

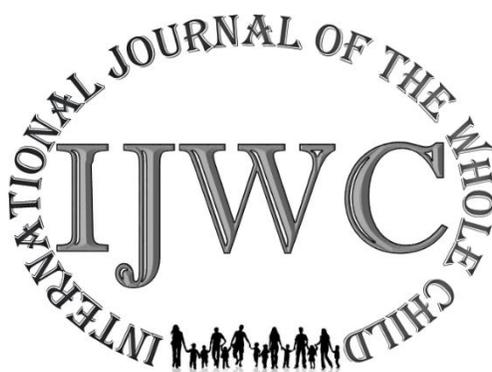
Tennessee Association for Childhood Education International

International Journal Of The Whole Child

Volume 2, Number 1

November – April 2017

ISSN 2474-297X



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International Journal Of The Whole Child

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Introduction



The mission of the International Journal of the Whole Child is to provide both the researcher and the practitioner communities with current data as well as to illustrate real-life examples of “best practices.”

“Best practices” refer to learning strategies that engage the whole child. This means each child is respected as unique in their own person and as well, regarded as members of larger communities. Building upon the cognitive and affective dimensions of child development, IJWC content respects children’s creativity, problem-solving, and inquiry. In order to move forward and connect theory with practice, IJWC authorship includes researchers, community representatives, and classroom teachers.

In this third publication, in addition to quality manuscripts, IJWC introduces a new section titled “Tech Talk.” As you recall, in the second issue, Volume 1, No. 2, a new column was introduced titled “Book Review.” In reflecting upon the needs of the IJWC reader, the editorial team expanded this critical review to include, in addition to books, a range of technical and media information. In the future, we look forward to hearing from our readers in identifying apps, websites, YouTube videos, movies, games, and other technical and media alternatives to invite children to engage in innovative learning.

Articles

In the first article, “Chinese Migrant Children in Crisis,” Yajuan Xiang, Miao Li, and Gina Berridge describe the serious plight of Chinese migrant children. In a search for work and an improved way of life, millions of Chinese families move from rural areas to relocate in urban centers. However, because of governmental policies, migrant children cannot attend Chinese public schools. In addition to the daily stress of living in over-crowded conditions, children are also undermined by governmental paperwork and systematic discrimination. Authors call for equitable access to education for all Chinese children.

In the second article, “Literacy and Education as Correlates to National Stability and Human Development,” Larry Burriss provides a statistical analysis of existing databases across nearly 200 countries dealing with national/human development and literacy/education policy. Data suggest high correlation between literacy and national development. Correlations were highest between national literacy scores and human/national development; correlations were lowest when comparing percentage of gross national product spent on education with literacy and education. The analyses indicate countries

with higher literacy and better education policies tend to have improved human development and national stability.

Note how the first two articles connect and support one another on behalf of providing all children with access to an equitable education.

In the third article, “Music in the Classroom,” Heather Blackburn discusses using background music as a strategy to enhance students’ learning experience. Despite the fact there are minimal data in this area, she makes a convincing argument to support the relationship between music and memory. In particular, she describes the connection between music and emotion. To extend appreciation for this possibility, hyperlinks are embedded to enrich the reading experience.

Pictures for Reflection

For the toddler, the world is a place of adventure, exploration, and wonder. Adults afford children with a variety of safe and risk-free opportunities to experience a range of materials in different ways. Children construct their personal understandings of the world; they make meaning through their experiences. First-hand exploration is critical as young children learn to compare and contrast. What is hard and what is soft? What is hot and what is cold? What is gushy and what is sticky? When do I use a spoon and when do I use a fork?

Tech Talk

In preparation for a safe and memorable total eclipse experience this summer, Larry Burriss provides important information describing how to safely view the event as well as identifying strategies to create photo memories.

ETC.

The ultimate goal of scholarly research is to improve the lives of children. As well as providing readers with theoretical arguments and research frameworks, through the ETC. section, IJWC expands learning by highlighting “best practices” with relevant artifacts.

Hilary Nelson, a multiage teacher, describes in her classroom newsletter, the integral role of play for her students. Through play, their risk-free experiences with objects, language, and friendships nurture social

competence, emotional confidence, and intellectual inquiry. Play is a powerful strategy for promoting children's initial learning and long-term development. Through her newsletters, she provides ongoing information and creates a network of play advocates with her students' parents.



Chinese Migrant Children in Crisis

Yajuan Xiang^a, Miao Li^b, and Gina Berridge^c

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With the increasing population of Chinese migrant children in China and the call for addressing educational equity and revising education goals on behalf of the whole child, research indicates that those children experience various challenges regarding their education and well-being including unequal access to education, low quality of education, discrimination, social anxiety, and depression. Thus, this article explores institutional-, school-, and family-level factors to understand how migration might create threats for Chinese migrant children. It is believed that government, community, school, and family have unintentionally formed an intertwined and complex dynamic where the development and education of migrant children is compromised. It is the authors' hope to raise awareness to the academic and practical arenas of both the educational plight and living conditions of Chinese migrant children.

Introduction

Throughout the past decades, as China experienced a rapid economic ascent as a global supplier of cheap labor as well as labor intensive production (Liu & Zhu, 2011), it experienced the most unprecedented rural-to-urban migration. "Made in China" is a popular label today as the Chinese foreign trade production rate leads the way on the global stage and accounts for 70% of the employment rate in China (Pergolini, 2009). To meet the country's annual demand for production, forty million factory positions are filled with migrant workers. Along with those migrant workers, findings estimate that 35.81 million migrant children and youth now reside in Chinese cities (Federation, A. C. W. S., 2013).

Migration is a complex social process which forces migrant children into crisis situations. Migrant children's educational opportunities, psychological well-being, and social and emotional development are often subjected to serious challenges (Chan, et al., 2009). Recent research findings indicated that compared with urban children, migrant children have unequal opportunities to receive quality schooling and are more likely to develop negative self-perceptions and lower academic competence. Additionally, Chinese migrant children experience psychological problems such as shyness, anxiety, depression, and nervousness (Kwong, 2011; Lu & Zhou, 2013; Wang, 2006; Wong, Chang, & He, 2009). In order to understand how migration negatively contributes to the educational and developmental growth of Chinese migrant children, institutional, school, and family factors are explored.

Risk Factors

Institutional factors

Due to existing policy restrictions, migrant workers and their children are considered as temporary residents in Chinese cities (Chan & Buckingham, 2008). These low income workers are not qualified for access to local benefits like education, medical care, and other welfare efforts (Li & Zhao, 2015). More strikingly, a large portion of poor migrant children are deprived of legal rights to equal access to urban public education which is subsidized by the state (Wang, 2006). Therefore, seeking schooling opportunities becomes a battle between migrant families and state policies. In this conflict, migrant families are restricted by the household registration system (or *hukou*) which has brought extreme emotional distress to both parents and children (Li, 2015).

In China, the *hukou* is the main state instrument used to manage this rapid influx of rural-urban migration. In the 1950s, *hukou* was implemented to “differentiate residential groups as a means to control population movement and mobility and to shape state developmental priorities” (Cheng & Selden, 1994, p. 644). In accordance with this system, based on “socio-economic eligibility” and “residential location,” all Chinese people are categorized into four *hukou* types which follow along two dimensions: agricultural or non-agricultural, and local or non-local *hukou* (Chan & Buckingham, 2008, p. 587). Individuals registered under the agricultural category are expected to survive by their own labor in the fields; non-agricultural individuals are entitled to governmental ‘cradle to grave’ benefits resulting in urban residents seemingly more superior to their rural counterparts (Kuang & Liu, 2012). To maintain control over rural-to-urban migration, each citizen is required to register at his or her permanent residence. “One’s *hukou* status was inherited from one’s mother and was thus predetermined” (Zhang, Zheng, Liu, Zhao & Sun, 2014, p.54). Institutionally, people are regarded as legal residents only in their places of registration, that is, where their *hukou* is registered. According to Wang (2006), all citizens were then given a geographical area with an associated social and identity status. Migrant workers, defined as agricultural, are then denied many of the social benefits associated with urban residency and therefore, become segregated from urban populations. Consequently, migrant families and their children are negatively perceived by the indigenous urban residents, and subsequently, maltreated at work (Kuang & Liu, 2012). Because of this designation, as local and non-local agricultural *hukou* holders, migrant children are regarded as rural people. Thus, a vast majority is excluded from the better urban public schools and attend low-quality migrant schools (Wang, 2006). Unfortunately, there remains a small portion of children who simply have no school to attend. They “run wild” in vegetable plots, “romp” beside their parents’ stalls or play in dingy and rowdy street corners “ (Han, 2004, p. 34).

In most cases, village-, fellow-, townsman- and acquaintance-based networks play a crucial role in providing information to poor migrant populations regarding school choices (Li, 2015). This aggravates migrant children’s segregation, both residential and social, from the mainstream society. In addition, migrant families live in poor villages inside the city (*cheng zhong cun*) or urban ghettos (Li, 2015). Because of their limited transportation options, migrant families have no choice but to send their children to the nearest schools which are economically disadvantaged with unqualified teachers and few resources (Li & Zhao, 2015; Wang, 2006). As a result, migrant children begin to develop an “us versus them” mentality which can create a widening gap between migrant populations and urbanites (Li, 2015).

Another institutional constraint concerning the education of migrant children involves violation of China's population control policies. From the initial implementation of the "One Child Policy" in 1979 to the transformation of the "Two Child Policy" in 2015, children of migrant families who violate these policies cannot register *hukou* either in their rural hometowns or cities (Duan & Yang, 2008). This means, if not appropriately identified, it is impossible for migrant children to attend public schools (Hu & Szente, 2009). The *hukou* system is one of the major tools of social control employed by the state. Even if migrant families plan to return to rural hometowns for their children's formal schooling, as undocumented children, their lack of *hukou* status as well hinders the admission to rural public schools (Hu & Szente, 2009). In addition, one's *hukou* status is associated closely with students' school register (*xueji*). Without a school register, migrant children find it difficult to advance in the regular Chinese education system.

Not only do such policy restrictions create substantial difficulties to migrant children's education, but the process of seeking school access is also complex, stressful, and overwhelming to both migrant children and their parents (Li et al., 2010; Wang, 2006; Xie, 2010). Media stories describe how public schools often suspect migrant children of being developmentally disadvantaged and use this label as an excuse to deny school attendance ("Ce zhi shang ru xue", 2012). Acknowledging the deeply-held value of "saving face," both parents and children are humiliated and embarrassed in front of others when their children are suspected of being at risk (Kwong, 2011). Such an experience is likely to result in tremendous trauma on children's development of self-confidence and positive self-image. Many children share similar experiences and have witnessed their parents beg school authorities for their admission ("Nong min gong zi di xue xiao kun jing", 2016). In an extreme case, a child describes her plan of dropping out of school in order to prevent her father from kneeling again before school principals (Li, 2015). For the few children who successfully attend public schools, their enrollments are temporary and their academic achievement is not considered in formal school rankings in order to protect the reputation of the schools (Han, 2010). As a result, these practices most likely lead to discrimination, low self-esteem, and social anxiety among migrant children (Lin et al., 2009; Wang, 2006).

Generally, many migrant children choose to attend privately-run migrant schools (Chen & Feng, 2013; Gao et al., 2015). However, such schools are considered as unstable and of low quality which undermine children's well-being (Goodburn, 2009; Wang, 2006). According to Lu & Zhou (2013), these schools are also increasing in order to meet the greater numbers of arriving migrant children. For example, in 2007, more than 300 privately-run migrant schools have catered to 170,000 migrant students in Beijing. Migrant schools with school-home adjacency, flexible schedule, and tuition waiver opportunity become the preference among migrant families (Goodburn, 2009; Ming, 2009). In spite of their popularity, however, migrant schools do not have a clear standing in the Chinese educational system and have complicated relationships with local governments (Gao et al., 2015). In 2006, for example, the Beijing city government began a campaign to close 239 migrant schools and leave nearly 100,000 children without education ("Clashes after China school closed", 2007). The most recent closure in Beijing happened in 2011 when 24 migrant schools were eliminated and more than 14,000 children were forced to drop out (Jiang, 2011). These schools continue to experience frequent suspension and closures because of health or safety concerns. The instability of these schools is ambiguous and threatens the healthy development of children (Kwong, 2004).

Factors of Schools, Teachers, and Peers

Migrant schools with affordable tuition, flexible schedules, and close-to-home locations are popular among migrant families. However, they are generally low-quality in terms of school buildings, teaching

materials and teacher quality (Wong et al., 2009; Han, 2004). Although these programs charge a relatively lower tuition, it can still be a major burden on already financially strapped migrant families. Besides 300 Yuan tuition per month, migrant schools also charge extra fees, such as for books, uniforms, technology, and heating, as well as other miscellaneous fees (Han, 2004). This number has increased in the past decade. In migrant families, the per capita income is about 3072 Yuan per month, and the living expenses take 32.9% of monthly income per capita (National Bureau of Statistics of the People's Republic of China, 2016). On top of these expenses, to support at least one child's education in migrant school is challenging.

Even if a migrant family is able to send their child(ren) to a migrant school, the low-quality atmosphere and learning climate may have a negative impact on migrant children's development (Guo, Yao, & Yang, 2005; Chen, Wang, & Wang, 2009). Based on Kwong (2004), in Beijing, more than 65% of migrant teachers have no education-related qualifications nor prior teaching experiences. Rather, before becoming educators, most teachers have been construction workers, cooks, farmers, and general laborers. Teachers often feel limited and consider their teaching position as a temporary job until another opens in the city (Kwong, 2004). As a result, most of these teachers have negative attitudes toward work as well as lower expectations of migrant children. Consequently, they demonstrate impatience and use harsh discipline techniques to maintain classroom order (Wong et al., 2009). According to Wong, et al. (2009), such teacher discipline harms teacher-student relationships and increases children's depression, and social anxiety. This results in lower academic aspirations and may even promote a deep hatred of schooling. In a few cases, migrant schools have even been cited as being directly responsible for the deaths of children through unsafe environments and/or physically abusive practices (Hu & Szente, 2009).

Generally, migrant schools have enormously large class sizes which can also result in unsafe and unfriendly learning environments (Li et al., 2010). Han (2004) describes how it is common for more than three children to share a two-student desk, and many classrooms are packed with more than 60 students. One classroom contained an astounding 84 students. Needless to say, large class sizes result in children not receiving the appropriate attention for their academic learning and development (Guo, Yao, & Yang, 2005; Han, 2004).

Peer relationships are another contributor of migrant children's social emotional distress. Migrant communities are generally segregated at the edge of the city (Li & Zhao, 2015), thus there are rare opportunities for migrant children to interact with urban counterparts (Jiang et al., 2008). Therefore, most migrant children form stereotypical perceptions of urbanites, such as believing they are arrogant, generally well-to-do, mean spirited, and snobbish (Wang, 2006). Those who attend public schools frequently experience unsatisfactory interactions with urbanites, leading to their even stronger sense of marginalization, social exclusion, frequent academic anxieties, hostility, and lower self-esteem (Wong, Chang, He, & Wu, 2010). Ou (2008) found these children to be insecure, possessing poor social skills, learning difficulties, and deep feelings of loneliness. Because of these difficulties, migrant children are often exposed to widespread discrimination and ostracism (Xie, 2010; Wang, 2006).

Kwong (2011) recounted some disappointing stories about migrant children in recent studies. He reported that even if migrant children do attend an urban school, urban teachers and children belittle them for their lack of confidence, out-of-dated clothing, communication difficulties, poor academic performance, socio-economic disadvantages, and heavily-accented regional dialect. Migrant children tend to have a strong sense of inferiority in social comparisons with their urban peers (Li, 2015; Wang, 2006). Xiong (2010) described how some children feel embarrassed to identify their neighborhood or their parents' temporary

low-paying jobs and are inclined to upgrade their parents' work; for example, children describe tailors as clothes designers. Migrant children frequently reject their urban teachers' requests for home visits. Xiong goes on to report that ironically, migrant children often express a sense of superiority over those who were left behind in rural hometowns while they continue to be discriminated by urbanites.

In urban schools, migrant children are frequently mocked and bullied by urban peers and are given less attention and guidance from teachers (Wang, 2006). Migrant children are not allowed to take part in district-wide standardized examinations in cities, and their homework and exams are often not officially graded and recorded (Nyland et al., 2011). Because of this discrimination, migrant children are reluctant to attend urban public schools and eventually transfer to migrant schools (Wang, 2006; Li et al., 2010). Recent studies suggest that migrant children express a preference for making friends with their migrant peers. This gives migrant children a feeling of belonging which, in turn, creates a wider social gap between rural migrant children and urban children (Ming, 2009).

Risk Factors of Home and Family

Most children share circular migration experiences between their rural hometowns and cities where their parents are employed (Liu & Zhu, 2011). This experience can further complicate the development of migrant children. Jeellyman & Spencer (2008) found that high levels of residential mobility have a negative impact on early childhood and subsequent social-emotional development. Their study indicated that high mobility is associated with greater sibling conflicts, increased aggression, property offences, and poor emotional adjustment. Many children travel back and forth because of parents' job change or failure of adjustment in either place (Li & Zhao, 2015; Li et al., 2010). Others are left behind in the countryside with grandparents, other caregivers, or simply left unsupervised for long periods of time (Liu & Zhu, 2011). Sometimes, migrant parents are able to visit their children in the countryside during major holidays; however, some parents do not go back for years because of financial constraints (Huang & Yang, 2013). Liu & Zhu (2011) discuss how this separation from parents "causes discomfort, low self-esteem, and social isolation in many of these children" (p. 455) and "as the period of separation lengthens, estrangement between parents and children grows" (p. 456). For many migrant children, this "left behind" experience is a period of time filled with loneliness, unhealthy behaviors, hardships, inferiority complexes, family conflicts, and a lack of parental care and supervision (Gao et al., 2010; Zhao, et al., 2014). Liu (2012) reported that these children experience psychological problems such as phobias, anxiety, impulsivity, and conduct disorder and often become juvenile delinquents at an early age while others suffer from years of sexual abuse because of neglect from the adults who are supposed to care for them.

Moreover, limited parental support for migrant children lowers self-esteem and establishes a stronger level of academic anxiety (Zhao, et al., 2014). A group of researchers (DeMarry et al., 2005) reported that quality parental support is a significant predictor of student's capacity to deal with stress, anxiety and loss of control. However, most migrant parents have only middle school education and work long hours (National Bureau of Statistics of the People's Republic of China, 2016). This leaves parents little time to focus on their children's education and psychological well-being. Also, "because parents of migrant children may be too busy to deliver adequate care to the children, let alone time to play with them, many migrant children feel bored with urban life and are unhappy" (Liu & Zhu, 2011, p. 450).

In Chinese culture, academic excellence is highly valued as an important avenue to success (Chen & Wong, 2014). Like most Chinese parents, migrant parents want their children to receive a quality

education. Yet, for migrant workers, financial and personal academic resources are at a serious disadvantage. It is obvious that this unmatched expectation versus resource availability places a great deal of pressure on parents and their children and further adds hardship on the relationship between the parents and their children (Li et al., 2010). Additionally, most migrant parents are viewed as conservative and strongly expect their children to obey their commands and directives. This authoritarian parenting style shared among Chinese parents has negative effects on children's well-being and parent-child relationships (Pong, et al., 2010; Wong et al., 2009; Chan, et al., 2009).

A poor physical family environment further challenges children's development. With the real estate boom, Chinese migrant families are either forced to move to urban ghettos, or reside in low-income neighborhoods inside the cities. According to Li (2015), these families live in dingy shacks, for example, around the trash dumps, beside public lavatories or inside gas stations; in most cases, all family members share one room which serves as a combination of bedroom and living room with a gas burner outside the room as the kitchen area. Wu's findings (2004) describe migrant housing and explain, on average, migrant housing is about 7.8 m² per capita usage. Further, 69% of migrant families have no access to bathroom facilities and 71% have no kitchen inside their dwellings. Rather, migrants often share public water and latrine facilities with people from neighboring streets. Overcrowding is a shared characteristic of migrant housing. A growing body of research supports the notion that children who live in crowded homes tend to display higher levels of psychological distress and behavior problems at school; further, parents from chronically overcrowded homes tend to be less responsive to their children and more likely to use punitive parenting and verbal reprimands (Evans, 2006).

Discussion

In the past two decades, China has witnessed a rapid increase in the number of migrant children from rural to urban areas. The influx of migrant children and related welfare issues created an unprecedented challenge to China. The government took a wide range of initiatives to improve the education equity and well-being of migrant children. In 2004 and 2005, the Ministry of Finance issued two circulars to regulate arbitrary collections of educational fees. Both circulars stated that migrant children should be entitled to the same rights as the locals, and schools shall not collect temporary student fees and school selection fees (Xie, 2012). This initiative was strengthened by two other circulars issued by the State council, Ministry of Finance, and National Development and Reform in 2008; moreover, these circulars urged local government to admit migrant students who fulfill local criteria to state-run public schools and provide adequate educational funds for migrant children (Xie, 2012). In 2006, the Compulsory Education Law was revised and stipulates the following for migrant children's education:

For a school-age child and juvenile whose parents are working or dwelling at a place other than their permanent residence, if he/she receives compulsory education at the place where his/her parents or other statutory guardians are working or dwelling, the local people's government shall provide him/her with equal conditions for receiving compulsory education. The concrete measures shall be formulated by the provinces, autonomous regions and municipalities directly under the Central Government. (Compulsory Education Law of the People's Republic of China, 2006)

National Outline for Medium- and Long-term Educational Reform and Development (2010-2020) issued in 2010 further set the needs of equal access to education among migrant children as a main goal for education reform in China.

Although the government took positive initiatives, the implementation of such policies is arduous. The above central policies all stipulated that migrant children should have equal rights to education as locals in the area they reside, but they should meet certain requirements which varied by different regional governments according to their specific conditions. Using Beijing as an example, migrant families are asked to provide five certificates (temporary living permit, certified proof of address, certified labor contract, certificate of no potential familial guardian reside in the place of origin, and registry of the entire family's household permanent residency) in order to apply for public schools (Yu, 2013). However, obtaining the five certificates consumes time and effort and, in many instances, is impossible for migrant parents. For example, most of migrant parents work in small family-operated businesses, such as running food stalls; there is no place for them to attain a certified labor contract (Han, 2010).

The disparities of educational resources between urbanites and migrant children are deeply rooted in the hukou-based administrative system. Kuang & Liu (2012) describe how the Chinese *hukou* system is a cause for institutional discrimination against rural-to-urban migrants. This discrimination then filters down to the children which creates an environment of stereotyping and prejudice with unequal access to educational opportunities for children born to these migrant workers. In China, local governments finance compulsory education by calculating the number of school-age children registered in the local area. Since migrant children are registered in their rural hometown, urban public schools were challenged to accommodate migrant children under the existing capacity. For those fortunate enough to attend either public or migrant schools, low-quality learning support and unfriendly relationships with teachers and peers have contributed to lower self-esteem, loneliness, depression, and anxiety.

Conclusion

Clearly, while the education and health care for urban children continue to improve, the efforts to secure the rights of migrant children with relevant services continues to decline. It is evident that factors of policy, school, and family together create an intertwined and complex dynamic where the development and education of migrant children are compromised. The education and well-being of migrant children will have serious consequences for global economic realignment. Perhaps, the greatest problem facing all migrant families in China is the potential magnitude of its effects on the future of China and its people—for better, or, for worse. In order for changes to begin, a national system of implementation of existing equality laws, explicit monitoring and enforcement of these laws is urgently needed. Beginning at the community level, people's perceptions need to change so migrant children are regarded as valued citizens with strong abilities to learn. This need to change is dramatic. It is our hope that with this article, the voice of Chinese migrant children and migrant children in other socio-contexts can be heard by more educators, and resources can be allocated to better the education and well-being of migrant children.

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Literacy and Education as Correlates to National Stability and Human Development

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Abstract

Statistical analysis of existing databases across nearly 200 countries dealing with national/human development (2 databases) and literacy/education policy (4 databases) shows high correlation between literacy and national development. Correlations were highest between national literacy scores and human/national development. Correlations were lowest, indeed in some cases slightly negative, when comparing percentage of gross national product spent on education with literacy and education.

The analyses indicate countries with higher literacy and better education policies tend to have improved human development and national stability. Money spent on education seemed not to be a deciding factor.

Key Words

Education policy

Human development

Literacy

National development

1. BACKGROUND

As with so many other aspects of Western thought, current theories of the role of education in national and social development can be traced in almost a straight line from Aristotle through John Stuart Mill (neither of whom, it should be noted, can really be considered “educational theorists”) and on to John Dewey.

For Aristotle, education was part of the political process. Indeed, Aristotle believed one could not be a good citizen without a proper education, and his stress on the importance of education is a major theme in both the *Nicomachean Ethics* and the *Politics*. Both works provide practical details for establishing national and individual models for education. Said Lee (2001, p. 165), “Simply speaking, in the *Nicomachean Ethics*, Aristotle stressed the Hellenic ideals of moderation that became the center of Realist axiology, while his *Politics*, like Plato's *Republic*, observed that a reciprocal relationship existed between the good human being and the good citizen.”

Admittedly, Aristotle would leave control of education in the hands of the state. However, his word for “education,” *paideia*, means more than simply teaching and learning. For Aristotle, education dealt with the ethical, social, and political life of the community, and extended to both children and adults: “Now [men] become good and excellent through three things. These three things are nature (*phusis*), habit (*ethos*), and reason (*logos*)...What remains at this point is the work of education” (Lord, 1984, p. 218). In other words, true virtue (what is good for the individual and what is good for the state) is dependent on nature, habit, and reason, and these are, in turn, dependent on education. “In brief, the doctrines of education in good habits run through Aristotle's thinking in the *Ethics* and *Politics*, and they are the means for the actualization of an individual and criteria for building an ideal state through education” (Lee, p. 167).

Moving ahead by several centuries, enlightenment philosopher John Stuart Mill, in 1859, noted the importance of education for not only one's personal growth, but also for the growth of society as well:

It still remains unrecognized, that to bring a child into existence without a fair prospect of being able, not only to provide food for its body, but instruction and training for its mind, is a moral crime, both against the unfortunate offspring and against society.

. . . .

[T]he peculiar training of a citizen, the practical part of the political education of a free people, [is in] taking them out of the narrow circle of personal and family selfishness, and accustoming them to the comprehension of joint interests, the management of joint concerns—habituating them to act from public or semipublic motives, and guide their conduct by aims which unite instead of isolating them from one another.

Still later, in the 20th century, John Dewey said in 1939,

Democracy is the faith that the process of experience is more important than any special result attained, so that special results achieved are of ultimate value only as they are used to enrich and order the ongoing process. Since the process of experience is capable of being educative, faith in democracy is all one with faith in experience and education. All ends and values that are cut off from the ongoing process become arrests, fixations. They strive to fixate what has been

gained instead of using it to open the road and point the way to new and better experiences.

2. METHODOLOGY

For this project, pre-existing databases were used to compare societies and factors related to literacy and education. These included two measures of stability and freedom, and four measures related to education. The description of these databases will also serve to operationally define stability and literacy.

* National stability data came from the Fund for Peace (2014) Fragile State Index.

Using 12 social, economic, political, and military indicators, the Fund for Peace ranked 178 states in order of their vulnerability to violent internal conflict and societal deterioration. The index scores are based on data from more than 12,000 publicly available sources.

In addition to its index, the Fund for Peace divided its 178-nation list into four groups, based on the degree of instability: alert, warning, moderate, and sustainable. It should be noted that the Fund for Peace does not define these terms in words, but rather uses composite numerical scores to group nations into stability/instability categories.

* A second measure of national stability came from the Polity IV Project (Marshall and Jagers, 2007) which measures levels of democracy and authoritarianism.

The Polity IV project . . . cod[es] the authority characteristics of states in the world system for purposes of comparative, quantitative analysis....The Polity Project has proven its value to researchers across the years, becoming the most widely used resource for monitoring regime change as well as for studying the effects of regime authority.

Data on literacy and education also came from four existing databases:

* The CIA World Factbook (2014) provided information on literacy levels.

There are no universal definitions and standards of literacy [but] all rates are based on the most common definition - the ability to read and write at a specified age. . . . Information on literacy, while not a perfect measure of educational results, is probably the most easily available and valid for international comparisons. Low levels of literacy, and education in general, can impede the economic development of a country in the current rapidly changing, technology-driven world.

* The second measure of education came from the United Nations Statistics Division (2014), and is called School Life Expectancy.

School life expectancy is defined as the total number of years of schooling which a child of a certain age can expect to receive in the future, assuming that the probability of his or her being enrolled in school at any particular age is equal to the current enrolment ratio for that age. Purpose : This indicator shows the overall level of development of an educational system in terms of the number of years of education that a child can expect to achieve (United Nations, 2014).

* Data for Public Expenditure on Education also came from the United Nations, and is simply the amount of money spent on education as a percentage of the Gross Domestic Product.

It should be noted that nation-state scores and the Public Expenditure on Education are indices created by their respective organizations, and represent “real life” only to the extent that the underlying measures are valid and reliable. In all cases, because the data used in this project have been used in previously published research, and in many cases collected by internationally recognized research agencies, the present author considers them both valid and reliable.

* Data for corruption in national education systems came from the Global Corruption Report: Education issued by the watchdog group Transparency International (2013).

[C]orruption ruins lives and obstructs attempts at social and economic development. This is particularly true for the education sector. Education gives young minds form and shape and transmits vital knowledge – a process that shapes the societies in which we live. It is therefore essential that education services are not hindered and distorted by corruption. (p. xiii)

3. RESULTS

As can be seen in Table 1, national stability and human development measures are highly correlated with measures of literacy and how much time students spend in school. Interestingly, the amount of money nations spend on education seems to be unrelated to the stability and human development. Perhaps this shows that the absolute amount of money spent on education is less important than how the money is spent. In addition, the table shows that as education system corruption increases, stability, human development, and polity all decrease, although the strongest negative relationship was to national stability. Table 1 also includes Salkind’s (2000, p. 96) descriptors of correlation coefficients.

Pearson Product Moment Correlations National Development Indices and Education/Literacy Measures				
	Literacy Index	School Life Expectancy	Public Expenditure on Education	Education System Corruption
Stability	r = 0.655 p < 0.001 M	r = 0.815 p < 0.001 S	r = 0.340 p < 0.001 W	r = -0.651 p < 0.001 S
Polity	r = 0.329 p < 0.001 W	r = 0.449 p < 0.001 M	r = 0.223 p = 0.022 W	r = -0.196 p = 0.120 VW
Each cell shows the correlation coefficient, the probability, and Salkind’s strength of relationship descriptor (V = very strong, S = strong, M = Moderate, W = weak, VW = very weak)				
Table 1				

Using the Fund for Peace Fragile State Index descriptors that divide the 178-nation list into four groups (alert, warning, moderate, and sustainable), two sets of analyses were run. First, simple average scores for each of the sustainability groups within the four education measures were computed (Table 2), using the two sets of analysis of variance, against the averages shown in Table 2.

Then, using these averages, two sets of analysis of variance were run (Table 3 and Table 4) comparing the two stability measures against the four education scales. These data show significant differences among the four stability groups within the two levels of stability, further validating the strong connections between the stability and education components.

Average Scores National Stability Levels Compared Across Education-Related Scales (Literacy, School Life Expectancy, School System Corruption, Public Expenditure on Education)		
	Avg.	N
Literacy	Average score (index range = 21.8-99.9)	
Alert	44.400	2
Warning	54.218	11
Moderate	78.185	105
Sustainable	96.510	50
School Life Expectancy	Average score (index range =3.00-20.00)	
Alert	4.00	1
Warning	7.11	9
Moderate	10.42	98
Sustainable	14.96	48
Public Expenditure on Education	Average score (index range = 0.60-9.99)	
Alert	4.300	1
Warning	2.00	1
Moderate	4.412	66
Sustainable	5.191	46
Education System Corruption	Average score (index range = 2.00-4.00)	
Alert	--	0
Warning	3.40	1
Moderate	3.29	33
Sustainable	2.55	31

Table 2

Analysis of Variance Educational Factors with National Stability						
		Sum of Squares	df	Mean Square	F	Sig.
Literacy	Between Groups	25093.489	9	2788.165	10.443	p < 0.001
	Within Groups	44053.457	165	266.991		
	Total	69146.945	174			
School Life Expectancy	Between Groups	1055.044	9	117.227	17.703	p < 0.001
	Within Groups	1013.152	153	6.622		
	Total	2068.196	162			
Public Expenditure on Education	Between Groups	31.390	7	4.484	1.517	p = 0.169
	Within Groups	325.167	110	2.956		
	Total	356.557	117			
Education System Corruption	Between Groups	10.158	3	3.386	12.838	p < 0.001
	Within Groups	16.353	62	0.264		
	Total	25.510	65			
Stability Groups: 1 – Alert 2 – Warning 3 – Moderate 4 – Sustainable						
Table 3						

Analysis of Variance Educational Factors with Polity						
		Sum of Squares	df	Mean Square	F	Sig.
Literacy	Between Groups	29913.181	20	1495.659	6.068	p < 0.001
	Within Groups	32043.160	130	246.486		
	Total	69146.945	150			
School Life Expectancy	Between Groups	1012.396	20	50.620	6.900	p < 0.001
	Within Groups	895.059	122	6.622		
	Total	1907.455	142			
Public Expenditure on Education	Between Groups	108.908	17	6.406	2.759	p = 0.001
	Within Groups	202.014	87	2.322		
	Total	310.922	104			
Education System Corruption	Between Groups	11.300	11	1.027	4.380	p < 0.001
	Within Groups	12.197	52	0.235		
	Total	23.496	63			
Stability Groups: 1 – Alert 2 – Warning 3 – Moderate 4 – Sustainable						
Table 4						

4. DISCUSSION

How, then, do we explain the relationship between the status of the nation-state and education? Let us look at each of the measures in turn.

Stability.

As noted earlier, the stability index was created by the Fund for Peace and represents how unstable (vulnerable to internal upheaval) a country is. As can be seen in both the correlations and F-scores, there is a direct relationship between education and national stability. Why might this be? After all, education can, in itself, be a destabilizing influence. An educated person will be more likely to point out flaws in the government, and thus upset the people.

An educated population, however, can also provide a check on run-away government, and can give the population a feeling of participating in the system, thus lowering the potential for violent change.

Polity.

The Polity IV project measured authoritarianism and democracy across nations, and the correlations between polity and education factors were the strongest in this study.

As with national stability, education and literacy is most closely associated with democracy and the ability of the population to participate in government. Obviously, an authoritarian government, which sees itself as having all of the answers to societal problems, will be less likely to tolerate a highly educated population.

Human Development.

This United Nations -funded index measures how much choice and participation the people have in their government. This index showed the weakest relationship with education, although the results were still significant. Why might that be?

The Universal Declaration on Human Rights (United Nations, 1948), contains three sections that may prove contradictory:

- * Article 12 prohibits “attacks upon . . . honor and reputation. Everyone has the right to the protection of the law against such . . . attacks.”
- * Article 19 states “Everyone has the right to freedom of opinion and expression . . . and to seek, receive and impart information . . . through any media. . . .”
- * Article 26 says “Everyone has the right to education [which] shall be directed to the full development of the human personality and . . . fundamental freedoms.”

Some nations, nevertheless, claim that the exchange of ideas undermines national sovereignty. For example, “Principles for Organizing Satellite Broadcast and Television Transmission and Reception in the Arab Region,” calls on Arab League members to restrict satellite transmissions that “negatively affect social peace, national unity, public morals,” or which “defame leaders, or national and religious symbols” (Human Rights Watch, 2008). The U.N. is thus faced with perhaps conflicting goals: protecting human rights while at the same time not infringing on national sovereignty.

In balancing these competing interests, it makes sense that the world body may take a less absolutist view of the value of education and the exchange of ideas than do organizations that openly espouse the absolute value of education as, among other attributes, the exchange of ideas. This would tend to lower national education scores which would then be reflected in a weakened relationship between human development and education. This notion is further confirmed if we compare the three national

development scores, which showed the United Nations' score had a weaker correlation with polity and stability than did polity and stability between themselves.

At this point, we can conclude that there is a strong positive relationship between each set of variables (measures of national development and measures of education and literacy). However, we must be careful and not assume there is a causative relationship. Indeed, there are two possible directions for causal ordering: national stability leads to more literacy, or higher levels of literacy lead to national stability. Without an analysis of long-term historical trends, the direction of the causal ordering is impossible to determine. Future research can certainly investigate how polity and literacy work together, and what other factors such as press freedom, economics, and political structure contribute to the relationship.

There is also the very pragmatic issue of how to apply this information: should nations with high scores in the areas of polity and humanistic development make efforts to encourage education in an attempt to influence democratic movements in totalitarian countries, or should those same countries try to influence totalitarian governments in an attempt to encourage literacy? Or can both efforts be carried out simultaneously? Or is it even the place of countries with a tradition of valuing human worth and dignity to try to influence those which place less value on these ideas? Indeed, the answers to these questions may themselves be secondary to the process of the debate itself.

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International Journal Of The Whole Child

2017, VOL. 2, NO. 1

Music in the Classroom

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In order to maximize children's learning environment, this article describes how classroom teachers may introduce different types of music into the daily classroom schedule; current findings indicate music contributes to students' learning. This discussion identifies several different kinds of music and further describes how classroom teachers and children may benefit from listening to music as background for learning.

Introduction

Music, as a universal language, surrounds us and permeates our lives. So, as educators, is it not reasonable to routinely implement music into the daily dynamic of our classrooms? Typically, the content, instruction, and assessment we provide our students utilize the linguistic and mathematical arenas. Yet music, with respect to listening to, learning about, and practicing, simultaneously engages both brain hemispheres (Reimer, 2004; Sherman, 2011). Howard Gardner posits that individuals represent a range of multiple intelligences (Gardner, 1983; Gardner, 2006). In addition to the traditional references to linguistic and logical-mathematical intelligences, Gardner as well describes bodily-kinesthetic, spatial, interpersonal, intrapersonal, naturalistic, existential, and musical as inherent capacities. Children with musical intelligence are skilled with the ability to appreciate and produce rhythm, timbre, and pitch; as well, they have a great appreciation for the various forms of musical expressiveness (Gardner & Hatch, 1989). Children tend to learn more effectively when there is music in the background, when the teacher speaks rhythmically, and when lessons are turned into lyrics. As educators, by incorporating music into our classrooms, we are creating another possibility for our children to be comfortable and learn.

For this current discussion, music in the general education curriculum is defined as usage in any way to enhance a lesson or usage as background music in the general education classroom. This does not include activities in the music classroom or outside music lessons. The purpose of this discussion is to consider how background music may contribute to children's learning.

Music and Physiology

Sherman (2011) reports listening to music increases blood flow to the brain. When we listen to music, multiple parts of the brain are active at one time. Using MRI machines, researchers discovered that as subjects listened to and processed the music, multiple parts of the brain were activated concurrently, rather than in one predominant area. This processing of the music and sound was happening simultaneously.

When engaging in musical activities, either as a novice or a professional, both brain hemispheres are activated along with cerebral cortex activity and memory retrieval (Reimer, 2004; Sherman, 2011; Wilkinson, 2013). The physiology of the brain, while having seemingly central locations for certain mental and physical functions, is quite individual and diverse. These individual differences can be demonstrated in many ways. For example, it is probable that different life experiences will cause different developments in the brain (Reimer, 2004).

Whether one likes to admit it or not, music has a physical effect on our bodies as well as our emotions. Many people like to [exercise](#) to up-tempo music in order to help drive them forward to complete their workout. In [yoga](#) classes, however, one will find the music to be more peaceful and serene. This is because of how we uniquely respond physically or emotionally to the music to which we listen.

Findings demonstrate that music with a faster tempo causes an increase in a participant's blood pressure as well as a rise in the heart and breathing rates. In contrast, listening to slower music evidences a lowering of breathing and heart rates (Trappe, 2012). [Baroque music](#), whose tempo averages around 60 beats per minute (the relaxed pulse of a healthy heart), regulates heart rhythm and blood pressure and lowers cortisol levels (Wilkinson, 2013). Could this be a reason why we drive a bit faster when listening to music with an increased tempo or why, in a spa, in order to relax, we hear music that is soft and with a slower tempo? In other words, music and behavior are related and music choices may not be incidental, but made intentionally to evoke a particular response.

Currently, music is used therapeutically in the treatment of different diseases. Data describe how music therapy contributes to an individual's well-being by lowering anxiety levels, decreasing blood pressures, and diminishing heart rates. Music therapy is also shown to help reduce the risk of future events such as heart attack and death (Trappe, 2012).

Stress is an everyday part of life. We experience stress in our homes, work, and school settings. Even the youngest child can experience stress. It is the ways in which we handle stress that determine possible harm to our bodies. Prolonged periods of stress can cause gastro-intestinal (GI) problems, high blood pressure issues, headaches, sleep disturbances, and fatigue behaviors. Emotionally, because of stress, one could have outbursts of anger, anxiety, and depression. This physiological response includes the release of the stress hormone, cortisol (Yehuda, 2011). Findings indicate listening to music can help lower the amount of cortisol released in stressful situations (Yehuda, 2011). A musical piece in a [major](#) (happy) key lowered the levels more than those in a [minor](#) (sad) key. This same study showed that techno music actually increases the cortisol level. On the other hand, pleasant music leads to the release of dopamine and serotonin in the brain, both of which are regarded as "good mood" hormones.

Music also affects brain waves. Two types of brain waves are alpha and theta. Alpha waves appear during relaxation and theta waves appear during deep relaxation. Music, of a specific tempo (50-80 beats per minute), can help to stabilize mental, physical, and emotional rhythms and lead students into the alpha brain wave state. The alpha brain wave is a state of relaxation, deep concentration, and focus during which large amounts of information can be more easily processed (Brewer, 1995). Some commercial

interests believe that people can focus their attention on a particular rhythmic stimulus long enough as to reach a different level of awareness (Transparent Corporation, 2015).

Music: Feeling and Thinking

Music affects the human body and can influence emotions. If you are feeling gloomy, what music might you listen to in order to uplift your outlook? For me, listening to [Motown](#) or [Broadway](#) works well to adjust my attitude.

Studies indicate that the use of background music in the classroom lowers teacher's anxiety and increases students' attentiveness ([Can background music help learning?](#), 2008). When our stress levels are high, we are unable to concentrate and make intelligent and informed choices. Music helps to reduce stress by lowering cortisol levels, the hormone released in stressful situations (Yehuda, 2011).

Music also has the power to move us to action. The Civil Rights movement inspired songs like "[We Shall Overcome](#)" and "[We Shall Not Be Moved](#)." Similarly, during the Revolutionary and Vietnam Wars, people used music to rally around and articulate anti-war sentiments ("Yankee Doodle" by Dr. Richard Shuckburgh; "[Ballad of the Green Berets](#)" by Robin Moore and Staff Sgt. Barry Sadler; and "America" by Samuel Francis Smith).

When you hear a song from your childhood or youth, the music takes you back to another place in time. Does a particular song motivate you to smile? In contrast to happy feelings, does hearing some music/song cause you to remember a sad event? Listening to music allows us to revisit experiences and feelings many years in the past. How is this memory recall possible? Alzheimer's patients can recall memories from years past when an old familiar song is heard. This is because music uses both hemispheres of the brain. Music creates brain activity many other methods, like conversation, cannot achieve (Sherman, 2011).

Music and Content

When considering an ethnicity or culture, music is always one of the topics discussed. Music and the arts is an important part of cultures across the world. For example, [Polka](#) music is an inherent part of German culture, as is lederhosen and Oktoberfest. Mexico is known for their [mariachi](#) bands, Ireland for [Celtic](#) music, and the pentatonic, or five-note, scale gives [Eastern](#) music a distinct sound. In addition to New Orleans as the birthplace of [jazz](#), the United States is also home to gospel and rock and roll. Music provides a window into the history, culture, and ethnicity of a country. Music provides a window into the history, culture, and ethnicity of a people.

Our goal, as educators, is to enable our students to become critical, reflective, and informed citizens. To this purpose, we teach critical thinking in science, math, literature, and the arts. As we introduce our students to the cultures of the world, we support their understanding of how to relate to these differences. As Mr. Glenn Holland says, "I guess you can cut the arts as much as you want, Gene. Sooner or later, these kids aren't going to have anything to read or write about." (Mr. Holland's Opus, 1995). In other words, it is the arts that make us human and unique and music is integral to our human capacity.

Music and Schools

Regarding using music in schools, a local teacher uses [isochronal](#) music in his classroom on a consistent basis (F. Smith, personal communication, September 2016). Isochronal tones are singular tones being turned on and off rapidly which are then overlaid onto a music track. Isochronal tones can be played through speakers. Binaural auditory beats must have two tones in each ear and require the use of headphones. Websites tout that isochronal music can help increase cognition and focus and can increase emotional stability and motivation or energy (Transparent Corporation, 2015). If this were true, then listening to music with isochronal or binaural beats would prove to be an effective study aid. Other than websites promoting material for purchase, minimal research can be found to prove the validity of using isochronal music as a study aid. However, this particular teacher finds that his students are more focused and remain calmer on the days it is playing. He also finds that he, as the teacher, is more focused while listening to this type of music (F. Smith, personal communication, September 2016).

Kennel, Taylor, Lyon, & Bourguignon (2010) conducted research on 20 participants with ADHD ranging in age from eight-21 to see if binaural auditory beats (BABs) would increase their attentiveness. Students were given various tests, some while listening to music with BABs while the control group was provided with a similar audio CD that did not contain BABs. There was minimal evidence to prove that BABs have any effect on students' attentiveness. However, parents and adolescents in both groups noted less inattentiveness in homework assignments during the study and requested a CD for personal use. Despite the lack of significant findings, it appears listening to the soothing background music was perceived as a positive experience.

“There exists a serious lack of understanding, in education, of the importance of music in neurological and emotional development and learning” (Wilkinson, 2013, p. 29). This lack of understanding, in most instances, is the reason why funding for music and the arts, in general, is the first to experience diminished budgeted resources. With an improved understanding of the relationship between music and thinking and feeling, educators may more effectively meet the needs of many more of their students.

Wilkinson (2013) describes how in one scenario, music was played to ‘at-risk’ students during an art class. Previously, these students held their emotions inside and were reluctant to express their feelings artistically, let alone verbally. While listening to the music during art class, these students appeared more able to freely express their feelings through their artwork. The music seemed to allow a gentle release of tension in a non-aggressive way (Wilkinson, 2013).

Whether to release tension or to improve moods, people generally listen to music for its emotional effect. A song from years long past can remind the listener of teenage heartbreak or quiet joy. Songs with moving lyrics or moving music itself can bring the listener to tears. A commonly held view is that music acquires its emotional meaning from association with consequential events (Krumhansl, 2002). Often, a listener will connect musical pieces with a specific moment in his or her life. A person's emotional response to music can be said to be a function of both the music and the individual (Daly et al, 2015).

Due to differing individual responses to external stimuli under the same conditions, emotions are highly subjective (Bhatti, Majid, Anwar, & Khan, 2016). The human range of emotions is generated from a basic set of emotions which is not a set standard; brain scientists and psychology experts propose different models which include happy, sad, joy, anger, and fear. Because of the subjective quality of our emotions, it is impossible to truly know how a student will react or be affected by the music an educator chooses to use in his or her classroom. However, through music, the aesthetic exposure we present to our students may have the potential to develop within them a sense of emotional and empathic well-being.

Just as music affects our bodies' physiological responses and our emotions, music can also have an effect on our students' learning. Music simultaneously stimulates both the left and the right sides of the brain (Wilkinson, 2013). Additionally, music also stimulates the limbic system, which is responsible for long-term memory. Findings demonstrate how students learned three-to-five times faster than normal when background music was played while learning new material (Wilkinson, 2013).

Studies describe the effects of playing "background" music in the classroom (*Can background music help learning?*, 2008; Savan, 1999). Background music is music that is heard but not actively registered by the brain. Music which captures the listener's attention is no longer functioning as background music (Savan, 1999). Background music helps to lower teacher anxiety, raise student involvement, and student productivity (*Can background music help learning?*, 2008).

In a study done at Moseley Secondary School in Birmingham (UK), two different science classes with the same teacher were observed both with and without playing background music during the lesson. Dr. Penny Upton, a psychologist, observed the students and the teacher. She described how, before the background music was playing, students were fidgeting and the girls were more focused than the boys, who were just chatting. Once the music began to play, she noticed that the fidgeting ceased and the boys began to focus on their work. She also discussed how there was less anxiety and stress on the part of the teacher (*Can background music help learning?*, 2008).

One element shared by many studies is the importance of the volume and genre of music chosen to be background (Cantor, 2013; Dolegui, 2013; Hallam, Price, & Katsarou, 2002). As the brain processes, cognitive function is impaired when the brain is trying to focus on the lyrics of a song as well as understand new material. Students are less able to focus on their work if the music is familiar or contains lyrics. Findings indicate it is calming, relaxing music that has a benefit on cognitive function (Hallam et al., 2002). Hallam et al. (2002) found the calming and relaxing music helped students to complete more mathematics problems as well as remember more missing words from sentences. Participating students interviewed in the study at Moseley described the music as soothing and relaxing the mind. In addition to background music helping with concentration, students also identified motivation as a benefit (*Can background music help learning?*, 2008).

The entire brain is involved when listening to or making music (Sherman, 2011). Passive listening does not make one smarter, but it does help to increase attentiveness.

Just as important, if not more, as the genre, or style, of music is the volume of the music being played. True background music is played at a volume so as to not require the teacher to raise his voice when speaking with the students. Louder music distracts students from their work. It has a negative effect on their memory and leads to a lower level of pro-social behavior (Hallam et al., 2002).

Savan (1999) describes how ten 11-12-year-old boys with Emotional-Behavioral Disorder (EBD) saw an improvement not only in their work and attention span, but also in their behavior when background music was introduced. The students were played selections of [Mozart's](#) orchestral music during five 40-minute science classes. Data recorded drops in blood pressures and decreases in heart rates and body temperatures as well as noting improvements in behavior and attentiveness. These physiological improvements caused an increase in co-ordination which may in turn have helped to decrease the students' frustration levels and allowed them more self-control.

Music is demonstrated to be a useful learning tool, not only as background music, but as an active instructional alternative (Lum, 2008). Lum (2008) interviewed Singaporean mother-tongue teachers about their use of music in their classrooms. One of the teachers is an avid musician and strives to share her love of music with her students and often plays background music of her choosing while her students do seatwork. Another of the teachers interviewed uses songs in her lessons to help teach vocabulary words. She noticed that her students paid more attention and were more interested in a lesson when she introduced a song.

Teaching students songs that go along with a lesson is an effective way to incorporate music into the general education classroom. For example, during her unit on plant and animal cells, an area teacher introduces her students to the "[Cell Rap](#)." Her former students of years past can still sing this rap that helps them to remember the make-up of both plant and animal cells (B. Tuverson, personal communication, October 2016). Music reinforces memory.

One of the most important reasons to include music in the classroom is that "using music for learning makes the process much more fun and interesting!" (Brewer, 1995, p.1). Brewer provides several benefits to using music in the classroom which include facilitating a multisensory experience, establishing a positive learning state, creating a desired atmosphere, and energizing learning activities.

The musical influences of the mother-tongue teachers in the Lum (2008) study played a major role in their use of music in their classrooms. Devi shares her love of music with her students and encourages her students with musical backgrounds to perform at school assemblies to share the Indian culture they study with other students. The musical influences of teachers will naturally transfer into their classrooms. Music is a part of who we are as human beings. Allowing these influences to enter the classroom, will allow our students to know more about us and relate to us as people and not merely "the teacher." As children share their favorite music with one another and the teacher uses music in lessons and as instructional background, music can play an integral role in relationship building in the classroom community (Wolpert-Gawron, 2014).

A teacher can use music in many ways and for different reasons in his or her classroom. It can be used as an aid to teach vocabulary (Lum, 2008; Wolpert-Gawron, 2014; Brewer, 1995), to supplement history lessons (Antepencko, 2008), and to serve as writing prompts (Antepencko, 2008; Brewer, 1995; Wolpert-Gawron, 2014).

Conclusion

As contemporary educators, we daily interact with a range of students' cultural, ethnic, language, and ability differences. Admittedly, there is no "single learning alternative" that is effective for all children. Yet, it appears that music may offer the classroom teacher with a least expensive, least intrusive, and most inclusionary tool to assist in their learning. Using music as background for learning is nonthreatening and suggests a potential for establishing a "safe and comfortable" context for all children to learn. So, give music a try in your classroom and don't forget to ask your students how they are feeling and thinking about the music.

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Pictures for Reflection

For the toddler, the world is a place of adventure, exploration, and wonder. Adults provide children with a variety of risk-free opportunities to experience different materials, textures, elements, ingredients, objects, and tools. Young children come to know their world by touching, manipulating, lifting, dropping, and throwing. Sometimes, children experience by tasting; watchful adults are close-by to guide safe exploration.



Through exploration, children compare. Children learn the contrasting properties between grass and concrete, water and ice, and mulch and ravioli. Even when children successfully use tools in their exploration, they may, at the last minute resort to the “tried and true” use of fingers. Misapproximations are expected and practice is encouraged. Making sure you do not lose a ravioli is a natural and positive motivation.





International Journal Of The Whole Child

2017, VOL. 2, NO. 1

Solar Eclipse Safety

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Here are links to the NASA and MTSU web pages related to the Aug. 21, 2017 eclipse. Pay particular attention to the links related to safety.

<https://eclipse2017.nasa.gov/>

<http://mtsu.edu/eclipse>

Or, do this Google search: “solar eclipse” site: edu

There are several safe ways to view the eclipse, and many web sites will give you important information about how to do so. But, because of the dangers involved, let’s look at what NOT to do:

DO NOT look directly at the sun unless you are using special “eclipse glasses” or #14 welder’s glass. Looking at the sun with unprotected eyes could lead to permanent blindness. No type of regular sunglasses will protect your eyes if you look directly at the sun.

DO NOT point your camera directly at the sun unless you are using a special sun filter mounted on the camera. Neutral density filters will NOT work.

DO NOT try to hold # 14 welder's glass in front of your camera and try to take a picture. If the glass slips out of position you could burn out the camera or your eyes.

DO NOT point your unprotected camera at the sun then look through the view finder, even if you are wearing "eclipse glasses." You will burn out the sensor in your camera and possibly burn a hole in your glasses, leading to damage to the retina in your eye.

We're somewhat reluctant to say this, but you can look directly at the sun, **BUT ONLY DURING TOTALITY.**

By the way, looking at the sun wearing regular sunglasses can cause even more damage. That's because although the glasses make the sun darker they do not block ultraviolet rays, which are what causes the damage. So you may be able to look at the sun longer without pain, but the damage will still be there.

You may come across numerous web sites where the owner say they stared at the sun without damage. But they don't tell you the whole story. Yes, you can look at the sun without damage, but only within 10 minutes of sunset and sunrise when the sun is low on the horizon and the atmosphere scatters the harmful ultraviolet rays.

We do not recommend doing a simple Google search to find information on sun-safety. You will find too much misleading information (see the paragraph above). Many colleges and universities, however, have launched eclipse-related sites, and they are easy to find: (1) Go to Google.com (2) In the search box put < "solar eclipse" site:edu > (without the brackets). This will take you to hundreds of university web sites related to the eclipse.



International Journal Of The Whole Child

2017, VOL. 2, NO. 1

Panama Moments

Hilary Nelson^a

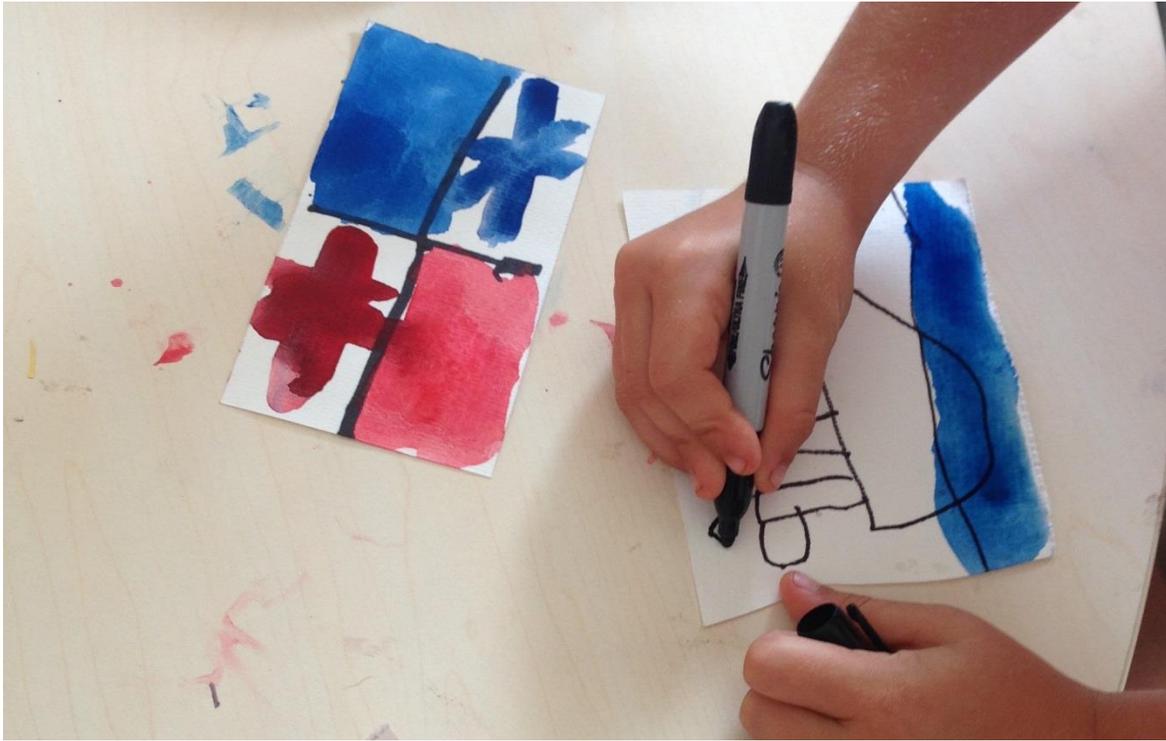
^aMarin Preparatory School

Hilary Nelson is currently teaching at the Marin Preparatory School in San Francisco, California. Her reflections on teaching in a multiage school in Panama highlights the roles choice, interest, and Project Based Learning have in exploratory, experiential learning.

An amazing thing has been happening: our students are exhibiting spontaneous, uninhibited cooperative learning through play. When we let children figure things out on their own, something magical appears, without adult instruction. And the results are always uncertain—thank goodness.

Every morning, when I set out the familiar centers for my students to work at, I am usually met with questions. “What do I do here?” But last week, when I set out some small pieces of watercolor paper and paints, something completely different happened. Though there was no assignment, my students proceeded to take matters into their own hands and created things that were important to them.

“Where does the blue star go on the Panama flag?” Lorenzo inquired. He was busy recreating the flag of his native country and doing remarkably well. “The blue one goes here and the red one goes here,” Nuria advised, as she pointed out with complete accuracy where each star should go. I was astounded.



“I want to do a Kandinsky painting,” Sienna stated as she began to create bold lines and overlapping shapes in true Wassily style. Whoa! *Kandinsky?*



Kandinsky inspired watercolor painting

On another day, every student decided to create a center to run and successfully manage during recess time and beyond. Instant enterprise. We had two dentist offices, both offering free service to those who needed a check up. The girls decided to create a “relaxation center” and eventually expanded to a “tattoo center.” Each business thrived, allowing productive group work, intense brainstorming sessions and even, at times, compromise.

School is organic, alive, constantly evolving, ebbing and flowing with investigation and entrepreneurial learning. And ours has a strong, steady current. Kids write their own curriculum without knowing it. Math skills to be learned: graphing, ordering operations, and adding. Coincidentally, they were on Alistair and Dash’s schedules as they were busy with their clipboards, “just checking things off out there, making sure everything is good.” It was. Inspection results: pass.

Science was on the agenda as the group went outside to lift up a huge rock using a simple machine: a lever. “Ms. Hilary, if we put this wooden plank here, place it under the rock and sit on the other end, it lifts it up!” The boys exclaimed. Physics lesson: pass.

Simon is busy working on books, making chapters and creating words. “Ms. Hilary, how do you write, ‘mystery’?” I offer the spelling and he carefully writes it in his journal. “Simon, what will this story be about?” My curiosity was insatiable. “You’ll see, Ms. Hilary.” His mysterious response sounded eerily like something I say to the kids when I want to explain a concept to the whole group rather than an individual.

We all know that kids are capable of imaginative play, but being in an environment of supportive, collaborative peers encourages everything that we need them to learn: how to get along, lift each other up, work together and create something bigger than themselves.

During this time of extreme self-motivated play, I’m reminded of something that progressive educator Francis W. Parker said, “Watch the child, watch his attitude of attention. Is it spontaneous? Is the light of pleasure in his eyes? Is interest the motive which controls him?” Attention, spontaneity, pleasure, and interest: pass.

Yes, interest does drive and motivate these children and no idea is off limits. “Ms. Hilary, do you want to get a tattoo at the tattoo center?” Yes, yes I do. I’ll take one of Mila’s fictional ‘hexagooligan’ designs and a black heart (the new ‘it’ tattoo, apparently). I’ll pay tomorrow after Yago prints off the rest of his new currency. The currency of this play is learning progress, executive function, and business management. But don’t tell the kids. They think they’re just having fun at an extended recess.

