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Learning From Each Other: Creativity in East Asian and American Education

Kyung Hee Kim
Eastern Michigan University

ABSTRACT: Educational systems grow from cultural expectations and ideologies. Eastern and Western educational systems are as vastly different as the cultures they spring from and are reflective of the strengths and weaknesses of those cultures. First, strengths and limitations of East Asian education are discussed. Second, strengths and limitations of American education are discussed. Finally, some suggestions to both educations are posed. All educational systems can improve. A look at the 2 contrasting systems along with the intended and unintended consequences of cultural ideals as expressed through the educational systems can bring greater insight into the successes and limitations of each system and culture.

The differences between education in Asian countries and the United States are striking, but each approach has benefits from which the other could learn. Although the lack of enthusiasm about education shown in the West is disheartening, the abundance of creativity that is fostered is to be admired. In contrast, East Asian countries often sacrifice creativity due to the amount of memory work and repetition that is expected. Studying the schools of other nations is a powerful tool for discovering strengths and weaknesses in one's own educational system (Wollam, 1992). By learning more about similarities and differences between cultures, educational stakeholders will be better prepared to deal with an increasingly diverse classroom (Yook & Albert, 1998).

This article explores the differences of the two cultures' educational systems with a focus on the impact on students' creativity. First, there is a general discussion of educational issues, focusing on East Asian education. Strengths of Asian education are accentuated by similar areas of weakness in American education. A discussion of Eastern Asia's struggles with creativity follows the educational and cultural background information. After discussing the limitations, there is an exploration of America's success in incorporating creativity into its educational system. The article ends with a discussion of the ways each culture is trying to learn from the other and implications of such transactions.

East Asian Education

Strengths of East Asian Education

Relative levels of importance of education. East Asian countries are known for the high value they place on quality education. This high regard for education, due to Confucianism, which is the foundation for their cultural values and which highly emphasizes education, has contributed to the economic growth of East Asian societies (Morris, 1996). Virtues attributed to the economic growth of the East Asian Five Dragons (i.e., Hong Kong, Japan, Singapore, Korea, and Taiwan; Hahm, 2003) are skill acquisition, hard work, patience, perseverance, and education (Chen & Chung, 1994). In East Asia parents and communities maintain an extremely high regard for education creating positive expectations for student learning as opposed to the United States where societal support is often lacking (Henderson, Marx, & Kim, 1999; Hirschman & Wong, 1986; Park & Kim, 1999).

Correspondence and requests for reprints should be sent to Kyung Hee Kim, Eastern Michigan University, Department of Teacher Education, Ypsilanti, MI 48197. E-mail: kkim@emich.edu or kyungheekim556@hotmail.com

Americans were once the best educated populace in the world with the highest percentage of citizens obtaining a high school diploma. Unfortunately, the United States currently has a poor education ethic (Thomson, 1989). Former President Bill Clinton may have been correct when he said that he did not believe the United States would be the leading economy in the world in 50 years unless its students could graduate high school with excellent world-class educations (Haynes & Chalker, 1998). In the United States, too many students reject educational opportunities to enter the workplace prematurely causing a very high dropout rate. Furthermore, more than 30% of the prison population is composed of high school dropouts. This is a costly trend, as American taxpayers spend more money feeding and housing one prisoner than on successfully educating a prospective tax-paying citizen (Hodgkinson, 1991).

East Asian countries avoid this expense by having a strong education ethic that encourages students to work very hard and succeed in school (Haynes & Chalker, 1997). Even within the United States, Asian American students are overrepresented in gifted programs (Gallagher, 1997), and their college enrollment rate was higher than that of non-Asians in 1980 (U.S. Bureau of the Census, 1984, cited in Hirschman & Wong, 1986). On the eight University of California campuses, the Asian undergraduate enrollment is growing faster than any other ethnic group (Van Slambrouck, 1999), although one must be careful about generalizing all Asian Americans.

Funding for schools. The relative importance of education is reflected in the funding of schools. The United States is a wealthy and technologically advanced country, and it has the economic and political power to exercise influence throughout the globe. Although the United States possesses the resources to propel its schools to the highest level, its educational system is not superior to other countries (Haynes & Chalker, 1997, 1998; Thomson, 1989; Yao & Kierstead, 1984). Funding for educational programs in U.S. public schools is minuscule compared with East Asia. The Korean government spends a higher percentage of its gross domestic product on education than any other country in the world (Trotter, 2003).

There is also a noticeable difference in the use of funds. Much of what money is spent on education in the United States, which is considered average on a worldwide scale, is siphoned away to pay for ancillary expenses like transportation, lunches, and custodians; leaving relatively little money for books, materials, and teachers, which are the primary reasons for the existence of schools (Haynes & Chalker, 1997, 1998). In contrast, East Asian students walk or use public transportation, students clean the schools, and mothers voluntarily staff school cafeterias. Thus, they can spend more money on classroom instruction (Haynes & Chalker, 1997, 1998).

Family support. In East Asia, informed parental involvement in schoolwork is a major contributor to school success. Among most Koreans, families completely support academic achievement, whereas support varies among American families (Wollam, 1992). A perceptual contrast is evident between the two cultures. When a problem arises at school, American parents are inclined to question the effectiveness of the school or the teacher in maintaining control of the classroom. Conversely, East Asian parents will ally with the teacher in placing the responsibility with the child (Haynes & Chalker, 1997). American teachers consider parental indifference to be the most serious problem facing public schools (Thomson, 1989). Some teachers specifically mentioned parental attitudes as problematic, including a lack of support from parents about discipline issues as well as comments that parents do not help students understand the importance of planning for the future (Thomson, 1989).

The East Asian education ethic puts special emphasis on early childhood (Haynes & Chalker, 1997, 1998; Henderson et al., 1999). Historically, mothers have been intensely involved in their children's learning. Because children are still the center of their parents' interests and because society places such a high value on education, parents are willing to put almost all their resources toward their children's education including money, time, and energy. Parents prepare their preschool children to accept authority and work diligently (Haynes & Chalker, 1998).

Asian parents attend their children's school to observe their child's work habits (Haynes & Chalker, 1997). Teachers are ceded authority by parents to expect their children to put forth greater effort in school (Sorensen, 1994). They are also partners in motivating study practices. Parents engage students in learning and support their schools. Most East Asian students have desks at home, unlike many American students

(Henderson, 1990). Many U.S. parents resist the idea that students should do homework consistently, and many American teachers fail to give regular homework assignments (Haynes & Chalker, 1997). In contrast, it is common for East Asian parents to sit with children during a scheduled daily homework period (Henderson et al., 1999; Kim, 1993; Yao & Kierstead, 1984). As homework is a valuable learning-enhancement activity of those countries, the school gives the students inexpensive textbooks in which they can write and highlight. In contrast, most American textbooks are too big, heavy, and expensive for students to easily transport or mark in (Haynes & Chalker, 1998).

Korean students are motivated by social tradition (Park & Kim, 1999), so the motivation is extrinsic rather than intrinsic (Chong & Michael, 2000). This is critical because intrinsic motivation is conducive to creativity, whereas extrinsic motivation is detrimental (Torrance, 1962). The desire to succeed is endemic to that society, and they therefore require less motivation to study than do American students. Children also respond to their parents' personal sacrifice. They understand their parents' expectations of them and study hard to make good grades to avoid or alleviate a guilty conscience and to avoid disgracing their parents. How a child fares in school is not merely a matter of personal satisfaction but is also a reflection of family concern. Children understand that academic achievement is a determinant of their parents' happiness. The teacher is the master, the parent is a motivator and facilitator, and the student is a diligent learner (Haynes & Chalker, 1998).

Belief in effort. East Asian educational philosophy teaches that a strong work ethic and devotion to learning are ultimately more conducive to achievement than an inherently gifted mind. East Asian parents believe that good grades come from hard work, effort, diligence, endurance, perseverance, and persistence (Haynes & Chalker, 1998; Henderson, 1990; Park & Kim, 1999). East Asian students continue their studies after regular school hours by enrolling in a private "cram school," where elementary school students receive instruction in the arts and older students receive additional preparation for competitive college entrance exams (Haynes & Chalker, 1997). After completing homework, many eventually spend up to 16 hr a day on school-related work, including the school hours (Haynes & Chalker, 1998). Social concern for student achievement is a strong incentive to East Asian teachers (Yao & Kierstead, 1984). They create an environment of high expectations in students, and there is a symbiotic relation between parents and school (Haynes & Chalker, 1998; Henderson, 1990; see, e.g., Sorensen, 1994).

The results of the International Assessment of Mathematics and Science revealed superior scores achieved by East Asian students compared to lower scores by American students (Kim, 1993; Kim, 1999; Myeong & Crawley, 1993; Thomson, 1989). Many studies have shown that East Asian students outperform American students especially in math, which East Asian parents and students believe is due to their hard work (Henderson, 1990). Within the United States, Asian American students' achievement is consistently high (Hirschman & Wong, 1986). East Asian parents emphasize the importance of hard work to academic success, whereas American parents attribute academic success to differences in native ability (e.g., Stevenson & Stigler, 1992). Thus, Asian schools do not have tracking (Henderson, 1990). Japanese people believe that the best predictor of later success is "receptive diligence," but in America, the best predictors are thought to be "curiosity and originality" (Henderson et al., 1999). Furthermore, hard work is not an abstract credo but a practical guide in East Asians' everyday lives (e.g., Stevenson & Stigler, 1992).

U.S. educators mistakenly believe that Japanese students are under such terrific pressure that they commit suicide at alarming rates. Surprisingly, the suicide rate among school-age Japanese students is one half that of the United States and is decreasing. (Haynes & Chalker, 1997). Asian elementary school children appear to be cheerful, enthusiastic, vigorous, and responsive, just like American elementary school children (Henderson, 1990).

Respecting teachers. The Confucian cultural tradition emphasizes respect for teachers. Most teachers in East Asia recognize that their occupation has a tremendous influence on future citizens, and they undertake their role very seriously (Yao & Kierstead, 1984). As role models for their students, they must be extremely cautious about their moral standards because visible negative behavior can easily provoke a great deal of criticism and condemnation from the general public (Yao & Kierstead, 1984). This respect is demonstrated in Japan where teachers are ad-

dressed as *sensei,* in China as master, and in Korea as *seonsangnim,* which is one of the highest forms of respect to bestow on a person. In Japan, it is considered a status symbol to have a teacher live in the neighborhood. In Taiwan, Confucius's birthday is celebrated as Teacher's Day—a national holiday (Haynes & Chalker, 1997)—and in Korea, what the teacher says is law. Parents, teachers, and students all assume that the teacher's proper role is to impart truth. Thus, it is rare for students to question a teacher's authority (Sorensen, 1994). This is significant because creativity often requires nonconformity (Torrance, 1962, 1967, 1968, 1977, 2002).

As an extension of respect and the high value placed on education, there are significant financial benefits for teachers in East Asia such as better pay and incentives than are received by their American counterparts (Haynes & Chalker, 1997, 1998; Thomson, 1989; Yao & Kierstead, 1984). As a consequence, competition for teaching positions in East Asia produces a highly qualified and respected body of teachers (Thomson, 1989). In Japan, the government offers teachers low or no-interest mortgages on their homes. In Taiwan, teachers do not pay income tax (Haynes & Chalker, 1997).

However, there is an obvious undervaluing of educators in the United States. Teachers are grossly underpaid for the work they perform (Thomson, 1989; Yao & Kierstead, 1984). Further, because funding for schools is insufficient to meet student needs for supplies, some educators must spend their own limited salaries to purchase these necessities if they are to have them, decreasing teachers' morale and sometimes negatively affecting the students themselves. Given the current American national concern about teacher shortages and the quality of the teaching force, policymakers should look carefully at the incentive deficits currently offered talented young men and women who aim to become educators (Thomson, 1989).

Teacher–student relationships. With collectivist context of East Asian societies neither a teacher nor a student should ever be made to lose face (Park & Kim, 1999; Yook & Albert, 1998). Teachers are highly respected and never contradicted. Thus, students expect the teacher to initiate communication, and they speak only when asked to by the teacher. Even if the instructor says something the student does not understand, Korean students view it as relatively inappropriate to interrupt the instructor (Yook & Albert, 1998).

In East Asia, the relationship between teachers and students is seen as an extension of the mother–child relationship (Park & Kim, 1999). In Korea, there is a proverb, "The king, teacher, and father are the same rank." There, teachers can influence even students' private lives. They seek to know almost everything about their personal history including their relationship with parents, siblings, and friends. Importance is placed not only on students' academic progress but also on the cultivation of character. Parents in Korea respect and trust the teachers' freedom to provide moral guidance and counseling for students outside the classroom as well as academic instruction within the classroom (Yao & Kierstead, 1984) contributing to a more focused atmosphere of learning. Perhaps this kind of relationship between teacher and student tends to minimize the potential for serious transgressions later by addressing concerns while they are manageable. The relationship among parents, students, and teachers could function effectively as a deterrent to drug and alcohol abuse, school dropouts, and other risky behaviors regularly engaged in by America's youth. Teachers' outside-the-classroom concern for and rapport with individual students is vital (e.g., Patrick, Hisley, & Kempler, 2000).

In contrast, America's teachers are confronted with a different set of rules with various degrees of cooperation among the student populace. In an individualistic society both a student's privacy and parental rights take priority over mentoring. Furthermore, due to role definition, social expectations, underappreciation, and low pay, teachers may be less inclined to delve into a student's life outside of school depriving a child of needed care and concern from a potential mentor.

Centralized and local school governance. East Asian school governance includes strategic planning by a centralized national board of directors (Haynes & Chalker, 1997, 1998; Morris, 1996). This centralization in East Asian countries has yielded nationwide uniform curriculum and testing programs, whereas educational decisions are locally controlled in the United States (Hahn, 2001). With a national curriculum, students can use the same textbook and follow the same course of study as they move from school to school (Haynes & Chalker, 1997). Further, national assess-

ment systems are established that play a crucial role in selecting and assigning students through highly competitive and norm-referenced student examinations (Morris, 1996).

This hierarchical arrangement unfortunately limits teachers' flexibility and therefore creativity within their classrooms. Teachers in Korea realistically perceive pressure from forces above and beyond the classroom. Although the teachers are an elite and highly respected group, and although they serve as parent-like mentors to their students outside the classroom, their sole purposes in the classroom are to maintain control and cover the content of their lesson plan as dictated by nationwide uniform curriculum and testing programs. In the worst cases, some teachers resemble robots with a tape-recorded message instructional style.

When a student relocates to a different school in a city, even on the opposite side of the country, the student can be assured that the content and instruction received at his or her prior school will be the same at the new school with no variance whatsoever. Although educational uniformity is an advantage in regard to mobility making evaluative assessments unnecessary and missed content unlikely, the fundamental problem with a nationwide curriculum is that teachers are not encouraged and are, in fact, discouraged from searching out creative methods of instructing their charges and from reflecting deeply on the subjects they teach. If the impressionable minds of the students have as an example a teacher who is restricted from creativity or from discovering the creativity within them, how can students ever be free to learn and display a sense of originality or creativity within themselves? The political centralism of decision making is especially dominant in Korea where policies affecting school curriculum are always made from the upper echelon of policymakers.

Limitations of East Asian Education

East Asian culture and creativity. Culture and the social system are major components in shaping behavior in creative performance (Csikszenmihalyi, 1988). It is harder for Asians than Westerners to think, feel, and act in a creative manner because Asian society is tightly organized, collectivistic, hierarchical, and face-conscious (Rudowicz & Ng, 2003). Much of the cultural limitations may be better understood with a look at Confucianism, the main cultural influence of Eastern Asian countries. Confucianism and the ways it manifests itself in human systems creates a rigid structure of expectations and behaviors that may limit creativity (Kim, in press). The four principles are Emphasis on Education, the Family System, Hierarchical Relationships, and Benevolence (Chen & Chung, 1994). Emphasis on Education may decrease creativity through rote learning, extreme competition, a work–play dichotomy, and a devaluation of play. The Family System value may stifle creativity through rigid parent–child relationships and an overemphasis on obedience, filial piety, and loyalty. Hierarchical Relationships may inhibit creativity through unequal relationships, gender role expectations, rigid social structure, and authoritarian relationships between teachers and students. Benevolence may block creativity through suppression of emotion, value of humility, silence ethic, conformity, and stigmatized eccentricity (Kim, 2004, in press).

Although there are positive elements to Confucianism, the ways the aforementioned characteristics are practiced within many Asian societies and school systems are detrimental to creativity (Kim, 2004; Kim & Sergent, 2004). According to Kim's findings (2004), some elements of Confucianism—particularly obedience and hierarchy, gender inequality, conformity, suppression of expression, and work–play dichotomy—may present cultural blocks to creativity.

Asian parents socialize their children to be psychologically dependent on the in-group and to avoid conflict, whereas Western society is loosely organized, individualistic, and egalitarian. Western parents socialize their children to be independent and to have a positive outlook on conflict. Thus, democratic exchange of opinion is important (Rudowicz & Ng, 2003). With this difference in mind, it makes sense that people from collectivistic Eastern societies may be less creative than people from the more individualistic Western societies (e.g., Bond, 1992; Fielding, 1997; Kim, 2004; Kim & Michael, 1995; Kim & Sergent, 2004; Rudowicz & Ng, 2003; Saeki, Fan, & Dusen, 2001).

In Chinese society, individuals exist only as members of a community. In East Asia, education is viewed as a means of socialization (Cheng, 1998). Students seek to avoid appearing different from others, individuals learn to restrain themselves to maintain group harmony, and the fear of making a mistake or feeling embarrassed keeps many students silent. These expectations are related to their propensity for compro-

mise and conflict avoidance (Martinsons & Martinsons, 1996). Under collectivism, slow speakers are perceived as more competent than fast speakers, whereas in the United States, the opposite consensus is held (Lee & Boster, 1992). Moreover, Confucian ideals consider the emphasis on individual rights and creativity to be secondary (Park & Kim, 1999). As an example, in East Asia the class as a collective is an important element of school education (Stevenson & Lee, 1997). Small class sizes are not always preferred because children need to learn to relate to various kinds of children in various kinds of situations and being in a large group is part of this process (Tobin, Wu, & Davison, 1989). This cultural press toward uniformity and conformity can explain, in part, the weakness in creativity (Cheng, 1998). Conformity sometimes conflicts with the creativity and initiative required in scientific and technical fields (Cummings, 1994).

Korean education and creativity. Mothers in Korea express a distinct need for knowledge about children's creative development (Chung, 1993). Young children's literacy has traditionally been taught through repetition and memorization (Lee, Park, & Kim, 2000; Lee & Schallert, 1997). This practice is supported by most parents (Lee et al., 2000). Most Korean children begin their studies at an early age, sometimes at only 2 years old, and many of them are able to read and write before they begin formal schooling. The use of worksheets (*hakseupjee*) is widespread, focusing on exercises to teach letter names, letter sounds, picture–word correspondence, and writing order (Lee et al., 2000).

After children begin their formal school years, the narrowing of their minds intensifies. Compared to children in U.S. classrooms, in Korean classrooms children talk less and are less frequently urged to participate in larger class activities (French & Song, 1998). Korean students are not placed in a group learning situation in which discussion with their peers can foster a sense of interactive learning that is impossible to achieve in a teacher-centered environment. A tradition based on a hierarchical society, teacher-centered, and total class instruction (Bathory et al., 1992) commits them to listening without speaking to teachers and adults. They are prohibited the opportunity to argue, discuss, and suggest, all enriching activities that can strengthen the brain's ability to assimilate more complex thought. Moreover, to excel academically, students are asked to repeat, memorize, and remember the textbook information for monthly exams, commonly referred to as "exam hell" (e.g., Anderson, 1957; Foster, 1973; Wollam, 1992). It can be said that the goal of schooling is to prepare students to pass the examinations (Joo & Grow-Maienza, 1997). Exclusive reliance on standardized testing for educational assessment also forces administrators and teachers to emphasize rote learning and memorization, which ultimately inhibits creativity (Jeon, 2000; Kim, 1999; Kim & Michael, 1995; Lee & Schallert, 1997; Wollam, 1992).

The cultural priority of clearly delineating one's status in the collective leads to an educational system that emphasizes examinations and competition (Cheng, 1998). Exclusive reliance on standardized testing for educational assessment forces administrators and teachers to emphasize rote learning and memorization. Korean educators have recognized this and are now calling for educational emphasis on flexibility and new teaching methods that encourage students' critical thinking, logical reasoning, and the use of inquiry skills and creative approaches to problem solving (Wollam, 1992). Fundamentally, however, to change the mechanistic bureaucratic organizational structure, the formal system of political and administrative reality would need to be changed into a more decentralized natural or open system that allows teachers the flexibility to think creatively and encourage their students to do likewise (Lee, 1999).

Japanese education and creativity. Torrance (1980b; Torrance & Sato, 1979) identified a stereotype of the Japanese originating before World War II as unoriginal thinkers: adaptors, imitators, and copyists. The original concern of the Japanese was to keep abreast of world development and to acquire the most current knowledge rather than to create it (Cummings, 1994). Thus, an emphasis was placed on rote memory at the expense of self-expression and creative thinking (Anderson, 1957).

In the aftermath of World War II, Japan's rebuilding efforts required a revamping of the educational system to compete as a nation on a global scale. It advanced the principles of democracy and equality, replacing the former principles of seniority and elitism (Cummings, 1994). After the war, Japan adopted the American education system and the democratic education philosophy. Thus, the goal of Japan's education was to develop a free and creative approach that was more along dem-

ocratic lines. The centralization of educational authority was changed to an "Americanized" system of local control by American soldiers (e.g., Anderson, 1957; Hidaka, 1957; Morito, 1973; Reid, 1975). In recognition of their own unhappy memories of prewar education and the postwar American reforms, the Japanese have kept their classrooms free from politics or ideology (Reid, 1975). They recognized several problems of education (Anderson, 1957) including the use of morality instruction that was previously used as an effective tool to prepare for war. Teaching of morals was replaced by social studies in which citizenship could be taught. They also tried to fix a lack of prestige for vocational education because of a shortage of scientists and technologists, all of which was a departure from Confucianism. These changes helped the Japanese to become more creative.

In many ways, Japan has taken some of the best qualities from Eastern and Western education. A major factor in its economic success was the emphasis placed on a national commitment to the fulfillment of every citizen's creative potential (e.g., Dobinson, 1974; Torrance, 1980a, 1980b, 1982). Japan also believed that creativity would come after long hours of practice involving concentrated imitation of the teacher and that expertness would require persistence, hard work, self-discipline, diligence, energy, effort, and competence as East Asians are accustomed (Reid, 1975; Torrance, 1980a, 1980b). Japan emphasized developing students' ability to think and learn creatively for the future (Todd & Shinzato, 1999). To this end, tremendous importance was given to the preschool years and creative skills and motivation were diligently and enthusiastically encouraged (Torrance, 1980a, 1980b, 1982).

American Education

Strengths of American Education

American classrooms and creativity. In stark contrast to most of East Asian education creativity is a vital component in American education, which deemphasizes rote memorization and develops higher order thinking skills (Garkov, 2002). The American educational system encourages the exercise of creativity by providing an environment that promotes free and open discussion. American educators have flexibility and freedom because of their rights, their academic freedom. The use of creativity can even be found in American students' writing, which is far different from that of Asian students. Writing in Asian schools, even everyday self-report journals, is supposed to be based in moral codes with acceptable topics including such themes as loyalty to the state and filial piety, determination of diligence, public morality, and harmony among people including friends. In contrast, American teachers are free to encourage their students to write something creative, imaginative, and original. In the United States, students can exercise their creative processes through competitions designed for enhancing creative thinking such as the Future Problem Solving Program (begun by E. P. Torrance in 1974) and Odyssey of the Mind (begun by S. Micklus in 1979; Cramond, 2001; Karnes & Riley, 1996; Torrance & Sisk, 1997). Another example showing the value of creativity in American schools is that students in many states qualify for gifted education services through multiple criteria one of which is creativity (e.g., Georgia Gifted Education Law, 1998).

Creativity theory into practice. Torrance (1992) concluded that there has been recognition of the connection between creativity and invention and national economic prosperity. Thus, he urged educators to create a national climate favorable to creativity and invention and to identify and develop such talent for the future. Torrance (1963, 1981, 1994) and many other American educators have been able to offer suggestions for promoting creative learning situations including in-the-classroom mentoring of teachers in which they offer suggestions and demonstrate their theories in practice. The effort to promote creativity in American classrooms extends to suggestions from researchers including giving students opportunities for inquiring, exploring, manipulating, experimenting, risking, testing and modifying ideas, and giving open-ended tasks (Leroux, 1986; Penick, 1983; Torrance, 1980a, 1980b, 1992). American teachers are also encouraged to refrain from criticism before creative thoughts are voiced (Leroux, 1986; McVey, 1991), to reinforce diversity and novelty in children's various learning activities (Kawenski, 1991), and to be facilitators whose main role is to record the students' opinions (DeLellis, 1991).

American researchers also warned teachers that potential creativity can be limited by time compromises,

additional tasks, and ineffective or insufficient study materials. Excessively rigid scheduling can impair a student's freedom to explore creative ideas or return to a previously unsolvable problem and use fresh insights to solve it (Kester, 1978; Penick, 1983). Furthermore, some traits have been recognized that can obstruct both the teacher's and student's creativity such as traditional cultural and emotional blocks to creativity, conformity, excessive faith in logic, fear of mistakes or failure, self-satisfaction, perfectionism, negativism, lack of independence, and reliance on authority (Leroux, 1986; Penick, 1983; Torrance & Sato, 1979).

Current U.S. National Policy

The education reformers in the United States have spoken of the need for a national curriculum and testing and absolute standards insisting that schools compare themselves to each other (Cuban, 1986; Ohanian, 2000). Former President Bill Clinton called for national education standards and voluntary achievement testing (Clinton, 1997a, 1997b). The original needs for the national standards were from mobility (Allen & Brinton, 1996; Zuckerman, 1996), equity, obsolescence, and accountability (Allen & Brinton, 1996). Political leaders insist that without testing there is no way to know if reform is actually working, that only high national standards that achieve broad credibility with the public and educators prove that reform is working (Ravitch, 1995) and that the adoption of national standards would raise expectations and encourage more educational funding (Aronowitz, 1996).

Following the National Education Act (1999), the No Child Left Behind Act (2001) was announced by President George W. Bush (Bush, 2001). Both of these include increased accountability of states, school districts, and schools; greater choice for parents and students, particularly those attending low-performing schools; more flexibility for states and local educational agencies in the use of federal education dollars; and a stronger emphasis on reading, especially for the youngest children. Therefore, the National Standards Act and No Child Left Behind Act have basically the same rationale.

This movement is largely externally influenced with advocates citing centralized education structures in European countries and Japan (e.g., Aronowitz, 1996; Hamilton & Goodling, 1999). The results of the International Assessment of Mathematics and Science were a part of the driving force for the national standards because they revealed superior scores achieved by other countries' students compared to lower scores by American students (e.g., Clinton, 1997a, 1997b; Kim, 1993; Kim, 1999; Myeong & Crawley, 1993; Thomson, 1989; Zuckerman, 1996). Several state departments of education in the United States, including the Georgia Department of Education, revised their mathematics curriculum "to reflect the characteristics of the Japanese standards: Rigor and Complexity" (e.g., Cox, 2003, p. 2). Because of the rise of Japan as an economic superpower and a political influence in the world, serious research also began to identify the cause for the surge and recognize the differences from Western approaches to business (Thomson, 1989; Torrance & Sato, 1979).

National policy and implications for creativity. However, it is a simple-minded notion that the United States should have a national curriculum merely because other nations have centrally controlled educational systems. No country has an educational system that is close enough to perfection that it can justify the imposition of an exact duplication onto another country; moreover, America has taught Japan most of what it knows (Morgan, 1992). Nordquist (1993) claimed that "Some American experts on Japanese education are convincing the general public that the only way to improve our American educational system is to copy the Japanese" (p. 65). Such a movement ignores the fact that there is little evidence linking central control and educational achievement (Noddings, 1997). Perhaps more important, the European national curriculum directed by national standards did not originate from democracy (Aronowitz, 1996). America, as a symbol of democracy, is a more egalitarian society in which many decisions are made from the bottom up and in which individualism is valued over one's position in a hierarchy. On the other hand, East Asian society's needs have always been obtained at the sacrifice of individual needs (Yao & Kierstead, 1984). Not only can too much individualism breed anarchy, but too much conformity can prove stifling to a society (Reid, 1975).

Exclusive reliance on standardized testing for educational assessment forces administrators and teachers to emphasize rote learning and memorization. Drill work, emphasis on curriculum, lack of time, and the use of a large number of worksheets and teacher-cen-

tered strategies can block creativity (Fleith, 2000). The constant assessment and evaluation of students has been shown to promote dependency, discourage inquiry, and devalue curiosity (Kawenski, 1991). There have been several reports that an emphasis on standardized test scores results in a classroom emphasis on strategies such as basic skill instruction and drill and recitation with less emphasis on subjects that are not tested and less use of innovative instructional strategies (e.g., Brown, 1992; Herman & Golan, 1990; Moon, Brighton, & Callahan, 2002; Shepard & Dougherty, 1991). School administrators focus on reviewing test scores, discussing ways to improve test scores, and providing materials for test score improvement. Teachers cannot include instructional strategies that emphasize creativity and enrichment until after the state tests are completed (Moon et al., 2002).

Conclusions

Education is a social–cultural process so the process of borrowing educational practices from another culture implies an acceptance of cultural values (Cheng, 1998). Although the American decentralized education system has some faults, it does allow some room for creative pedagogy and curricular diversity (Aronowitz, 1996). To be engaged, students need creative and innovative teaching through best practices. All forms of coercion are questionable in a democracy including the coercion of children (Noddings, 1997). Therefore, it is imperative that America defend the opportunity for its students and teachers to think flexibly, critically, and creatively, an impossibility in a controlled system of nationwide curriculum and testing. Because students in East Asian countries, to pass the test or earn better scores, need to learn solely by repetition and memorization, processes that leave no room for creative growth and expression, East Asian countries should appropriate some of America's values into the educational process. Similarly, America could learn from East Asian countries by adopting the strong belief in the importance of education, emphasizing hard work as a road to achievement, fostering a societal mood of respecting teachers, and hiring more qualified teachers by raising salaries. It can be concluded that both cultures have much to learn from each other and that a high respect for education as well as support of a creative atmosphere are both necessary for a high quality education.

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