Lawrence Kohlberg (1927-1987) is known primarily for his work in educational and developmental psychology. Immersed in the traditions of Kant and the categorical imperative, as well as Piaget and the theory of justice development, Kohlberg shunned any moral authority of detached rules and instead venerated an internalized universal principle of justice (e.g., equality of human rights, reciprocity, and respect for the dignity of human beings as individuals). His research and constructivist theories relating to moral development have broad implications and applications, and his efforts to develop a bridge between the worlds of education, philosophy, psychology, and sociology incorporating concepts of moral development are of primary significance to this article. All these will be detailed later.

For our immediate considerations, it is essential to note several other facts pertaining to Kohlberg and his theory. First, and foremost, Kohlberg had no regard for God or His Word. He was a secular humanist who totally discounted the power of God to change hearts and minds through the power of His Holy Spirit. Second, Kohlberg used situational ethics, engineered in sterile settings and removed from social context or interaction, to study reactions from selected respondents and thereby develop his theory. He contrived “moral dilemmas” that compelled test subjects to provide stark responses with a minimum of possible alternatives. Third, the vast majority of his respondents were young, Caucasian males tapped from the upper echelons of secular society. Kohlberg was a professor and researcher at Harvard University, and he was not loath to utilize his charges for research purposes.

Why then consider Kohlberg at all? I would like to suggest three reasons. First, the moral development theory developed by Kohlberg is accepted widely in the academic literature and the secular world as being insightful and powerful. This does not mean that we as confessional Lutherans have to accept it, believe it, espouse it, trust it, or have faith in it—that rightfully belongs to God and God alone. However, if we wish to interact with the world around us (not being of it, but being in it—John 17:6-19) and discuss issues of significance with those who do not yet know Christ (and I would argue morality and moral development are issues of significance to many unbelievers), it would not hurt us to be aware of this research. Second, and most important in my view, the passion of Kohlberg for growing comprehension, deepening understanding, and increasing awareness and concern for others can be applied to fruits of faith. He sought to apply his concept only to secular considerations. Through the power of God’s Word, we can take his worldly notions and apply them to eternal contemplation (Luke 16:1-9). The inspired writer to the Hebrews noted such a yearning for continued personal spiritual development (true moral development, correctly understood) almost two thousand years ago when he chastised the Hebrew Christians . . .

...[T]hough by this time you ought to be teachers, you need someone to teach you the elementary truths of God’s Word all over again. You need milk, not solid food! Anyone, who lives on milk, being still an infant, is not acquainted with the teaching about righteousness. But solid food is for the mature, who by constant use have trained themselves to distinguish good from evil. Therefore let us leave the elementary teachings about Christ and go on to maturity, not laying again the foundation of repentance from acts that lead to death, and of faith in God, instruction about baptisms, the laying on of hands, the resurrection of the dead, and eternal judgment. And God permitting, we will do so (Hebrews 5:12-6:3 NIV).

Finally, I propose a further consideration. Kohlberg rightly dismissed the lowest levels found in his theory of moral development as being externalized”— that is, not integrated and internalized into the lives of young people. These respondents could give pat answers to anticipated scenarios, but most lacked the understanding or confidence to give more meaningful responses in dilemmas. Suggestions were offered which indicated a superficial understanding of anticipated rewards or punishments on the personal level. The subjects often had some level of cognitive knowledge, but they lacked a deeply-held comprehension, an analytical ability, and an evaluative capacity that they could carry about with them and use in their everyday lives. They often felt comfortable
holding one set of values in one setting and another set of values in other settings, and his findings still trouble me in this regard. Kohlberg’s study, when examined through the power of God’s Word, can have a certain resonance.

The next section of this article briefly traces another social concern, the development and social integration of technology. A detailed description of Kohlberg’s theory and definitions of moral development follows this. Finally, I discuss the potential impact technology may have upon constructs of moral development—specifically, do increasing levels of social and technological integration impact moral development (continued personal spiritual growth)?

**Technology and Civilization**

At the gateway of this new millennium truly revolutionary advances in technology may seem somewhat conventional, even blasé. And yet, most assuredly, they are not. Stunning technological expansion has occurred within the recent past, and much, much more is advancing as this article is being written. There is so much lucent potential “out there” that many dedicated to social considerations and concerns have been crusading earnestly, some already for decades, to integrate within their repertoires these evolving electronic canons, computing capabilities, and magnified communications (Didsbury, 1984). Much effort and tremendous expense is devoted to becoming and remaining relevant, and perhaps appropriately so. Never in history have there been such opportunities for improved research and communication. Never in history have students of social analysis had such means to enliven their work, instantly, as they currently enjoy through these marvels of molecular constructions and extra-global connections (Masuda, 1980).

In contrast to this, the previous history of the development of technological tools and the subsequent contemplations of their use were, at best, rather more halting (White, 1962). In large part, save for key historic and geographic transition points, there were relatively few technological improvements to consider. Until only recently, from one historic developing point to its proceeding improvement and from one globally marked innovation to its wider distribution, such progressions actually have been quite sluggish. Technological enhancements often have been marked by frailty and isolation—and subsequent inertia frequently has taken years, even millennia, to overcome (Piel, 1972). Individuals and groups have had time to deliberate and consider the implementation and application of new technology. This default, this sense of pause, often unwittingly served a civic function. For good or ill, there was a certain luxury of time to discuss how best to use such innovations. People had occasion to evaluate what the implications of such technology might entail. Finally, there was an opportunity (once more, for good or for ill) in determining what, if anything, the “appropriate” or “ethical” or “moral” use of such technology might well be (White, 1962; Bohm, 1991).

For many world citizens, such contemplation has been removed; because technological advances are moving at such a pace, social awareness—much less social consideration—of new devices and applications seems virtually impossible. And as a result—note again the emphasis, for good or for ill—very small groups, even isolated individuals, recurrently have the ability and the power, now through technology, to impact significantly individual and global commerce, communication, entertainment, learning, and even safety (Ayres, 1994). Whether it be through active warfare or siege mentality, events as recent as Y2K and 9-11 demonstrate the unintended, unanticipated, and yet far-reaching impacts such formally mundane matters as financial accounts, transportation equipment, and communication systems can have upon individuals and societies. The proof of other ranges can be seen in individuals from the “Unabomber” to bin Laden to Bill Gates, in squads of hackers (or the government through its Carnivore program) invading the domains of others to teams of technicians restoring global communications, in singular devices intended to destroy nations to intertwined technical marvels conjured up for the healing of even one.

One consequence of this shift in perception and power and time is an increasingly displaced technology archipelago—scattered inversely-related realms, if you will—of disparately inclined and skilled individuals or small groups who often do not communicate with, or learn from, others who do not share their immediate Weltanschauung. As a result, a second consequence of this shift is the gap in what is considered “ethical” or “just” or “moral” in the use of such ever widening technological learning, sophistication, and application (Muller, 1970). A legitimate question in regard to the current technological explosion, and its uneven distribution and implementation, may be: Has technology developed ahead of society’s ability to utilize it—not just efficiently and effectively, but more importantly, ethically and morally?

Consider a piece by Jon Katz (page 53) in the 15 May 2000 issue of *Time*, whose cover that week highlighted the latest computer virus, at that time called the “Love Bug”, infecting the technological world. Katz opines:

> Who are creating these computer programs that disrupt the lives of millions of people?
around the world? Why are they doing this to us? ... David Smith was 31 when he pleaded guilty to distributing the Melissa virus. “Mafiaboy,” the Montreal youth charged with disabling CNN.com in February, is 15. … They are perhaps the first group to know so much more than the adults ostensibly responsible for them. But few people outside this culture understand very much about them—not their unnerved teachers, not the phobic journalists who write about them, not the politicians who prattle on. … There is a hostile streak in this new universe, whose mailing lists and chat rooms are filled with “flames,” insults and virulent confrontation. … They don’t quite grasp that the entities on the other end are human beings whose feelings can be hurt and whose personal and work lives can be disrupted . . .

An interesting continuation of this is to read the subsequent letters to the editor (5 June 2000, Time, page 22). Jim Hipolito writes, “Cyberhackers, like the creators of the Love Bug virus, have emerged as the No. 1 threat to world security.” Daniel Jenkins observes, “Why on earth do you encourage these ego-ridden virus hackers by giving them your cover? You have played right into their hands.” And Jose Goncero Jr. adds, “Upon hearing about the Love Bug virus, I said to myself, ‘What a jerk that hacker must be.’ But to my surprise, my perspective changed when I learned that the creators of the virus were Filipino—it gave any Filipinos like me a morale boost . . .” To be noticed, and to be noticed as being skillful, even if it involves a deftness that only afflicts others, apparently is crucial. And few fields of battle so available themselves of such immediate visibility as those inherent in technological domains.

Because of the rapid development and irregular distribution patterns of technology usage, there are associated learning gaps—not just in how to use the new device or application (although that also is evident) but in the ethics and the moral reasoning associated with learning and technology (Barrett, 1978). As evidenced by increasing instances of individuals and small groups who have sophisticated technological knowledge, but no accompanying awareness of personal responsibility or social consideration (Postman, 1993), there is a need for constant, considered, and deliberate justice and moral instruction in connection with technology. It was not that the Nazis lacked medical doctors or engineers; they were deficient in moral connections to such technological abilities. The Taliban and the al Qaeda are not unfamiliar with technical applications. They just have had little or no real moral development. It is not that those who design and spread viruses, or hack into other systems, or use technology to destroy do not have cognitive prowess. Obviously, they do. The fact that they see fit to use their creative and instrumental skills as a scourge is the concern. To hurt others—whether for “fun” or for power or for hate or for profit—calls forth too many disconcerting images of a feudal society. Indeed, the current technological explosion seems to have forged a new type of feudalism—replete with unquestioned authorities, ambitious and deceitful vassals, knights for hire, slovenly rogues, ostentatious pageantry, assorted plagues, and a largely illiterate and highly vulnerable peasantry. What seems certain is that moral reasoning is not now, nor has it been, given the concomitant priority that is afforded technological advancement (Brickman and Lehrer, 1966). Moral development is not keeping pace with electronic innovation (Casserley, 1967).

This article has referenced sundry sources throughout the last several decades to note that this debate concerning technology within society, and the angst accompanying its usage, is neither novel nor unique. Social analysts long have noted such causal tensions, and several even have predicted, under diverse scenarios, the demise of Western civilization due to uncontrolled technological developments. In truth, a full range of negative social impacts—from minor irritants to horrific ecological disasters, from terrorist attacks to genocides—has been perpetuated through technological amelioration. But much that is positive also has come with technological advances. While some demonstrate for a Luddite alternative—replete with destruction of all existing technologies and a mass return to the soil, others seem to feel most comfortable with an unfettered free market approach; while some might prefer a laissez-faire governmental disposition, others call for strict governmental control involving constant supervision and instantaneous intervention. None of these extremes satisfy; surely there are alternatives. But first, one fact seems undeniable—too many societies have thrown off historic feudal masters (emperors, kings, dukes, war-lords, et al ad naseum) only to foster technological wizards who have no socially perceived concomitant legitimacy, yet retain every bit of the prior power and arrogance to grant largess or deny access, to kill or to heal.

Deliberative education would seem to be a solution in this quest for balancing technological advancement with freedom, economic implications, ethics, social justice, quality of life issues, and most importantly—true spiritual growth. Accordingly, this article will consider one theory of moral development and integrate it within technological deliberations.
Kohlberg and His Theory of Moral Development

Lawrence Kohlberg (1927-1987) is well known for his work in educational and developmental psychology (Kohlberg, 1984). Following in the work of Kant and the categorical imperative, as well as Piaget and his theory of justice development, Kohlberg spurned any moral authority of detached rules and emphasized an internalized universal principle of justice (e.g., reciprocity, equality of human rights, and respect for the dignity of human beings as individuals). While technologies per se (or God’s Word, for that matter) were not the foci of his explorations or of his theories, his considerations are applicable to the integration of learning and technology. Indeed, the foundations of many of his research questions to test subjects have at their core inferences relating to invention, remuneration for innovation, care for others, quality of life issues, and access—in short, many of the very issues surrounding the nexus between social and technological and moral deliberations.

Kohlberg insists that moral development, perhaps more accurately deemed “justice reasoning”, is based principally upon one factor. More than parental power; more than family income; more than peer influence; more than concepts of class, gender, heritage, race, or religious affiliation; moral development, according to Kohlberg, is founded upon the cognitive considerations that develop through personal experiences in social interactions (Kohlberg, 1984).

Basic moral norms and principles are structures arising through experiences of social interaction rather than through the internalization of rules that exist as external structures; moral stages are not defined by internalized rules but by structures of interaction between self and others (Kohlberg, pages 196-197).

Kohlberg’s research, examining the responses given to open-ended scenarios which presented respondents with moral dilemmas, demonstrates that cognitive moral reasoning marks the thought processes of people as they are confronted with difficult choices.

To illustrate, the following is an abbreviated scenario presented to individuals . . .

A man dearly loves his wife. She becomes ill to the point of death. Doctors have no cure but have heard that a researcher, living in the same town as the man and his dying wife, might have discovered a possible cure. The cure is expensive to make, and on top of that the researcher charges many times his costs because he worked so hard and long to discover it. The man can not pay that amount. He can not receive a full loan. The researcher refuses to allow him to receive the cure by letting him pay for it later. What should the man do?

The scenario is developed intentionally so that a moral dilemma is presented. The emphasis actually is not on which action to take, if any, but on analysis. He notes how people relate self to the expectations of society and in the patterns of their answers. Kohlberg (1984), observing that people have less or more ability to take varying perspectives, posits that moral Structures rise out of the interactions between need for acceptance, competence, and self-esteem, and universally familiar sources of social interaction, role-taking, and social conflict. Given the responses to this, and similar quandaries, Kohlberg distinguishes three levels of moral development, each of which is further delineated by two stages.

The first, and lowest, level is Preconventional Reasoning. At this level individuals have very constricted views of themselves, of society, and of morality, and typically they take only their perspective into account.

At the first stage of this level, punishment and obedience, very young children (however, some adults) live much like peasants in that they are under rules and conditions they have had no role in developing. Personalized rewards or punishments determine whether or not rules will be obeyed. Rules have no internalized value other than as indicators of what will bring pleasure or what will bring pain. As such, motives and actions are governed by anticipated consequences—and I believe schools and technological instructions stress this moral stage far too often.

Stage One – Punishment and Obedience

What we call “morals” is simply blind obedience to words of command.

Havelock Ellis, The Dance of Life, Chapter 6, 1923

At the second stage of this level, self-gratification, egotistic behavior and strong individualism are characteristic. This stage is marked by willful, and particular, self-interests that indicate these “lords and ladies of the manor” have learned how to manipulate others to get what they want. At this stage, individuals display strong egotistic behaviors. Selfish, even defiant, attitudes lacking honest concern for others are all too obvious. Furthermore, those at this stage have learned alternate techniques to obtain
what they so strongly desire. Unfortunately, these newfound skills often involve manipulation, intimidation, deviousness, and other less-than-socially-(spiritually)-desirable attributes. Connected with technological applications, many virus creators and system hackers seem to demonstrate this level of cognitive moral development.

Stage Two – Self-Gratification

_We have always known that heedless self-interest was bad morals;_

_We now know that it is bad economics._

Franklin Delano Roosevelt, Second Inaugural Address, 20 January 1937

There are no chronological limits here, but a range of about three to ten years old appears to be typical for moral reasoning at this first level. However, many adults still live this way.

The second level, Conventional Reasoning, shows moral reasoning is developing, internalization of moral concepts is progressing, and a sense of care about others is formulating. This level illustrates a shift in perspective, moving from self to group. The succeeding two stages of this level follow.

Stage three, approval of others, is marked by attempts to please peers or those in positions of power to gain favor. Such interpersonal norms result in the individual displaying values of fidelity and loyalty in order to be seen as “worthy.” A stronger sense of understanding the purpose of expectations is evident.

Stage Three – Approval of Others

_I have to live for others and not for myself;_

_THAT'S MIDDLE CLASS MORALITY._

George Bernard Shaw, _Pygmalion, Act V_, 1912

Powerful anticipation of social system morality marks the fourth stage, law and order. This stage is exhibited by decision making, social roles, and personal judgments built upon the understanding of what is considered "normal" in society and the obligation of fulfilling those expectations. This conventional stage of moral reasoning is based upon the perceived norms of society, and one’s closest collection of peers may be large enough to fulfill the definition of “society.” Decision-making clearly is more evident; however, such personal judgments are driven by the morality of doing what is considered “normal” in one’s collective conscience. Grievances are resolved through means seen as acceptable, even noble, and groups are capable of quickly developing their own norms for moral reasoning, fully apart from the larger social context within which they are placed. If peers are abusive, a member of such a society may well rationalize that similar molestation is a “law and order” means of resolving conflict.

Stage Four – Law and Order

_Those who would treat politics and morality apart_

_WILL NEVER UNDERSTAND THE ONE OR THE OTHER._

John, Viscount Morley of Blackburn, _Rousseau_, 1876

Again, no age limits are absolute, but individuals from about age twelve and through the teenage years regularly display these second level attributes—and for all too many, moral development stops here, according to Kohlberg.

The third, and highest, level is Postconventional Reasoning. Occasionally achieved during the early years of adulthood, individuals at this level have “morality”—that is, according to Kohlberg, an expanded and altruistic sense of justice more completely internalized and more often based upon their own heart-felt and conscientious standards rather than those imposed by others. Again a shift in perception is recognized. Beyond self, even beyond group, a wider social perspective becomes apparent. Humane characteristics such as integrity, concern for others, compassion for those who are hurting, and mutual respect guide a person’s life.

The fifth stage, social contract, is marked by personal applications of beliefs and values independent of what society has established. Respect for what others think is evident, even when such opinions differ, but there is a comprehension that some values are relative and vary from one person to another, and that ideals, such as liberty or freedom, are more significant than civic laws because such communal decrees can be, and often are, changed.

Stage Five – Social Contract

_WHERE IS THE MAN WHO OWE NOTHING TO THE LAND IN WHICH HE LIVES?_

_WHATEVER THAT LAND MAY BE, HE OWES TO IT THE MOST PRECIOUS THING_

_POSSESSED BY MAN, THE MORALITY OF HIS ACTIONS AND THE LOVE OF VIRTUE._

Jean Jacques Rousseau, _Émile, V_, 1762
The sixth, and final, stage—universal and ethical principles—entails an effort to weigh varying perspectives and still seeks to preserve justice. “The Moral Point of View” (Kohlberg, 1969) develops into a worldview. Skills in regard to application, critiquing, and evaluation emerge. This stage is characterized by a willingness to do what is deemed ethical, just, and moral—even if common law or conditioned behavior is in opposition and the risk of negative repercussion is very real. This highest stage, which according to Kohlberg the vast majority of people never attain, is based upon the concept of universal human rights. Conflicts between decrees that do harm and an altruistic conscience will result in the conscience being honored.

Stage Six – Universal and Ethical Principles

True eloquence takes no heed of eloquence,
True morality takes no heed of morality.

Blaise Pascal, Pensées, Number 4, 1670

Kohlberg asserts these levels advance over a lifetime of experiences and not all people undergo the same moral stages at the same times in their lives. Most individuals never arrive at the higher levels of moral development because moral reasoning matures only as wisdom and social interactions positively advance. It is for this reason that concern for others—as noted in elements of the social contract and universal, ethical principles—is such a critical element in moral development.

Implications

Do increasing levels of social and technological integration impact moral development? I propose this can be examined through two questions: 1) Do modern applications of technology encourage or discourage universal, ethical principles—what Kohlberg refers to as “the moral point of view”? and 2) Does the mere practice of human-machine interface negatively impact the learning process of individuals and society so as to negatively impact this most critical endeavor?

Let us consider the first point—Do modern applications of technology encourage or discourage “the moral point of view”? In order to examine this question, one would have to examine primary uses of technology by children and adolescents. For our purposes, two typical sources of information regarding the use of technology by youngsters will be noted. The first is recreational (video game rentals and sales) and the second is educational (technology standards).

Recreational Technology

Lest we assume video game rentals and sales are inconsequential, examine some recent statistics. In 1998, 69 percent of American families either owned or rented electronic games; in 1999 alone the video game industry sold more than $20 billion worth of merchandise (Walsh, 2001). This is huge business, and this technology is targeted to young people. One primary source for information regarding video game rentals and sales is Electronic Gaming Monthly (EGM)—this may be found on the Internet<www.videogames.com>). This magazine contains reviews of current and soon-to-be-released games, letters to the editor, selections for different systems, leading sales and rental figures, and an array of advertisements from the electronic game industry and other corporate interests targeting the adolescent market. Two issues from over the last five years have been selected at random for review—April, 1998 (Issue 105, Number 11.4) and August, 2000 (Issue 133, Number 13.8).

In Issue 105, all letters to the editor were included under sections entitled: Looking for Gals, Ass Grabbin’, Differentiating Between 2-D and 3-D, EGM: Evil Gross Magazine, Desperate, EGM: Fair To All Sexes, PaRappa Sucks, “10”, and Here’s A Story. General themes were depictions of women (included were two mothers who wrote in using terms such as “offensive”, “gross”, and “explicit”), hiring women writers (“[if] you can write good … um, I mean well, kick ass in video games and work erratic hours …”), disagreement on the selection of a mascot, getting letters printed, and comments on games.

Advertisements emphasized color, youth, and action. Sample selections included pictures and illustrations of cars, jets, guns, athletes, musicians, women, and monsters. Slogans, among others, stated: “We’re recruiting a band of renegades, fugitives and rebels to rid the world of terrorism”, “If you’re gonna eat, burp and puke, it’s just more fun to do it together”, “Save yourself”, and “More fun than shooting your neighbor’s cat”.

The top five referrals from the editors, for Playstation systems, were: 1) Resident Evil, 2) Geo: Enter the Gecko, 3) Point Blank, 4) Tactics Ogre, and 5) Final Fantasy Tactics. All were sensory stimulating, with colorful graphics, rapid action, and corresponding sound effects. Tactical missions were typical, and all involved elements of identifying a target, pursuit, and violence. For example, an advertisement for the game Point Blank, in its own words (page 51), promoted itself as follows . . .
Bang! Meow! Bang! Meow! Come on already. It’s time you moved up the food chain and take aim at something that sounds better when it explodes. And you can when your grab your gun, included free with Point Blank, the newest arcade shooting sensation from Namco that’ll have you firing till your fingers fall off. Get trigger happy at your next party....

There were some noticeable changes in the second selected edition. In Issue 133, letters to the editor had the following titles: Glue-sniffing, Slack-jawed, Mouth-breathers; Barrel of Drunken Monkies; Insane in the Game; Clerk Forecasts His Own Death; and Gaming: It’s Not Just for Grrrls. The perception of young females was again a topic of interest and debate, particularly in their ability to compete in such games. Observations about prior editorial evaluations and major electronic game companies made up the remaining letters.

Advertisements still emphasized color, youth, and action; however, more clothing ads and several anti-smoking messages were present. Representative slogans included: “Duke Nukem: Planet of the Babes”, “Want a brawl? Make it double”, and “I will not mate outside my species”.

The five best-selling games (using figures from April, 2000) were: 1) Pokémon Trading Card, 2) Pokémon Stadium, 3) Pokémon Yellow, 4) WWF Smackdown, and 5) Tony Hawk’s Pro Skater. This is interesting. Pokémon, having the top three financial entries (also placing with numbers 8, 9, and 17), has made a huge impact in the United States. Developed by Japanese interests, the brand name is short for “pocket-monster”. The object of the game is to pursue and capture numerous “monsters”—actually cartoon creatures of comparatively very tame natures—until the player has gathered them all. The intended audience appears to be elementary-aged boys and girls—an important distinction in that boys alone, as so often seems to be the case, do not look to be the sole targeted market. The remaining games, WWF Smackdown and Tony Hawk’s Pro Skater, offer violent pro-wrestling characters and contests and skate boarding agility moves, respectively, and boys very much seem to be the intended market audience of both.

Several popular, albeit very juvenile, games that involve cooperation and consonance are evident. However, these are the decided minority. Throughout the vast majority of game offerings, concepts of morality rarely are acknowledged—except in some siren’s call to join the foray, to fight a foe (often either monstrous or vaguely faceless), and to gain the respect of self and peers through accomplishments in battle.

Opportunities to role-play in these martial efforts predominate, and occasions to be anonymous, fast, brutal, colorful, muscular, devious, impetuous, and crude are prototypical.

Social observers view this phenomenon from conflicting perspectives. University of Canterbury (New Zealand) sociologist and leisure specialist Camilla Obel “dismisses the supposed link between violent games and real-life aggression as a ‘typical American far-fetched reaction’” (Moffat, 8 August 2000). In this same newspaper interview, Obel notes...

Preconceived ideas held by the researchers have the potential to prejudice the final result (of studies linking violent video games to violent behaviors). It’s like a moral panic reaction to new things. It happened with rock’n’roll and now it’s happening with these new games. It’s easy to sit back and say they (certain electronic games) look violent, but it’s like a real art to them (the young players).

Conversely, researchers such as Kidder (2000) note a definitive moral dearth in too many technological applications and implementations, including recreational uses such as those noted above. This leader in the character education movement notes that incidents such as Chernobyl and oil tanker disasters, school shootings, hackers breaking into systems, and the continual creation of computer viruses illustrate the impacts that the lack of justice reasoning—combined with a nonchalance for technological applications—can create. Kidder does not see these as secluded scruffs with local impacts. Increasingly, these are becoming common incidents having global implications, and Kidder (among others) sees deliberate, specific education emphasizing justice reasoning and moral development within technological applications as a necessary means of addressing such concerns.

In recent and related research, four national health associations directly link violence in video games (also in television, music, and movies) to increasingly violent attitudes and actions among children. In a statement released through the Associated Press, these “... effects are measurable and long-lasting. Moreover, prolonged viewing of media violence can lead to emotional desensitization toward violence in real life” (Holland, 8 August 2000).

The four associations involved – the American Medical Association, the American Academy of Pediatrics, the American Psychological Association, and the American Academy of Child and Adolescent Psychiatry – note that “[t]he conclusion of the public health community,
Kohlberg and Computers

based on over 30 years of research, is that viewing entertainment violence can lead to increases in aggressive attitudes, values and behaviors, particularly in children” (Holland, 8 August 2000).

Three findings appear most significant . . .

1) Children who see a lot of violence are more likely to view violence as an effective way of settling conflicts. Children exposed to violence are more likely to assume that acts of violence are acceptable behavior;

2) Viewing violence can lead to emotional desensitization toward violence in real life. It can decrease the likelihood that one will take action on behalf of a victim when violence occurs; and

3) Viewing violence may lead to real life violence. Children exposed to violent programming at a young age have a higher tendency for violent and aggressive behavior later in life than children who are not so exposed (Holland, 8 August 2000).

Violence, as confirmed by Katz (2000), includes malicious intent within technological applications. Continually fighting imaginary foes, intentionally spreading viruses, or vandalizing distant systems, among other such excursions, are violent and aggressive behaviors that emerge from erstwhile creative, but disenfranchised, souls. Moral reasoning, justice reasoning, and moral development are absent, or, at best, bound fast in the lowest and dankest levels of moral development.

Educational Technology

Youth and adolescent encounters with technology also can be seen in academic and technology standards. However, curricular areas that otherwise might be associated with moral reasoning—for example, literature or philosophy or the social sciences—routinely incorporate poorly defined and hard to measure concepts (e.g., ethics, justice, virtue) that rarely refer to or apply technology, and while certain academic standards specifically emphasize technology as a construct, such considerations recurrently revolve around mechanical skills only. Linkages to justice reasoning or to moral development are vague at best, and when they are present, all too often these performance standards emphasize the lowest level of moral reasoning—obedience or punishment. Consider one nationwide set of standards for technological literacy, Tek.Xam, <http://www.tekxam.com/objectives>. Developed by the Virginia Foundation for Independent Colleges, the (unedited) test objectives for this effort <http://www.tekxam.com/objectives> are . . .

The Tek.Xam seeks to identify student ability in the following areas:

A. Understanding the Operation of Technology

- Computer hardware capability, design purpose and interrelation among peripherals
- Computer software capability
- Computer network concepts and terms (including Internet)
- Operating system concepts and terms
- Legal and Ethical issues in the technology field

B. Using Technology to Retrieve, Interpret and Present Information

- Word Processing, Spreadsheets, Presentation software, and web design
- Searches using electronic resources
- Assessing the usefulness and accuracy of information
- Internet concepts and terms
- Efficient utilization of technological tools
- Problem solving in a work environment

Behavioral and mechanical skills predominate, but so do market interests. The only objective relating to justice reasoning and moral development in alliance with technological prowess is the last objective under Section A. Understanding the Operation of Technology. Apart from the vague mention of “ethical” issues, primary considerations herein revolve around legal definitions and statutory consequences pertaining to intellectual property rights. Indeed, corporate and market place compensations seem to be the only ethical benefits this set of standards envisions. Not one moral consideration is listed among the anticipated benefits of this effort; instead, free market, employment, fiscal,
tertiary, and corporate interests prevail

**Human v Electronic Interface**

Let us now consider the second question of this section in the paper. Does the mere practice of a human-machine interface hurt the learning process of individuals, and thereby society, so as to negatively impact this most critical endeavor? Among others, David Walsh, founder of the National Institute on Media and the Family <www.mediafamily.org> suggests that caution is warranted (Walsh, 2001).

There is a crucial element of the educational process that technology alone can not replace and that is humane, social interaction. While technological integration clearly can assist in mechanical endeavors (gotta love that Spell-Check!), there appears to be no substitute for person-to-person communication, encouragement, and yes, especially love. Whether the subject matter involves reading (Walsh, 2001) or social studies (New Zealand, 1997), personal values (Casserly, 1967) or social culture (Postman, 1993), the essential component seems to be human contact. Such engagements foster healthy growth, confidence, respect, and trust (Muller, 1970).

Tragically, precisely this seems to be a decreasing element in the most crucial environment for the learning process—the home. Examine just one subject area, reading, for analysis. According to Walsh (2001), reading is not just essential for communication, but also for imagination, organization, critical thinking, and what Walsh refers to as *inner speech*, “. . . the ability to have a conversation with yourself” (page 225). Note his rationale . . .

Inner speech engages critical thinking, allows you to weigh options, consider outcomes, and make decisions based on reasoning (refer back to Kohlberg). In effect, inner speech helps you to control your impulses: to think before you act. Kids who get into trouble at school for misbehavior are a good example of how impulses work. These kids usually don’t premeditate the actions that get them into trouble; they have a problem controlling impulses. Critical thinking doesn’t figure in: Inner speech, which would allow them to consider consequences, doesn’t happen. Parents and teachers have been saying the same thing to children in these situations for thousands of years:

“Think about what you are doing.”

Because reading orients us to language, I believe it plays an important part in developing this capability of inner speech. The more I meet with educators, the more I realize I’m not the only one who sees this link. Teachers tell me that the kids who behave most impulsively at school are often poor readers and writers.

As Walsh (2001) goes on to emphasize, the inappropriate use of technology (especially in regard to violent video games) actually can encourage youth to act impulsively, and the age-old verbal inducement to “Think about what you are doing” can become all the more lost in the distant background of other, most likely more colorful and animated, messages. Too many homes use such technology as a “baby-sitter” that provides unsupervised and unremitting exposure to technological interfaces that do not encourage reflection and what Walsh refers to as the inner voice, but rather facilitates and rewards destructive, reflexive reactions. And children are entranced by such interactions—just watch them, which may be one reason why even Christian parents bring such technologies into their homes. It keeps them quiet and occupied, and there can be none who are as guilty as I in this arena. Too many children instantly can have aggressive exposures to lessons that expand and reinforce what even a secular humanist such as Kohlberg would recognize as only the lowest level of moral development.

**Conclusion**

Never in the history of social interaction have there been such opportunities to acquire and integrate technological marvels as there are at present. Future developments seem to offer even greater pledge, and this has the potential to be a social boon. However, we are not the first to note such “progress”:

*For out of olde foldes, as men seyth,*

*Cometh al this newe corn fro yer to yer;*

*And out of olde bokes, in good feyth,*

*Cometh al this newe science that men lere.*

Chaucer, *The Parliament of Fowls*, l. 22, 1380-1386

Nevertheless, the development of technology—and that includes its usage—is not mere acumen with a new tool or with a new toy. This process, of necessity, is a pilgrimage that entails much more. Kidder (2000) is correct, “Today’s students need serious, focused
preparation to face our collective moral future.” Absolute censorship is probably no solution. “Forbidden fruit” carries its own appeal to our sinful flesh. Concerted, constant deliberate instruction on moral awareness (personal spiritual growth) is essential.

An ancient truth notes that, “Of making many books, there is no end, and much study wearies the body” (Ecclesiastes 12:12b). To paraphrase that inspired observation, “Of making many new technologies, there is no end.” All well and good. However, each new technological development and application ought oblige its owners and users to pursue concomitant justice reasoning and moral development (personal spiritual growth). When used properly, it may even be possible to use technology as a tool for enhancing justice reasoning and moral development. When used improperly, technology only encourages and reinforces impulsive, self-centered world views (sin).

Within and throughout this process, technological dexterity has significance. It can have value, and often it has the added benefit of being fun. However, within this endeavor, moral development (personal spiritual growth) is nothing less than an imperative for temporal and eternal considerations.

Selected References


Comments and reactions to this article can be addressed to Dr. Freese via the editor.