in trademarks, and in patent and trade secret law, modify the case method with lectures and problem-solving. Courses in patent practice , in intellectual property management, and in licensing (technology transfer) combine a study of doctrinal approach, problem-solving, and simulation. The only way of finding out which method works best in a particular situation is to experiment with several methods.

7.2 DEVELOPMENT OF INTELLECTUAL PROPERTY TEACHING MATERIALS

Development of effective intellectual property teaching materials also takes time. The teaching materials must be “user friendly” to both the instructor and to the students of a course in intellectual property. Materials prepared for some other instructor or some other group of students may be partially or wholly inappropriate for a different instructor or a different type of students. In the appendix are provided syllabi of courses in intellectual property taught in the United States to law and graduate students who already have a
university degree. These materials are suitable for a teacher and an audience in the United States but are perhaps not so suitable for teachers in other countries, such as Japan.

It is important to find talented individuals in every country who have a deep respect for teaching and who also have sufficient experience with intellectual property to assist students to be effective outside the classroom when they complete their studies. Such individuals should be encouraged to communicate broadly with colleagues who teach intellectual property both at home and in other countries and to seek advice from

experienced intellectual property teachers about how to select, adapt, and organize teaching materials. It is only through such cooperation that the quality of teaching of intellectual property can be promoted efficiently without considerable waste of effort through duplication of the mistakes of others.

In the United States, law school textbooks are available in all substantive areas of intellectual property law, including patents, trademarks and unfair competition, and copyright law. Other materials being prepared at Franklin Pierce Law Center for use in courses in its Graduate Program and Summer Institute include materials in International and Comparative Patent Law, International and Comparative Copyright Law, International and Comparative Trademark Law, Intellectual Property Valuation and Finance, Licensing (Technology Transfer), Intellectual Property Management, Managing Knowledge Assets in the University, Non-Profit Technology Transfer, and World Trade and World Intellectual Property Law and Institutions.

[The appendix of this paper includes intellectual property course syllabi from Franklin Pierce Law Center for courses in the 2003-2004 academic year.]

8. ADMINISTRATION OF THE INTELLECTUAL PROPERTY PROGRAM

The intellectual property program curriculum is under the control of the intellectual property faculty. Compromises must be made to meet the requirements of the accrediting authority, but the basic philosophy for curricular design when presented with proposals for new courses to ask the question "WHY NOT?"

Financial aid is an important component in establishing the make-up of the intellectual property community at Franklin Pierce Law Center. Participants in the intellectual property programs over the past 18 years have come from 95 countries all over the world. Students from developing countries are given generous waivers of tuition to enrich the experience of all students, and more particularly, to provide a deep understanding of the cultural and economic value systems of nations newly adopting intellectual property protections in the wake of developments in the world trade system and globalization. Without the international community of scholars including the important contribution of participation from the developing countries, there would be little to distinguish the student body at Franklin Pierce Law Center from that at any other law school.

All students are integrated into classes with American law students and grading is anonymous, so that the instructor grading examinations has no knowledge of whether the paper being graded is the work of an American or foreign student, a law student or patent examiner, or a business executive or government official. Nevertheless, the Law Center offers a rich support network of services to assist students from other countries to adjust to the strenuously competitive environment of an American law school, including academic counseling, assistance with family members and community relations, extra sessions with teaching assistants, etc. The amount of resources spent on such services is

considerable, but well worth the investment because it allows the students to focus all of their energies on their studies.

9. CONCLUSION

The founder of Franklin Pierce Law Center, Dr. Robert H. Rines, now retired, is himself and inventor (with over 50 patents in his name), and a winner of the Inventor of the Year Award. Because of his vision in the early 1970's, Franklin Pierce Law Center was able to become an early leader in intellectual property education in the United States. The contribution of early faculty members such as Professor Field and the late Professor Shaw, developments in teaching methods and teaching materials became a priority, because no other schools were engaged in the same endeavor. Reaching out to become an international leader in intellectual property education absorbed the energies of Professors Blair and Jorda (and myself) in the 1980's and 1990's as our faculty grew. It is hoped that the experience of Franklin Pierce Law Center may be of benefit to a school like the Graduate School of International Corporate Strategy and that this paper has made some small contribution to that worthy goal.