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FEATURE

Intellectual Property and Copyright: The Effects Upon Education and Information Availability in Developing Countries

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Abstract - Rapid growth in electronic document exchange has pushed copyright law into the international arena where diplomats debate its purpose and usefulness across the spectrum of developed/developing countries. Quite apart from the debates, however, educators in developing countries continue to struggle to teach with limited or no resources, and students find it difficult to afford educational materials.

It is within this setting that the educator in a developing country faces the dilemma of how to teach children and young people the value of honesty and adherence to government laws while ensuring that they have access to needed resources. Teaching students to think creatively and critically, authoring materials for local publication, and finding equitable and cost-effective methods of procuring materials are ways in which the educator can help to narrow the "knowledge gap" while working within intellectual property laws. By choosing to explore these avenues, teachers and students can help to create a more equitable society where information flows more freely.

Intellectual Property and Copyright affect the academic life of teachers, students and educational systems around the world. Rapid growth in Internet and electronic document exchange during the last fifteen years has pushed copyright law into the international arena, and both issues now stretch across borders to touch an ever-widening global information marketplace.

In this age of information overload and electronic distribution, it

would seem that books, journals, and other educational resources would be easier to procure. Yet within the context of the developing world, circumstances often seem to be the reverse. Cost remains high, distribution limited, and products are of low quality. Educators continue to struggle to teach with limited or no resources. Students often find it difficult, if not impossible, to afford costly educational materials.

Some argue that strong intellectual property and copyright laws will promote greater availability of information resources by protecting the creativity of local authors and publishers. Others argue that intellectual property and copyright only protect the well-established publishing industries of the developed world by keeping prices artificially high. Still others believe that the basic human right of education outlined in Article 26 of the Universal Declaration of Human Rights (United Nations [UN], 1948) transcends that of intellectual property, which appears as Article 27 in the same document (UN, 1948).

In this article, the author attempts to examine these issues within the context of Christian education in the developing world. The author offers no panacea for the problem. But it is hoped that careful and meditated examination of the issues will lead to future dialog and a search for meaningful solutions.

Terminology

When discussing intellectual property and copyright, it is useful to begin by defining what these and other basic terms mean. Because intellectual property and copyright are concepts now shared globally, individual countries may have somewhat different definitions. The definitions given here are not legal ones so much as they are popular, provided as a starting point from which academic discussion may follow.

Intellectual Property Rights (IPR). The World Trade Organization defines this as "the rights given to people over the creations of their minds" (World Trade Organization [WTO], n.d.).

Copyright. The term refers to national laws and international conventions that protect literary and artistic works by allowing the copyright holder to (a) control what is done with the work, and (b) gain reasonable compensation for a limited period of time (World Intellectual Property Office [WIPO], 2001).

Fair Use. Although copyright protects the copyright holder, the principle of fair use is built into copyright law by many countries to protect the consumer and society. Fair use protects these groups by allowing educational and non-profit use. Fair use encompasses four principles: (1) Purpose and character of the use, (2) Nature of the copyrighted work, (3) Amount and substantiality of the portion used; and (4) Effect of the use upon the potential market for or value of the copyrighted work (International Bureau, World Intellectual Property Office [WIPO], n.d., p. 10).

Piracy. Copyright laws are frequently circumvented in two ways. The first, piracy, is the unauthorized use of another's production, invention, or conception especially in infringement of a copyright (Mish et al., 2003, Definition: Piracy).

Plagiarism. This term means to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source (Mish, et al., 2003, Definition: Plagiarize).

International Environment

Intellectual property laws have been a part of the developing world for some time. Increasingly, they are becoming part of international law as well as bilateral and multilateral trade agreements. Most countries (including those of the developing world) have had varying levels of intellectual property laws for a number of years. In order to illustrate this fact, a sample of nations from the continents of Africa and Asia have been selected, along with details of membership in international copyright agreements, for the purposes of this paper.

In the 1980s, it became apparent that international trade required new international agreements. This realization led to the Uruguay Round Agreements. The TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement was signed April 1994 in Marrakech, Morroco, as part of the Uruguay Round. On January 1, 1995, the World Trade Organization (WTO) came into existence as part of the Uruguay Round implementation process. Today, the WTO has 145 nation members. TRIPS is the section of the Uruguay Round that covers intellectual property, including copyright, patents, trademarks, etc. The basis for TRIPS was the Berne Convention (Paris, 1971). But TRIPS limits itself to the economic rights of the individual, whereas the Berne Convention addresses both economic and moral rights. TRIPS differs from the Berne Agreement in another

way. It goes further by including computer programs and databases within its protection (WTO, n.d., *Trading Into the Future).*

TRIPS provided transition arrangements by which member nations could take between one and 11 years to fully comply with the agreements, depending on whether they were classified as developed or developing nations. Today, only a handful of developing nations remain in the transition stage (WTO, n.d., *Trading Into the Future: The Agreements: Intellectual Property: Protection and Enforcement: Transition Arrangements).* Most have now reached the stage where they should be fully compliant. People can no longer argue that intellectual property or copyright do not apply to the developing world.

Underlying Philosophies

Economic or Moral Rights

Different legal systems approach intellectual property differently. Some seem only to address economic rights, while others consider moral rights to be an integral part. On the international arena, the Berne Convention requires member states to grant to human authors moral rights independently of economic ones. Rowland Lorimer (1996, Moral Rights section, ¶ 2) explains the concept of moral rights as "personal rights" that "are related to the reputation of an author and how the treatment by other rights holders of an author's or creator's work affects that reputation."

On the other hand, TRIPS does not include moral rights in its copyright law. This is because some see intellectual property as an economic concept. The United States, the United Kingdom, and other Common Market nations fall into this category.

Conflict Between Human Rights

Although Article 27 of the Universal Declaration of Human Rights (UN, 1948) recognizes intellectual property as a human right, those faced with economic hardship often see other human rights as being more fundamental. A report by the Secretary General of the United Nations (UN, 2001), referring to the Pakistan government's submission on intellectual property rights, states:

> The implementation of stronger intellectual property laws is giving rise to a situation where there is a consistent increase in the prices of pharmaceutical products, software and textbooks. These products are essential to furthering the

> right to health, the right to education and the right to food (UN, 2001, p. 4)

Many believe that IPR is bad for development. They argue that it restricts access to education. It cheapens a person's basic right to knowledge and reduces it to his ability to pay. They argue that IPR cannot promote development because the necessary technical capacity is absent. And they believe that IPR is basically an economic provision to protect wealthier nations.

An Economic Imperative

Those who support intellectual property believe that it is good for development. They argue that it provides incentives for creativity. According to this line of thought, IPR helps to develop local industry and increases production. This, in turn, increases availability of the product locally and internationally. The argument also follows that IPR helps to create intellectual honesty, which in turn, helps the nation's economy.

In his report for the World Intellectual Property Office (WIPO), Idris (n.d., p. 1) states that "intellectual property is a power tool for economic development and wealth creation that is not yet being used to optimal effect in all countries, particularly in the developing world." Idris (n.d, p. 4) refers to Paul Romer's assertion that the "accumulation of knowledge is a driving force behind economic growth" to support his theory, which links development to the protection of intellectual property.

Intellectual Property and the Knowledge Gap

Background

It is interesting to note that some of the major proponents of copyright and intellectual property today were once counted among the states that did not accept either. The United States is a case in point. While engaged in its own trajectory of development, it was not interested in participating with European countries over copyright. Only when it had a publishing industry of its own to protect did it begin to join in copyright treaties with other nations. Yet it is equally true that once a country has reached a certain level of development, it seems to find intellectual property and copyright within its own best interests.

The problem lies in the fact that the global economy has forced developing countries to join in international treaties on intellectual

property earlier than they normally might if internal development patterns were considered. And this leads, in the short and medium term, to a greater knowledge gap for these societies. The Intellectual Property Rights Commission (IPRC) recognizes this fact. It states that:

> It is hard not to conclude from looking at the evidence from the developing world overall that the negative impacts of stronger copyright protection are likely to be more immediate and significant for the majority of the world's poor. Today there is an enormous knowledge gap between the richest and the poorest countries (IPRC, 2002, p. 99).

The Commission goes on to say that the crucial issue for developing countries is getting the right balance between protecting copyright and ensuring adequate access to knowledge and knowledge-based products. It is the cost of access and the interpretation of 'fair use' or 'fair dealing' exemptions that are particularly critical (IPRC, 2002, p. 96).

Whether equitable or not, global markets have forced the developing world to become participants in intellectual property rights laws. It seems that only by careful management of copyright and fair use can they hope to survive and emerge from the knowledge gap. It is, therefore, imperative that every member of a developing nation think carefully about how they can help this to happen. Some ways in which educators within the developing world can help are discussed later in the paper.

Can Intellectual Property Benefit the Developing World?

Various organizational reports indicate that, in a developed economy, intellectual property is an important way of protecting and promoting invention and intellectual creativity. The Intellectual Property Rights Commission (2002) and Idris's report for the World Intellectual Property Office are cases in point. The IPRC (2002, p. 17) asserts that copyright was and remains the basis for making the publishing of literary and artistic works an economic proposition by preventing copying.

If we accept this assertion, and then observe the crisis that publishers face in the developing world, we must ask ourselves whether copyright, when properly managed, might be one powerful way to help this floundering industry. A viable publishing industry would be good for the knowledge base of developing countries and also for the worldwide educational publishing industry.

It seems to come back to the key issue of whether or not developing nations can make copyright work for them. As the IPRC (2002, p. 96) indicates, the WIPO, UNESCO and the World Bank have urged developing countries to establish systems that would help them to commercially control their own creative works.

The IPRC goes on to give the example of India, where government and industry mechanisms were set up to protect a developing software industry. With such mechanisms in place, the industry grew from $787 million in 1994-95 to $10.2 billion in 2001-2002 (IPRC, 2002, p. 96).

Brian Wafawarowa (2000), president of the Publisher's Association of South Africa when he gave his report to UNESCO's InfoEthics Conference (2000), indicated that the developing world can benefit from stronger copyright legislation and enforcement. He used examples from the African continent to show that weak copyright laws contribute to a weak publishing industry. He argued that stronger copyright law enforcement would help to strengthen the industry. A strong local publishing industry would be able to compete with foreign publishers by promoting local knowledge and by protecting it from foreign exploitation.

A Sustainable Publishing Industry May Offer Hope

As indicated above, one way to reduce the knowledge gap is to bolster the local publishing industry in the developing world. As seen in Montagnes' (1999) report in the UNESCO's *Education for All Initiative*, locally produced books carry enormous benefits. They are generally cheaper than their internationally published counterparts and content is likely to be more appropriate for the context and culture.

Textbooks and other educational materials illustrate this point particularly well. Locally produced textbooks help to bolster the publishing industry because they are a meal ticket for the publisher. Textbooks, through large print runs, subsidize other more expensive publications, allowing the industry to engage in "books that examine the country's history, society, economy, ecology, and culture" (Montagnes, 1999, p. 49).

Governments can support this effort by increasing financial support for textbook production. Montagnes (1999), for example, quotes a study by Askerud, which shows that during the 1990s,

developing nation governments failed to invest more than 1% of their primary education budget in textbooks even though an increase to 2% would have guaranteed a textbook-to-student ratio of 1:1. Lack of government support for the publishing industry, when combined with growing populations means that the "knowledge gap" will continue to grow.

Consumers, and especially educators and students, can contribute to a viable publishing industry by purchasing locally published textbooks rather than illegally copying them. Wafawarowa (2000, ¶ 10) states in exasperation: "Even in this sector [curriculum based education materials] the economic needs are so dire that the hope of any publisher is to produce a book that is so cheap that photocopying is more expensive and hope to recoup one's investment from a higher rate of turnover." A conscious decision by individuals to support local publishing, when multiplied across the millions of students and teachers in the developing world, would undoubtedly do a great deal to help the industry establish itself.

Piracy Is a Barrier

Examples from Asia and Africa show that high levels of piracy and photocopying can become a barrier to the growth of local publishing and to the distribution of international publications within the developing world. Although individual customers argue the necessity of piracy and illegal copying, in the long term, such practices may actually be widening the knowledge gap, rather than narrowing it.

Makhotsi (in Wafawarowa, 2000) points out that Africa's book publishing industry produces 3% of worldwide publishing, much less than the 12% that it consumes.

Another example, this time from Asia, shows that in 2002, "an estimated $116 million in losses of intellectual property occurred to US firms due to piracy" in the Philippines. The Philippine government itself suffered from piracy with an approximate loss of $25 million in needed tax revenue (US Embassy, n.d., ¶ 2).

These statistics may lead us to conclude two things. First, governments of developing countries can ill afford piracy and illegal copying. Revenues that could be used to bolster beleaguered educational systems are instead ending up in the pockets of intellectual property pirates. Second, as international firms continue to suffer major losses due to piracy within particular markets, it is

easy to understand why they choose to limit distribution. Either way, the knowledge gap increases.

The Role of Christian Educators

The educator, and the Christian educator specifically, stands in the middle of the problem. Ethically, the teacher, librarian, or school administrator is committed to providing an atmosphere where learning can happen. Goodlad and McMannon (1997) refer to the American education system and how its modern-day goal must be to help people learn flexibility. They promote a modern mission of education that not only provides educational opportunity but also ensures that students learn (Goodlad & McMannon, 1997, p. 43). If such a goal is necessary today in the United States, it is even more necessary in the developing world, where new social and economic paradigms are needed. Just how a teacher "teaches flexibility" without educational materials is the question.

Teachers are also charged with the duty of educating future generations for the good of the nation and the world. In the Philippines, for example, Elevazo and Elevazo (1995) state that the "underlying philosophy of Philippine education is development-oriented" (p. 119). Teachers work hard, often without needed information resources, to educate children and young people so that they can contribute to their country's development.

It is within this setting that the educator in a developing country often faces the dilemma of ignoring intellectual property rights (copyright law) and providing necessary materials to the students through whatever means is available or upholding the law and thereby depriving children or young people of needed information. Each educator must, sooner or later, face the question: How do we achieve the critical balance "between protecting copyright and ensuring adequate access to knowledge or knowledge-based products?" (IPRC, 2002, p. 96).

The Seventh-day Adventist Christian educator sees education as being redemptive and seeks to instill moral principles, such as honesty and concern for others (White, 1952). Upholding Paul's admonition to be submissive and obedient to rulers and authorities (Titus 3:1, Revised Standard Version) places the Christian educator in another dilemma: how can we teach children and young people the value of honesty and adherence to government laws, while ensuring that they have adequate access to needed resources?

As if these were not serious enough concerns, the educator also faces the issue of how to support intellectual creativity and growth within the developing country. This may seem to be an issue for governments and economic experts. But the economic growth of any nation depends to a great extent upon the education of that country's youth (Guisan, 1997). Teaching students to think creatively is therefore one way of supporting economic growth. Elevazo and Elevazo (1995), speaking of a new educational paradigm for the Philippines that can help to transform the economy, state that students will have to be trained to "think critically, creatively and innovatively" (p. 5).

Educators can support intellectual creativity in another way. By supporting the economic viability of the country's intellectual industries (authors, composers, inventors, publishers), they support intellectual creativity. Teaching youth to be creative thinkers is not enough. If the intellectual industries to which students could contribute in later life are left to collapse, they will not be able to make a living from their intellectual or creative pursuits in adult life.

Conclusion

So what is the educator to do? The author would like to suggest that educators can make a difference in the following ways:

Support Intellectual Creativity in Whatever Way Possible

Idris (n.d., p. 3) contends that the concept of intellectual property supports and stimulates creative activity, which stimulates economic growth. If this is true, then it follows that, as developing nations produce greater amounts of meaningful, vibrant intellectual property of their own, they will be able to compete on a more equal footing in the global economy. Costa (1997) emphasizes that the workplace of the future will increasingly demand people who possess a wide variety of cognitive skills, including the disposition of searching continuously for more creative solutions. Teachers can support this development initiative in at least two substantial ways:

1. Teach creative and critical thinking. Ornstein and Horenstein (1999) believe that schools can be, though often are not, a catalyst for teaching students to think creatively. In line with Ornstein and Horenstein's assumption, it is my belief that schools can teach

children to reason from cause to effect, to weigh the alternatives and develop solutions, to design and create their own solutions to problems rather than simply relying on what other experts have previously said. This requires a new mindset when a teacher designs classroom activities. Rather than using worksheets that already have correct answer sheets, independent projects that use scientific analysis may be substituted. Hands-on experimentation, trial-and-error problem solving where there may not be one good answer, and trying whenever possible to relate theory to practical life are some ways in which teachers can deliberately shift methodology. This type of teaching may produce generations of students who are prepared to think for themselves and to create for themselves.

2. Create educational materials. Teachers, themselves, can create educational materials. Teachers, united together in a school, district or conference, can work together to create attractive, locally-appropriate materials. Locally produced books are likely to be cheaper than imported books from Europe or North America, and are far more likely to be appropriate in content, illustration, and emphasis (Montagnes, 1999).

In some areas of the developing world, it is no longer hard to find computer schools that teach the skills necessary for producing educational materials such as word processing and photo editing. Collectively investing in software and computer equipment would reduce the cost of both. By pooling talent and technology, teachers can work together to create supplementary materials for the classroom, such as lesson helps, classroom activity sheets, even textbooks. Using local printing houses can keep the costs down. Such activity will limit the amount of photocopying one needs to do for classroom support.

Addressing the issue of educational publishing in the Philippines, Elevazo and Elevazo (1995) state that: "Production of books is low-priority in higher education.... It has been so much easier to import western books.... The Philippines must add to humanity's fund of knowledge instead of merely drawing from it for its intellectual sustenance" (pp. 112-113). As teachers and educators in the developing world begin to produce their own materials, they will, by default, increase the intellectual property wealth of their nations.

Support the Publishing Industry and the Educational Aims of the Country

Whenever possible, teachers should make concerted efforts to purchase locally-produced educational products. If quality products are not available, then as mentioned above, teachers can create and publish materials of their own, using local publishers.

Another way of supporting the national publishing industry is to feature local authors. Selecting local literature for students to read, encouraging them to study about the local authors, even inviting local authors to visit the school, are often more easily accomplished than most would think.

Becoming involved in the educational debate going on within the country is another excellent way of supporting local academic publishing. Joining advocacy groups, attending government-held seminars related to national educational aims, and rubbing shoulders with those who hold the decision-making power is one good way to support a vibrant and growing educational system.

Contributing to local educational research is another way to promote a good-quality, local education system. The academic world is in need of educational research from the developing nation's perspective. Local educators can fill this deficit in a way that a researcher sent from a developed country never could. Good quality educational research by local authors is one important way in which educators can support growth and development within their own sector.

Teach IPR Whenever and Wherever Appropriate

One of the greatest needs of developing countries is for strong and informed representation at international legislatures where intellectual property is debated and where laws are made (IPRC, 2002). Developing countries need to educate their populations regarding intellectual property. Even at the elementary level, the basic concepts can be taught. Thus, the foundation will be laid for more in-depth study at higher levels. Such education can lead to the preparation of experts who can work on behalf of the developing world in the international arena.

In addition to teaching the concepts and theory of intellectual property, schools bear the responsibility to teach intellectual honesty through action. If teachers and schools ignore national and international copyright laws, through their actions they are teaching children that the laws do not matter. They are teaching children that it is acceptable to take whatever you need regardless of how it affects the author, the publisher or the national information industry.

Teaching children about fair use will go a long way towards educating the population.

Be Proactive

Choose to proactively work with vendors, government and nongovernment organizations to supply information to students without jeopardizing the creativity of the nation. Trying to obey copyright and intellectual property laws is not easy and can often be frustrating and time consuming. Yet, each small victory gained on an individual basis is a victory for creativity and freedom of information on a larger level. The large information gap between rich and poor countries is a fact and not under debate (IPRC, 2002). It is, therefore, in everyone's best interests to persuade government and industry of the need for quality, reasonably-priced information products. One way to do this is to show these entities that it is in their best interest to produce such products. If companies see that educators and students are willing to invest a reasonable amount of money in quality information products, they will have more incentive to produce cheaper options for the developing areas of the world. By their actions, consumers often tell publishers that they prefer to illegally copy the product, no matter how reasonable the purchase price may be. As long as this trend continues, publishers have no incentive to seek viable solutions to the inequitable flow of information.

It is, therefore, appropriate for teachers, schools, and educational districts to try every legal means possible to work with authors, publishers, distributors, and government agencies in order to find ways in which information products can be more equitably supplied. It is never easy, but there are ways in which individuals can work towards this goal. Approaching publishers for slightly-damaged copies or discounted bulk orders of books is one way. Another is to approach governments or publishers to establish developing-nation price scales or even special editions printed on cheaper paper. Yet, another way is to approach the copyright owner for permission to copy for a particular class. Approaching authors directly to see if they would be willing to produce books at lower costs is another avenue. Joining together as a group of concerned parents, teachers, or educational institutions can help to lobby governments to support educational publishing through subsidies, freer trade agreements, or better law enforcement. In these and other ways, educators can help to promote more equitable dissemination of educational materials around the world.

Even if these initiatives seem too difficult for most teachers, there are some day-to-day practices that, if changed, would help.

1. Purchasing enough textbooks for all the children, keeping them in the school and reusing them for a few years is an economical way to provide textbooks. If, for example, the textbook can be used for four years, the school can charge each year's batch of students a quarter of the price thus making it more affordable for all.

2. If that is not possible, the school can purchase fewer copies and place them on reserve in the library, where students can gain access.

3. Yet another option is to move away from textbooks and provide alternative resources. Expecting students to read more widely would enable teachers to photocopy smaller portions of a number of books, this keeping within fair use boundaries.

Whatever methods educators choose to use, there is plenty of scope for helping to narrow the knowledge gap while working within intellectual property and copyright laws. By choosing to explore these avenues, teachers and students will be helping to create a more equitable society where information can flow more freely.

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