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Introduction



In order to support educators' plan to be strategic in optimizing children's holistic experiences, this Spring 2018 IJWC issue provides international readers with deeper understandings associated with how culture, family, and environment influence designing quality learning opportunities. As professional educators, we acknowledge issues confronting one population may be somewhat different than another, but also we understand the issues may as well be similar in many critical ways. In order to ensure children's intellectual, social, and emotional well-being, on behalf of the global community of all children, what factors might we consider as commonly shared and of critical importance?

The IJWC mission is to share stories representing diverse populations, highlight best practices supporting authentic learning, and provide examples of interactions showcasing learning as holistic, genuine, and caring. By providing a variety of perspectives, readers are invited to step out of their comfort zones and question, challenge, and extend their current thinking.

Articles

In the first manuscript, "Childrearing Experiences in Cross-national Families," Yajuan Xiang and Tori Colson identify cross-national family as an understudied group. Using qualitative data, their findings contribute to this minimally explored area - multicultural parenting experiences. The findings provide evidence the role of place of residence, language, and extended families and friends, as cultural media, influence multicultural parenting experiences. Xiang and Colson describe how the country of residence (through the dominance of cultures, values, and beliefs) influence couples in their childrearing practices. Additionally, authors describe how living in the U.S. influenced children's learning opportunities, parental responsibilities, and parenting practices. As couples become ever more mobile, opportunities for teachers to interact with children of cross-national families increases. This research study provides valuable insight for both parents and teachers.

In the second article, "Differentiated Instruction: A Band-Aid Approach for a Flawed System," Sandra J. Stone questions the current emphasis on differentiation and challenges whether or not differentiation truly supports children's holistic learning. While initially well-intended, Stone discusses how by residing within the curriculum, differentiation is not child-centered; by focusing efforts to master standards, differentiation discounts individual children's developmental continuum; and by narrowing assessment possibilities, differentiation undermines children's opportunities to engage in genuine, authentic, and

long-range holistic learning experiences. On behalf of all children, Stone invites readers to reject the “mainstream think” and consider a balanced, social, and respectful alternative.

In the third article, “Early Childhood Education in Iran: Progress and Emerging Challenges,” Maryam Sharifian, building on her extensive fieldwork with marginalized populations, describes the status of early childhood education in Iran. She identifies challenges associated with dual governmental oversight, describes issues related to private schooling and the influence of socioeconomic status, and discusses the challenges related to teacher preparation and equitable staffing. As a positive note, Sharifian reports increasing numbers of parents realize the importance of high quality early education and, as well, are more sensitive to issues related to second language and special needs learners. Yet, despite the improved status of education, she also identifies issues making access to universal pre-primary school programs difficult. In an effort to improve the lives of Iranian children, Dr. Sharifian calls for a discussion beyond political borders and an opening of professional conversations across cultures.

Pictures for Reflection

Without children knowing their environment, how can they well adapt and become a steward of the global community? In “Playing in the Snow and Much More,” the photographs show children playing in the snow; yet, the informed adult knows there is much, much, much more happening. Playing in the snow is a holistic learning experience; the children use their intellect to plan, design, and organize props; use their emotions to embrace the cold, enjoy friends, and celebrate the play event; and use their physicality to roll, carry, and pack the snow. Some parents and teachers report children no longer want to go outside and play. “It is too cold. What can I do?” If this is the case, as facilitators for children’s well-being, let us take a few minutes and revisit the photographs to discover what is truly happening as children play in the snow.

Tech Talk

Larry L. Burriss, cosmologist-wanna-be and long-time Star Party groupie, in “Star Parties: Bringing the Infinite Universe into a Small Classroom,” describes the extraordinary learning possibilities afforded the local community through university-sponsored Star Parties. With the support of technology, the wonders of the universe are made conceivable each month. Burriss describes how it becomes possible for the Star Parties to bring the sights and sounds of the universe into the classroom.

ETC.

Highlighted as an example of extraordinary holistic planning, in the fourth article, “Teaching Sustainable Practices as Part of a Holistic Education in the Saudi Context,” Ahlam Alghamdi, James Ernest, and Fatimah Hafiz illustrate the powerful capacity of storytelling to well integrate culture, environment, and religion into children’s learning. The authors describe how teachers nurture Saudi children to become caretakers for their natural sand-desert environment, while simultaneously underscoring the critical importance of culture and religion in the daily lives of all Saudi citizens. Using the potential of storytelling as a most effective instructional alternative, ensuring authentic play events with sand, and integrating and affirming the tenets of the Quran, teachers support children’s emerging understandings of their critical role and responsibilities in their physical world and cultural framework.



Childrearing Experiences in Cross-national Families

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Abstract

Cross-national family is an understudied group. In the past, research on this group tended to focus on the challenges confronted by the couples in marital conflicts impacted by the unique stressors within the family including: place of residence, disparate language and cultural differences, societal attitudes, and extended families and friends. A relatively small proportion of the literature focused on multicultural parenting experiences which is recognized as a turning point for increasing conflicts within couples. Through surveys and selected interviews, this qualitative study provides insightful narrative descriptions to further understand how the unique stressors might impact childrearing experiences. Results describe parents' perceptions on their cross-national marriages and multicultural parenting experiences.

Keywords: childrearing; multicultural parenting; cross-national family; international marriage; cultural impact; language; place of residence; societal attitudes; extended family

Introduction

Typically, a cross-national couple is a married pair who has different countries of origin. Consequently, the couple is often ethnically, culturally, and racially different. They may possess different nationalities and citizenships as well as share different fundamental cultural values and norms. Recent demographic data indicate a trend of diversified family structures in the United States (U.S.) (Bikel & Mandarano, 2012). Although data pertaining to cross-national marriages are still not available, in 2015, a total of 1,051,031 persons became legal permanent residents of the U.S. Of these, 265,367 (25.2%) gained their residence as a spouse of an American citizen (Baugh & Witsman, 2017). This number portrays an image of cross-national marriage in the U.S. Since such marriages were often subsumed in discussions of other types of intermarriages including interracial, interethnic, and intercultural (Cottrell, 1990; Lee & Fernandez, 1998; Seto & Cavallaro, 2007), cross-national couples and their families are not adequately represented in the research literature (Adams, 2004; Crippen & Brew, 2013). Distinguishing this

population from general intermarital studies is challenging, but necessary to understand the unique features of such a group.

To date, research studies suggest cross-national couples faced unique stressors due to the nature of their marriages. Seto and Cavallaro's (2007) described primary stressors such as: gaining legal status for foreign spouses, coping with limited linguistic acquisition of foreign spouses, maintaining family ties in both countries, and responding to societal reactions and cultural complexities within couples. Other findings identify further challenges as lacking of social support, adjusting to the new culture, and reframing cultural differences within couples, especially for cross-cultural parenthood (Baltas & Steptoe, 2000; Bustamante, Nelson, Henriksen, & Monakes, 2011; Crippen & Brew, 2007; Kuramoto, Koide, Yoshida, & Ogawa, 2017). This research trend tended to focus on the challenges confronted by couples in potential marital conflicts. Minimal literature studies have explored opportunities in such families and lack an emphasis beyond the dyadic couple system (Bhugun, 2017; Bustamante et al., 2011; Crippen & Brew, 2007; Djurdjevic & Roca Girona, 2016). Generating from a balanced perspective, the current study, therefore, aims to examine the impact of traditionally recognized stressors among cross-national families on their childrearing experiences. To provide clarity for readers, the authors define major terms in Table 1 commonly used in this study. The definitions were developed specifically for the current study; the terms may be used differently in other research literature.

Table 1: *Major Term Definition*

Term	Definition
Intercultural couple	a heterosexual married pair who are from two different cultural backgrounds.
Country of origin	the country of residence in which a person was born and raised.
Cross-national/international marriage	a heterosexual marriage between people from two different countries of origin.
Cross-national couple	a heterosexual married pair who are from two different countries of origin.
Cross-national family	a cross-national couple and their biological child/ren in a single household.
Foreign-born spouse	a member of a cross-national couple who currently resides in a country other than one's country of origin.
Native-born spouse	a member of a cross-national couple who currently resides in one's own country of origin

Literature Review

In many cases, cross-national couples have to determine a place to live. Depending on which country the couple decides to reside, at least one spouse must learn how to function in a foreign country. People who live abroad were found to experience a range of negative emotions, such as: social isolation, inadequacy, a feeling of being caught between two cultures, etc. (Adams, 2004; Molina, Estrada, & Burnett, 2004; Sinha, 1998; Wieling, 2003). Therefore, foreign-born spouses were often restricted in the amount of social support received, experienced distress, and may have felt inadequate to fulfil parental roles, as they were challenged to learn and build a new supporting system in a different country (Imamura, 1990). Kuramoto et al. (2017) pointed out that the power of residence hindered foreign-born spouses from obtaining educational resources to teach their heritage culture and language to children and granted the native-born spouse more power within the relationship. They have less need to move to their spouses'

home countries, change habitual ways, and acculturate into the culture of their spouses (Kim & McGoldrick, 1998; Rosenblatt, 2009; Wieling, 2003). Unfortunately, the unequal power distributions within couples may worsen the marital relationship and further complicate childrearing in the long run (Romano, 2008).

Language, as the primary mechanism by which people share meaning, has a significant impact on cross-national couples. Couple relationships and parenting experiences include the language choice within couple communication and with children, one's language proficiency of their spouse's first language, and the language choice in the larger community. With limited language proficiency, foreign-born spouses reported difficulties in socializing, limited career options, adjustment issues related to a new culture, and challenges in raising children (Ali, 2008; Romano, 2008; Turney & Kao, 2009; Yaman, Mesman, van IJzendoorn, & Bakermans-Kranenburg, 2010). Specifically, parents had difficulties helping with children's homework, communicating with teachers, engaging in school activities, and communicating with spouse and children (Kuramoto et al., 2017).

Social attitudes towards cross-national couples were often made on the basis of the cultural, racial, age, religion, and social economic status differences within couples. The distance between the countries of origin within the couples, fluency of shared language, historical relationships between the two countries, and perceptions of gender and gender role in one society were all factors impacting the social attitudes towards a cross-national marriage (Bystydzienski, 2011; Kalmijn, 1998; Yang & Lu, 2010). Children's appearance and mixed heritage were often targeted in school (Kuramoto et al., 2017). Even though marriage itself is primarily a personal affair, reactions from community and society could influence how well cross-national couples and their children might be accepted by their respective communities (Breger & Hill, 1998), and could trigger marital conflicts by emphasizing the differences within couples (Bustamante et al., 2011; Bystydzienski, 2011). Moreover, attitudes and reactions from extended families and friends of cross-national couples and their children can be more severe because of the closeness of the relationships (Bystydzienski, 2011; Mcfadden & Moore, 2001; Rosenblatt, 2009).

Cross-national couples often have disparate cultural backgrounds within the dyadic system. When each spouse brings one's own values to the family, the cultural dynamics within the family can become both interesting and challenging. Cultural clashes can lead to emotional difficulties and later conflicts in the marriage. For example, native-born spouses were found experiencing more culture difficulties than their spouses, and the couples reported relatively higher depression symptoms because of the cultural difficulties (Baltas & Steptoe, 2000). Cools (2006) found that childrearing increased conflicts between couples. They displayed divergent childrearing beliefs and practices including relationships among family members (Bystydzienski, 2011), parent-child relationships, roles and responsibilities between fathers and mothers (Romano, 2008), children's identity and belonging (Caballero, Puthussery, & Edwards, 2008), health care and school preference (Kuramoto et al., 2017), parents' interactions with schools, and child discipline methods (Bustamante et al., 2011; Cools, 2006). Disagreements and conflicting childrearing beliefs and practices may complicate children's development.

A major conclusion of previous research on cross-national couples tended to focus on the unique stressors on marital relationships and parenting experiences. More recent research identified benefits of childrearing in cross-national families, such as parental personal growth, improved communication and parenting skills, and multiple perspectives for children (Bhugun, 2017; Kuramoto et al., 2017). Although parenthood was recognized as a flashpoint where clashes of couples' distinct cultural backgrounds were highlighted (Bustamante et al., 2011; Crohn, 1995), understanding how traditionally recognized unique stressors may complicate or benefit the perceptions of parenthood and raising mixed-heritage children are still unclear in the U.S. context. Thus, this study aimed to understand the ways place of residence,

language, social attitudes and extended families, and culture might impact cross-national couples regarding their childrearing experiences.

Methodology

Participants and Data Collection

This study adopted a general qualitative research methodology. Participants in this study are cross-national couples of an American-born citizen with English as his/her first language and a foreign-born national with other languages as the first language residing in the U.S. Participants were initially recruited by the first author through distribution of flyers to professional and personal contacts at institutions and organizations (Colleges/universities, early childhood facilities, public schools, churches, and parent clubs), and through listserves (college student associations, community churches, language institutes, and online minority discussion forum) mainly in an urban area in the Northeastern U.S. Potential participants were asked to contact the first author for detailed information, and then were asked to forward the researcher's contact information to other eligible couples they might know. After screening for eligibility, 82 participants consented. All participants completed a written survey and 10 were selected for an individual interview.

A written survey consisted of 15 demographic questions and 10 short-answer questions. Demographic information included gender, age, ethnicity, country of origin, years living in the U.S., current status in the U.S., primary/first/mother language, English ability, yearly income, occupation, education level, number of children in the household, ages of children, number of clinical referred children in the household, and interest in follow-up interview. The short-answer questions were developed to understand parents' perceptions of cross-national marriage and multicultural parenting, and the impact of the unique stressors to childrearing. A total of 10 individual interviews were conducted. All questions were open-ended in nature and tailored to individual family situations gained from the written survey. All interviews were audio recorded and lasted 1-1.5 hours.

Participants included 82 individuals from cross-national marriages. Detailed demographic data were listed in Table 2 and 3. Interview participants were selected based on four criteria: first, both parents showed interest in being interviewed; second, since Asian-American family combinations comprised the majority of the research sample, families of this type were chosen to develop a cohort group of cross-national family; third, participants represented two gender and status combination (foreign-born wife with native-born husband and native-born wife with foreign-born husband). Based on the above criteria, five couples were selected (Table 4).

Table 2: *Demographic Information of Numerical Variables of Cross-national Couples*

	N	Mean	SD	Min.	Max.
<u>Native-born Spouse</u>					
Parent Age	40	40.28	6.83	29	54
Yrs in the U.S.	40	38.98	7.02	27	54
English Proficiency ^a	41	4	-	4	4
Yearly Income ^b	41	67,024.36	42,934.54	0	250,000
<u>Foreign-born Spouse</u>					
Parent Age	41	37.93	5.83	27	50
Yrs in the U.S.	40	11.48	6.62	2	28
English Proficiency ^a	41	3.34	.85	1	4
Yearly Income ^b	41	36,853.93	43,718.03	0	170,000
<u>Total</u>					
Parent Age	81	39.09	6.41	27	54
Yrs in the U.S.	80	25.23	15.41	2	54
English Proficiency ^a	82	3.67	.69	1	4
Yearly Income ^b	82	51,939.14	45,656.50	0	250,000
<i>Note:</i>					
^a 1=1=Basic, 2=Competent, 3=Proficient, 4=Fluent. Score range 1-4.					
^b USD (\$)					

Table 3: Demographic Information of Categorical Variables of Cross-national Couples

	Native-born Spouse		Foreign-born Spouse		Total	
	Counts	Proportion	Counts	Proportion	Counts	Proportion
Parent Gender						
Male	34	82.9%	8	19.5%	42	51.2%
Female	7	17.1%	33	80.5%	40	48.8%
Race/ethnicity						
Asian	1	2.4%	28	68.3%	29	35.4%
White/Caucasian	38	92.7%	9	22%	47	57.3%
Hispanic/Latino	1	2.4%	4	9.8%	5	6.1%
American Indian	1	2.4%	0	0%	1	1.2%
Multiple	0	0	0	0	0	0
Education						
High School Below	0	0	0	0	0	0
High School	2	4.9%	3	7.3%	5	6.1%
Partial College	2	4.9%	3	7.3%	5	6.1%
Standard University	15	36.5%	15	36.6%	30	36.6%
Graduate Above	22	53.7%	20	48.8%	42	51.2%
Occupation ^a						
Homemaker/students	4	9.8%	18	43.9%	22	26.8%
Unskilled Worker	0	0	0	0	0	0
Semiskilled Worker	1	2.4%	0	0	1	1.2%
Skilled Worker	2	4.9%	0	0	2	2.4%
Clerical Worker	2	4.9%	2	4.9%	4	4.9%
Semiprofessionals	6	14.6%	5	12.2%	11	13.4%
Business owner	11	26.8%	4	9.8%	15	18.3%
Administration	2	4.9%	0	0	2	2.4%
Major professionals	13	31.7%	12	29.3%	25	30.5
Country of Origin ^b						
Asian	0	0	28	68.3%	28	34.1%
European	0	0	8	19.5%	8	9.8%
N. American	41	100%	2	4.9%	43	52.4%
S. American	0	0	3	7.3%	3	3.7%
Primary Language						
English	41	100%	0	0	41	50%
Mandarin/Cantonese	0	0	17	41.5%	17	20.7%
Japanese	0	0	4	9.8%	4	4.9%
Spanish	0	0	3	7.3%	3	3.7%
Others ^c	0	0	16	39.0%	16	19.5%
Multiple	0	0	1	2.4%	1	1.2%

Note:

^a Homemaker/students=Farm laborers/Menial service workers/homemaker/students, Unskilled workers, Semiskilled Worker= Machine operators and semiskilled workers, Skilled Worker=Smaller business owners, skilled manual workers, craftsmen and tenant farmers, Clerical Worker=Clerical and sales workers, small farm and business owners, Semiprofessionals=technicians, semiprofessionals, small business owners, Business owner=Smaller business owner, farm owner, manager, minor professionals, Administration=Administration, lesser professionals, proprietors of medium-sized businesses, Major professionals=Higher Executives, Proprietors of Large Businesses, and Major Professionals.

^b Asian= China, Malaysia, South Korea, Vietnam, Japan, Philippine, Indonesia, and Iran, European= Germany, Czech Republic, Italy, Poland, Sweden, Serbia, and Hungary, North American=Mexico, South American= Colombia and Brazil.

^c Other Languages=Cebuano, Tagalog, Czech, German, Hungarian, Swedish, Portuguese, Indonesia, Farsi, Hokkien, Korean, Vietnamese, Czech, Italian, Polish, and Serbian

Table 4: *Interview Participants Demographic Information*

	Family 1		Family 2	
Name	Dan	Wenjing	Bennett	Ran
Age	52	45	40	40
Gender	Male	Female	Male	Female
Status	Native	Foreign	Native	Foreign
County of Origin	U.S.	China	U.S.	China
Primary Language	English	Mandarin	English	Mandarin
English Proficiency	Fluent	Proficient	Fluent	Proficient
Yrs. in U.S.	52	8	40	12
Education	Graduate above	University/ college	Graduate above	University/ college
Occupation	Professor	Homemaker	Engineering Manager	Homemaker
	Family 3		Family 4	
Name	Ron	Lingli	Liam	Abby
Age	45	35	47	38
Gender	Male	Female	Male	Female
Status	Native	Foreign	Foreign	Native
County of Origin	U.S.	China	Malaysia	U.S.
Primary Language	English	Mandarin	Hindi/English	English
English Proficiency	Fluent	Competent	Fluent	Fluent
Yrs. in U.S.	45	4	10	34
Education	University/ College	University/ College	High School	Graduate above
Occupation	Nurse	Homemaker	Sales Consultant	Administration
	Family 5			
Name	Weijia	Jane		
Age	35	46		
Gender	Male	Female		
Status	Foreign	Native		
County of Origin	China	U.S.		
Primary Language	Mandarin	English		
English Proficiency	Fluent	Fluent		
Yrs. in U.S.	9	43		
Education	Graduate above	University/ college		
Occupation	Professor	Homemaker		

Data Analysis

The analysis of written surveys and in-person interviews took place concurrently. Each interview was transcribed and read repeatedly. Interview transcriptions were coded first, and then followed with the written survey, as the former data captured a wider spectrum of couple perspectives on cross-national marriage and childrearing. Additional codes were established in response to emergent meanings within the data. Reflective notes, analytic memos, and summaries of interviews were well documented. After initial coding, a focused coding was applied to eliminate, combine, or subdivide the initial coding categories. The third coding process was conducted using the new coding scheme. Thick description approach (Geertz, 1973) was utilized to portray unique participants' background information in order to make their statements and behaviors become meaningful to others (Denzin, 1989). Several diagrams were drawn to visualize intricate links between emerging codes. This mapping process further reduced the data into a set of holistic categories allowing themes to emerge capturing the rich meaning of all data. This research applied cross-data-source triangulation, peer review for alternative interpretations, and member checking (Ely, 1991; Golafshani, 2003).

Findings

Perceptions of Cross-national Marriage and Multicultural Parenting

Cross-national marriage.

Participants held positive views about their marriages and acknowledged differences within couples. The mixture of two different cultures led to different beliefs, values and expectations. The difference in language also brought difficulties on communications. Although occasionally those differences triggered conflicts, cross-national marriage was viewed as “respectful,” “interesting,” “fun,” “rich,” “exciting,” “rewarding,” “stronger,” and “great learning experiences.” Participants appreciated that the different upbringings introduced them to a broader range of experiences such as language learning, holidays, and travels. Moreover, mixed marriage was believed to strengthen couple relationships, since couples tended to be more aware and tolerant of the differences within them. It also “breaks racism.” Liam, a Malaysia-born Indian husband, said:

It did break a lot of differences, because I got married [with an American], my sister, my brother and my cousins had the chance to do the same thing.....But, every time, when somebody, like a Chinese girl marries a white guy, or an American, it breaks that value. But as more people see mixed marriages, they will think differently and change differently.....

Families and friends of cross-national couples displayed a range of attitudes from extremely supportive to disapproval towards the marriage. Many couples were well accepted, but some families hesitated and disapproved about such marriages, mainly because doubts about internet credibility for dating, unknown risks, limited understandings of the spouses and their cultures, and concerns of the solidarity of one's group. For example, Jane's parents said that they would “disown” her if she insisted on her marriage and even bribed her with a new car for not doing so. Jane's father's outdated understanding about China, a communist country, built up his attitude towards Jane's marriage.

They [my parents] thought I lost my mind. That's what they said “have you lost your cotton-picking mind?They are going to kill you in China. You can't live in China”. They [my parents] don't know anything about China. My daddy asked me if they still wear ponytails in

China, because that time China was so closed off. They don't know anything about China. But I don't think it's something necessary given to Chinese.

Most participants believed that they have not been viewed differently by others. A small number of couples shared that they were getting second looks from people and had been stereotyped once. For instance, the foreign-born wife was mistaken as a nanny and the couples were assumed to be not related when appearing in public; couples were questioned for threatening the solidarity of the one's cultural heritage; white women's sexuality was also targeted.

Multicultural parenting.

Cross-national couples view mixed heritage as a "distinct advantage in today's globalized and increasingly interconnected world." They believe mixed children were "culturally sensitive," have a "rich cultural and language environment," a "broad perspective in life," "more opportunities to travel," and "better ability to adapt to different environments." Nevertheless, many couples reported a concern that their children might be targeted or even bullied for their mixed traits. In most cases, children from such families were not viewed and treated differently from children of mono-heritage.

The couples wanted children to embrace dual language and cultures, and reinforced such aspiration in daily practices. Parents intentionally created a rich language and cultural environment by speaking two or more languages, introducing holidays, food, music, art, literature and movies from both cultures, as well as providing weekend language classes to children. Parents maintained a close communication with the foreign-side of extended families through travelling and internet to enrich the cultural and language connections.

Enabling children to become dual cultural and bilingual was a challenge. On one hand, couples were concerned that learning two languages hindered children's English learning as some children struggled at school and social events in the American system. On the other hand, as children developed, their drastic growth of English proficiency inhibited the second-language acquisition. Moreover, the mainstream language and cultural power undermined couples' efforts to maintain the other heritage root. Usually, the responsibilities resided with the foreign-born spouse.

Cross-national couples continuously negotiated childrearing issues, such as daily practices, parent-child relationships, agency of children, and perceptions of learning and education. For example, Weijia shared:

The different upbringings of the parents can pose difficulties in agreeing on what should be the most important goals of life for our children. For instance, as a Chinese parent, I feel it is important for my child to have a more structured schedule after school to do some additional practice at home, but this seems like a mission impossible for my American wife.

In addition, long distance with the foreign-side extended families, often diminished the opportunities for children to develop the other cultural heritage and socialize with relatives, and for parents to receive extra social supports.

Role of Place of Residence.

Many participants have had travelling or long-time living experiences in the foreign-born spouse's home countries. They believed that their marriages and children were better received in the U.S. than other countries. "Less environmental pollution," "bigger yard for outdoor play," "easy access to museum and

theaters,” and “school system that nurtures creativity” were identified as benefits to raise mixed-heritage children. However, other parents argued that the American culture and school overemphasized “individualism” and did not promote “respect for elders,” “mindfulness,” and “grit.” Moreover, parents shared that living in the U.S. has changed their perceptions on discipline and expectations on academic performance in order to follow the mainstream culture.

In general, native-born spouses felt their roles as parents came easier as they were raised in this country, understood what it means to be a parent, and knew the system. Thus, native-born spouses felt more obligated to navigate the health system and school issues. Foreign-born spouses were responsible to reinforce dual cultural and language learning. Furthermore, living in the U.S. limited foreign-born spouses in career options. Thus, many foreign-born wives, holding “foreign-born” and “mother” roles in one person, became the primary caregivers of their children. Dan shared:

She [Wenjing] has a degree but it doesn't have a background that translates it into a new job. She has to get additional training. Hopefully she will find something she wants to do, but she does not have the option of going out and earning money at the rate as I do.....it is just an unfortunate situation that she was put in.

Role of Language.

Cross-national couples believed bilingualism is a tool to understand culture, traditions, and customs that each parent represents, and to communicate with extended families on both sides. Further, parents believe bilingualism strengthens children's learning capacity, enhances cultural sensitivity, broadens career and social network opportunities, and grants more perspectives of viewing the world. However, learning a second language required greater efforts and financial means from both parents and children. The couples engaged bilingual media and literature, socialized with friends who shared the second language, travelled to foreign-spouses' countries of origin, devoted extra time on second-language classes, and frequently communicated with foreign extended families.

Within cross-national families, people who spoke two or more languages had additional channels to exchange information while mono-language speakers were limited in communication. This unique communication pattern, on one hand, constrained native-born parents to join the conversation when it was held in the foreign language; on the other hand, this process diminished children's second language acquisition when communication was based on English where all families can be included. In addition, the power of a language was strengthened by the number of its language users in the current conversation. Jane stated when with her Chinese parents' in-laws, she felt being completely excluded from communications, as Chinese was mutually shared by the majority of the people in the house. Many foreign-born parents felt a sense of incapability in their roles such as helping with homework, reading to children, and building social networks with other parents. Rain shared:

It's about the terms. It's too many, like in math, I am good at math and I know all the contents. But when he (the son) asked me, I don't have the English words to explain to him. All I know is in Chinese. I tried to explain to him [in English], it hardly makes any sense. Because of my English, my ability to socialize is not as strong as people who grown up here. There were occasions that I have to socialize with people, like if my kids get along with other kids, or have play dates, it is better that the parents can get along. But my relationships with those parents are in a polite stage. It's hard to develop a deeper relationship.

Furthermore, English proficiency was found affecting parent-child relationships. Children of mixed heritage tended to question their foreign-born parents for their English abilities and not being “Americanized”.

Dan: So that (Americanism) comes up recently and I am concerned about it because sometimes there is some disrespect perhaps, um, Wenjing, some of it is based on her language ability..... They get the opportunity to correct her. So that often does happen when children say “you are not saying that right” or “you are not doing that right.” They get to do that with her fairly often.

Role of Extended Families and Friends.

Cross-national couples attributed extended families and friends as a source of support and role model for their marital relationships and childrearing. In some cases, the marriage between couples was promoted by the precedent of mixed marriage in the family history. Extended families and friends spent quality time, and provided parenting advice and financial support to the couples. However, in most of the cases, families of foreign-born spouses were located in other countries. Many couples expressed their desire of having foreign-sided extended families provide childcare, share parenting advice, engage in children’s upbringing, and provide the emotional support to the families.

Extended families indirectly influenced parenting practices, as cross-national couples refer to their own growing-up experiences to parent their children. Moreover, extended families strengthened children’s multicultural heritage, but also highlighted the different values and beliefs on marriage and childrearing within couples. One parent expressed, “Their [extended families’] values are different from my family’s values that we mutually developed and molded with my husband. It mainly was an issue when it comes to parenting our children.” Specifically, the tension between extended families and cross-national couples was due to their different understandings on the boundary of childrearing responsibilities and parenting practices between each party, such as whether it is feasible to take an infant outside in cold weather.

Cross-national couples believed friends were a positive source to exchange parenting advice. However, some couples indicated a peer pressure on childrearing. Dan explained, “We have mostly Chinese friends and that does reinforce [the] source of the demanding tendencies and high expectations we place on our children.”

Role of Culture.

Many couples have not recognized the cultural differences before marriage. Others believed differences were minor and a tangle of cultural and personal matters. However, most couples believed the cultural root was deep and cannot be changed easily. Jane stated:

Anyway, my husband is very Chinese, and he will always be Chinese.....Just like I will always be an American. It’s just our culture. I believe that we are cultural beings from the time we were born. There’s a collective program that goes on... If you see him all of the objective stuffs like, you know, he is a U.S. citizen, a republican, he is a professor, he doesn’t speak with an accent, he will eat McDonalds, you know all of these external things, but what drives him is his culture. His values and his ideas, all his views, all come from being a culture being which is Chinese.

The couples argued that what one believes was “normal” or “usual” on raising children was often different from their spouses. They did not think “each other’s ‘normal’ was good enough for the

children.” Parents often disagreed on children’s bath time, food and clothing preference, and indoor or outdoor play choice.

Moreover, cultural difference was reflected through perceptions on learning. Asian parents tended to have higher expectations on children’s academic performance. They value hard work, diligence, structure, and endurance. Weijia explained: “It is not all easy and fun when it comes to study something. American culture emphasizes if you enjoy yourself, but oftentimes ‘enjoying’ something is a short time. Thus, you really need to cultivate the endurance in learning.” However, most American parents believed that learning was supposed to be “fun,” “creative,” and “through experiences.”

Cross-national couples had divergent beliefs on children’s agency. It led to the different degrees of parental control posed on children. Many Asian parents believed that it is completely reasonable to feed and clean after children, since young children are still developing self-helping skills. However, American parents argued to foster independence and responsibilities at an early age. Moreover, the level of parental control was also reflected through children’s school and future career choices, age of involving in romantic relationships, and sibling relationships. For example, American culture views each child in the family as independent and as equal individuals. However, from an Asian perspective, older siblings making compromises to take care of the younger children is a virtue. This different value was found difficult to reconcile within couples.

Discussion

Current findings indicate that divergent cultural backgrounds may not necessarily bring challenges but also opportunities for both the couples and their children. Parenthood was a flashpoint for increased marital conflicts among cross-national couples. But parents displayed balanced perceptions on their mixed marriage and multicultural parenting experiences. Conflicts derived from distinct cultural backgrounds were likely to be “tradeoffs” to opportunities brought by the differences.

In most cases, cross-national couples and their children were well received by the extended families and communities in today’s increasingly diversified society. The tensions between the couple and their families were alleviated once the families learned about the foreign-born spouses and their cultures. Foreign-born spouses, especially females, were found disadvantaged in many aspects in the marital relationships and childrearing. Such findings may be due to the fact that female foreign spouses comprised the majority of the sample. Thus, the result generated a stronger voice of their experiences. The disadvantaged situations faced by foreign spouses were relative whereas the native spouses may have to invest greater effort to maintain a healthy marital relationship and childrearing process.

This study provided strong evidence that the role of place of residence, language, and extended families and friends were cultural factors influencing multicultural parenting experiences. Choosing which country to reside will influence couples by the dominant cultures, values and beliefs in their childrearing practices. Living in the U.S. impacted children’s educational resources and learning opportunities, parental responsibilities, and parenting practices. The physical distance was a main challenge in engaging foreign-side extended families in childrearing.

Speaking different languages within the household was another unique feature of cross-national families. Before child birth, English was the language used between couples, which was also the dominant language spoken in the larger community. The balance between dominant and minority language was maintained mainly by foreign spouses assimilating to the mainstream culture. However, child birth

prompted foreign spouses to increase the input of their languages and cultures. The dyadic balance developed by couples inclined towards the minority culture. Although the dominant language in the larger community still overpowers the minority language, interestingly, the power battle overturns when there were more people speaking the minority language in the current context.

Extended families and friends were important role models and support sources for cross-national families, but they may complicate couple relationships and childrearing experiences. Childrearing was a point in which the involvement of extended families increased; the cultural power they brought to the family can further aggravate the cultural differences within couples. Under such family dynamics, maintaining a foreign heritage linguistically and culturally for mixed children becomes challenging.

Cross-national couples are not a homogenous group. The combinations of couples' gender and status, and country of origin have great variation. The condition of the current data does not permit fine distinctions to be made across gender and status, and country of origin. It would be beneficial for future studies to develop cohort groups and balance the different gender and status combinations to hear more voices from foreign-born male spouses. In addition, including the insights of mixed-heritage children into the discussion of multicultural parenting would be valuable. Finally, future research may consider conducting cross-country comparisons on this population.

Conclusion

Since only the 1950's, the systematic and clearer defined research regarding cross-national families represents a brief history. With the unique feature of such families, this population deserves increased attention from researchers, practitioners, and educators. The findings of this study distinguished cross-national families from general intermarried families, and examined the impact of traditionally recognized unique stressors on childrearing experiences from a balanced perspective. Finally, this study shed light on the opportunities and challenges cross-national couples and mixed-heritage children experienced in becoming bi-lingual and cultural. As a result, more research would contribute to supporting multilingualism and multiculturalism in public school systems where more and more mixed-heritage children attend.

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Differentiated Instruction: A Band-Aid Approach for a Flawed System

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In the United States we currently have a system, which was instituted almost two hundred years ago as a result of the Industrial Revolution. This historical event significantly influenced our educational system. Education incorporated the efficiency of a manufacturing model into a way to educate the general populace. While the intentions were well-meaning, they were not based on an understanding of child development or even on how children learn. The assumption was that we could mass educate children by grouping them by age and then create curriculum to match each age grouping (Stone, 2009, 2010).

The advent of a graded education system decried the understanding that same age children are unique with different developmental rates, family backgrounds, cultures, interests, intelligences, personalities, and learning styles. Today many educators realize that the differences among children in each grade are even greater now than they were hundreds of years ago (Gray, 2013; Morgan, 2014; Robinson, 2015; Tomlinson, 2009, 2017; Tomlinson & Imbeau, 2012). There is a common understanding that our current system does not meet the learning needs of *all* our children. In addition, Gray (2013) believes that our current system has contributed to an epidemic of anxiety related conditions among our youth and proposes that today's schools are ultimately not happy places for our children.

Through the years, different approaches have been used to make education more efficient. A significant approach was to use a more scientific method, termed the behaviorist approach, to maximize curricular instruction through lesson plans and objectives (Skinner, 1968; Hunter, 1990/1991). The premise was to make education more systematic through prescriptive instruction, which would result in more accurate curriculum accomplishment by students. Defining the curriculum for each grade level through precise objectives, lesson planning, and outcomes would enable teachers to deliver the grade-level curriculum more effectively. *Curriculum* and *instruction* became an instrumental pair in how education unfolded and still unfolds in our schools today. The advent of standards and standardized tests has added another dimension as well as a burden to an inappropriately designed system.

However, the "elephant in the room" is that our educational system of grouping children by age for one-size-fits-all instruction is ultimately a flawed system. Educators have tried for years to refine, fix, redesign, and reform the existing system to try to make it better for our children and our society. Yet, we keep the same system, the same framework, and the same foundation.

Respected authors and educators have called for us to "throw out the whole system" (Gray, 2013, p. 84); disassemble the manufacturing conveyor belt (Stone, 2010) and pursue radical change from the "old industrial model to one based on entirely different principles and practices" (Robinson, 2015, p. xxiv). The

mechanical, industrial, manufacturing system does not fit with the human, organic dynamic (Robinson, 2015; Thompson, 2014). They do not see our system as “fixable” and envision a revolution to change this flawed system to a completely different system. With the possibilities of inventing a new system, the “Differentiated Instruction” model is examined.

With great respect for the strategy of Differentiated Instruction (DI), it is, however, in the same boat as other approaches, which try to *fix* our current flawed system. DI operates within the existing system of a graded schooling, choosing to modify the *instructional delivery* of the curriculum, but not the grade level curriculum organization. This article seeks to demonstrate how differentiated instruction is simply a “Band-Aid” approach for an educational system that is detrimental to the development and well being of our diverse and unique children. This article proposes that a new and different system needs to be created if we want to meet the needs of ALL our children.

Differentiated Instruction – the Curriculum

First, proponents of differentiated instruction are to be applauded for seeing the inequities of our system and trying to do something proactive to make a difference for our children in their educational journey (Levy, 2008; Parsons, Dodman, & Cohen Burrowbridge, 2013; Pettig, 2000; Scigliano & Hipsky, 2010; Tomlinson, 2017). In addition to our system currently designed as a one-size-fits-all approach to education by age group, is the accompanying view that a curriculum, even high quality curriculum, for each grade level is appropriate. Our current system fits within what is called a “curriculum-centered approach” to learning. This approach is examined in contrast to a “child-centered approach” which, for this discussion, stands apart from the graded system, not within the system. Differentiated instruction is described as an attempt to reform or adapt a curriculum-centered approach into a learner-centered approach situated within the factory model graded system. However, this “Band-Aid” approach cannot truly impact or change a system so deeply flawed. Consider the following:

Curriculum. In a curriculum-centered approach, the *curriculum* is the *center* of schooling. Each grade level has a designated curriculum, which is aligned to standards. Teachers present the curriculum through lesson plans. Grades are used to evaluate success. Standardized tests are the ultimate accountability to see if the children have learned the curriculum and if teachers have taught the curriculum. Even if the instruction is differentiated, the curriculum is still the center of the approach.

In a child-centered approach, the *child* is the *center* of the learning process, not the curriculum. The curriculum is broadly reframed as possible teaching points flexibly scaffolded through strategies by a teacher based on a process approach, which depends on the understanding and development of each child. Thus, a child-centered approach is *process*, not product-oriented. The child enjoys choice and autonomy within the process. Each child is on his or her own developmental continuum across multiple areas of child development. Growth is individual and unique for each child. Children are educated in family groupings of mixed ages, not same age groupings, so a one-size-fits-all curriculum is not pertinent, nor appropriate. Learning is more inclusive of the human dimension (cognitive, social, emotional, moral, aesthetic), instead of a narrow focus on primarily academics. While high quality learning occurs for every child, it is not based on curriculum designed for each grade level. Success is not narrowly defined by mastery of the curriculum, but instead by a child’s personal joy and satisfaction in pursuing his or her interests, talents, and intelligences. Success defined as continued development, not in accomplishing set, pre-determined curriculum, is appropriately varied by each child’s uniqueness.

In differentiated instruction (DI), the curriculum, not the child, remains the *center* of instruction. Tomlinson (2000b) correctly acknowledges that we are teaching human beings and that children are diverse learners. She agrees that for many teachers the curriculum is a prescribed set of academic standards and the goal of instruction is raising test scores. Tomlinson (2000b) suggests that “curriculum tells us *what* to teach: Differentiation tells us *how* . . . differentiation can show us how to teach the same standard to a range of learners by employing a variety of teaching and learning modes” (p. 8). DI tries to adjust the one-size-fits all curriculum approach of the graded curriculum to fit the inherent diversity of the children. The problem is

that DI tries to use the “same standard,” the “*what* to teach.” Having a grade-level curriculum or standards does not meet the naturally varied learning needs for even those children born on the same day in a same-grade classroom. A year-by-year curricular plan for the grades does not encompass every child’s understandings even when we try to “differentiate” *how* the curricular standard is delivered. In essence, the curriculum by grade level in a DI classroom stays the same, but the instruction is modified to try to meet the diverse needs of the children.

Tomlinson (2000b) agrees, “any education approach that does not invite us to teach the individual is deeply flawed” (p. 11). Yet, without a consideration of developmental differences, one could be led to believe that even a graded, curriculum could be designed to meet the variances in children’s learning when in actuality, it cannot.

In regard to schooling, Tomlinson (2000b) believes that a high-quality *curriculum* and *instruction* is essential. She states, “Choose any standard. Differentiation suggests that you can challenge all learners by providing materials and tasks on the standard at varied levels of difficulty, with varying degrees of scaffolding through multiple instructional groups, and with time variations” (Tomlinson, 2000b, p. 9). Tomlinson (2000b) does not believe there is a “contradiction between standards and appropriately responsive instruction,” only in an “ill-conceived interpretation and use of standards” (p. 8).

However, a set of curriculum directives no matter how high the quality does not address the range of how children develop. Children naturally develop at different rates and understandings. Even responsive instruction cannot bring about understanding if a child is not in a stage of developmental understanding. For example, the curriculum or standards may require that children are able to solve problems with missing addends. Some children will be able to accomplish the task but others may not, even with differentiation. Some children may not have developed “reversibility of thought” which Kamii (1982) describes as the development of the brain to go both forward and backward in its thinking. Solving missing addend problems requires that a child’s brain has developed that flexibility, particularly that the brain can easily go backward in its thinking. Without it, solving missing addends is out of the range of a child’s possibility of understanding. A curriculum-centered approach, as a whole, is not designed with the understanding of child development or the unique development of each child.

While *learner-centered* in regard to the curricular focus, DI is on the cusp of being child-centered, but its position within a curriculum-centered, graded approach does not really support *all* children in their natural development; DI resides in a curriculum-centered approach. Even with the term “learner-centered,” differentiated instruction is about helping children accomplish the curricular goals. The graded curriculum is the problem, even high-quality curriculum. We still want everyone to have the same knowledge, skills, and understandings even though we are using different approaches, even timelines, to get to the same end. We are still trying to accomplish the objective of the graded curriculum.

Within the curriculum-centered approach, concern is expressed regarding our gifted learners and finding ways to challenge them (Kaplan, 2016; Weber, Johnson, & Tripp, 2013). Questions also arise as to whether DI can meet the needs of at risk or marginal students (Anderson, 2007). In actuality, even with DI, we disadvantage both our highly able and novice learners. Addressing pacing, degrees of challenge, and interest (Tomlinson, 2005a) are not enough. Differentiating a set curriculum cannot truly meet the variance of learning needs or interests for all our children.

However, DI proponents McTighe and Brown (2005) state that “standards-based education and differentiated instruction (DI) not only can coexist, but must function together as two sides of the same accountability coin” (p. 235). McTighe and Brown (2005) believe that an agreement can be made between high-stakes accountability based on rigorous standards and “the very real need to address the individual needs and strengths of the learner” (p. 236). They feel confident that you can address “rigorous content while honoring differences in learners’ prior knowledge, interests, and preferred learning styles” (p. 236). Based on Tomlinson’s view, McTighe and Brown (2005) state that “helping all learners reach required standards must inevitably involve the tailoring or differentiating of teaching and learning experiences” through tailoring content, process and end products to maximize student achievement (p. 241). They agree that “All learners should be held to the same rigorous standards” and “standards and differentiation not only

can coexist, they must coexist if schools and districts are to achieve the continuous improvement targets imposed on them by” standards (p. 242). If standards-based education and DI are compatible and must coexist, then the ultimate objective of DI is highly questionable. Herein lies the greatest flaw with differentiated instruction. Is our goal to pay tribute, and be accountable, to the arbitrary graded curriculum rather than honoring and respecting each child in his or her holistic development? Which option has the priority?

Accountability and Testing. Accountability to the standards based on standardized tests does not honor the great variances in normal childhood cognitive development. We are still asking by the end of the day for all children to be at the same place at the same time. Not all children, even with a differentiated curriculum, will be able to succeed on the test. Even though Tomlinson and Imbeau (2012) suggest that if children are learning in their preferred ways, they learn the content better and that will increase their confidence when they take the test, we still have a system that creates winners and losers at the end. There will be variance in how well children do on the test. How ludicrous would it be for physical development if we wanted everyone of the same age to be the same height by the end of the school year and the teachers should be accountable for this by providing high-quality food choices?

While trying to avert the dominance of curriculum by differentiating the instruction, we still have the priority of grade-level curriculum for each grade, which children must accomplish. Even with flexibility in a set grade level curriculum provided by DI, it is not sufficient to meet the varying needs and interests of children. However, DI proponents conclude that differentiation is compatible with standardized testing (Brimijoin, Marquissee, & Tomlinson, 2003). Standards, testing, and DI can co-exist as partners in the goal of accountability. If DI can coexist with standards and testing, then DI cannot be considered a child-centered approach.

Grading. Another consideration and concern about differentiation is the continued use of grading children. Tomlinson (2005c) addresses grading based on Marzano’s (2000) work as the “assignment of symbolic numbers or letters at the end of a specified period of time” (p. 263). Grades serve to summarize the teacher’s evaluation of the students. The information provides feedback to parents and students in order “to support the learning process and encourage student success “ (p. 263). She does not believe that there is an “inherent problem with the philosophy of differentiation and grading or reporting” (p. 263). Proponents of DI believe that quality differentiation and grading are fully aligned (Tomlinson, 2005c; Tomlinson, 2017). However, success is narrowly defined as academic success based on *criteria* of curriculum accomplishment (Dobbertin, 2012; Tobin, 2008). In other words, grades are based on every child accomplishing the same goal.

As part of “defensible grading,” Tomlinson (2005c) distinguishes grading from assessment. She correctly envisions assessment as “on-going” in order to make instructional decisions helpful to the students’ learning. On-going authentic assessment can be a helpful tool in understanding where children are building and understanding, particularly in a child-centered approach to learning. Grading, however, is the “end-point judgment about students’ achievement” (Tomlinson, 2005c, p. 264). Grades are based on “a set of pre-established, clearly stated, content-specific learning goals” where required standards “serve as the basis for grading criteria” (Tomlinson, 2005c, p. 264). While Tomlinson (2005c) suggests differentiated instruction provides “multiple routes to accomplishing specified goals, so that each learner can progress to the greatest degree possible” (p. 265) and advises that teachers give students second chances to meet goals, as well as multiple opportunities to practice before they are evaluated on achieving important goals, the bottom line is that grading is used to evaluate how well all students have done in reaching the *goal of the curriculum*. In the DI approach, learning is “assessed using a well-defined set of learning outcomes or standards,” and “progress can be both measured and communicated” as “grading and reporting are, after all, an integral part of the instruction process . . .” (Tomlinson, 2005c, p. 268-269).

Grading is devised to be more “child-friendly” in that children are not compared to other students or other extraneous considerations, rather only to the criteria. Grades still measure student success on the *curricular goals* after a unit of learning. A child-centered approach does not need grades to demonstrate growth which occurs on a child’s own personal continuum of learning. Children are not *evaluated* on meeting curricular goals. In a child-centered approach, children are *valued* for continual learning based on *process* not

curricular content. Their continued learning is indicated by authentic assessment and displayed in portfolios. Content is not linear by grade level; content is variable and only a function of process. Content is secondary to the primacy of process – learning to read, write, problem-solve, create, socialize, and so forth. Learning is not defined or based on well-defined learning outcomes or standards as suggested by Tomlinson (2005c), which fit within a behaviorist approach to teaching. A constructivist approach to learning is the foundation for a child-centered approach (Brooks & Brooks, 1999, Burke, 2005). A constructivist approach to learning appreciates that . . .

. . . learning is not linear. It does not occur on a timeline of basic skills. Instead, learning occurs at a very uneven pace and proceeds in many different directions at once . . . instead of learning being ‘decontextualized’ and taught, for example, by memorizing the parts of speech, it must be situated in a rich context of writing or speaking” (Burke, 2005, p. xiv).

Differentiated Instruction – the Instruction

Because the overarching goal of DI is to accomplish the objective of the curriculum, even though with modifying instruction through differentiating the content, process, and product, the approach is still centered in a graded curriculum. The journey starts with the curriculum and ends with reaching the curricular goals. The goal of DI is to “plan instruction in a differentiated fashion” (Tomlinson & Imbeau, 2012, p. 20). The use of pacing guides and scripted lessons are not discounted, but are recommended as useful guides. As Tomlinson (1999a) states, “the core of *what* the students learn remains relatively steady. *How* the student learns-including degree of difficulty, working arrangements, modes of expression, and sorts of scaffold – may vary considerably” (p. 16). But, the teacher’s goal is to increase each student’s skill level *within the curriculum*. As Tomlinson (1999a) continues,

The teacher knows where she wants her students to arrive at the end of their shared learning journey and where her students are along that journey at any given time. Because she is clear about the destination and the path of the travelers, she can effectively guide them, and she varies or differentiates her instruction to accomplish this goal. Further, her destination is not merely the amassing of data but rather the constructing of understanding (p. 16).

Tomlinson (2005b) believes effective differentiation is centered in knowledge. “Lessons are based on the teacher’s clear understanding of what is essential in the study unit, and the teacher helps each student build his or her own maps of understanding and skill encompassing the essentials” (Tomlinson, 2005b, p. 10). However, rich learning encompasses more than an accumulation of knowledge, the essentials, or understanding the knowledge or essentials. Knowledge as the ultimate goal sidetracks *knowledge as a useful tool* for the learning process to unfold where children imagine, create, and invent. As Einstein suggests, “Imagination is more important than knowledge” (Issacson, 2007, p. 7). While knowledge is important, knowledge as the ultimate goal of learning diminishes a child’s innate curiosity, interests, and pursuit of personal well-being.

Tomlinson (2005b) also proposes that differentiation “is learner-centered. Teachers systematically study learner traits to understand what each student brings to the task, what each student needs to succeed with the task, and what the student needs to support his or her success” (p. 10). While trying to understand the learner and to modify instruction of the curriculum to the learner, the goal is success based on the task. The focus is still helping students to successfully accomplish the curriculum by getting them to the pre-determined end product or goal by attending to each student’s readiness, interest, and learning profile (Tomlinson, 1999b, 2009, 2017).

Differentiating Content, Process, and Product. Tomlinson (2017) describes how DI takes multiple approaches to content, process, and product: “(1) content – input, what students learn; (2) process-how students go about making sense of ideas and information; and (3) product – output, or how students demonstrate what they have learned” (p. 7). Content, process, and product can all be differentiated according to children’s readiness, interest, and learning profile.

Readiness. Readiness is used to differentiate the content, process and product. For example, *content* reading levels are varied for reading proficiency. The teacher may prepare several tiered tasks based on children's differing abilities. For *process*, assignments are varied for difficulty depending on student readiness. Pacing is also important, as some students will need more time to accomplish task than others. *Product*, levels of task performances, is also differentiated based on student readiness.

While addressing the diversity of student readiness, McTighe and Brown (2005) advise addressing gaps of prior knowledge through instructional interventions, which they believe can be done "without compromising the established standards or the integrity of subject areas" (p. 238). Even though reading levels, for example, may be adjusted, students are still required to accomplish the fundamental curriculum criteria. They believe you can "reinforce rigorous core standards for all learners, and ensure sensitivity to the unique strengths and needs of every student" (p. 239). By focusing on the content knowledge, the process of reading, for example, where a child gets better and better at reading is actually diminished, as the essential knowledge is the goal, not the process of reading.

Interest. Content, process, and product are also differentiated by student interest. Within the *content* of a standards-based unit, students are allowed to pursue topics of interest. For *process*, students may, for example, work alone or in teams. For *product*, the teacher allows students to select from different products and rubrics to provide the criteria for successful task completion. As the teacher allows students to follow interests within the set curriculum parameters, Tomlinson (2017) suggests that the goals of the student (interest) and the curriculum can be served simultaneously" (p. 102).

While choice through interest is offered to students in a DI classroom, it is often what Alfie Kohn (1993) suggests as "pseudo-choice." The teacher has selected, for example, ten projects from which the students can choose. These are teacher-approved projects designed to further the curriculum needs. The choice is not owned by the student or pursued because of the student's passion or personal interest. The curriculum needs take precedence over the child's curiosity.

Learning Profile. DI considers how students learn best by looking at learning styles, multiple intelligences, gender, and culture (Tomlinson, 2017). In DI, the teacher is encouraged to "plan instruction that will allow as many students as possible to learn more comfortably, efficiently, and effectively" (Tomlinson, 2017, p. 110). Tomlinson (2017) believes that addressing a learner's profile will "influence a student's attitude toward and engagement in different types of tasks" (p. 110). Using learning profiles to differentiate content, process and product is another way to accomplish curricular goals. Children are not in charge of their own learning, in their own unique way. The learning profile is a tool for the teacher to maximize the accomplishment of the tasks.

For *content*, the teacher, for example, may provide students who have an auditory preference a way to engage the material through a podcast. For *process*, the teacher may use "Menus for Success" (Tomlinson, 2017, p. 121) which give students options for exploring the content. For example, for a math unit, some students may use manipulatives to understand the math concept while other students may use the math concept to apply to a real-life situation (Tomlinson, 2017). For differentiating *products*, the teacher may use tests, portfolios, or a product assignment where children can demonstrate what they know about the content criteria. Studying and honoring a student's learning profile is a positive endeavor. However, even the learning profile is used to accomplish the curricular goals and tasks. The truly powerful learning children can control and enjoy within a child-centered approach is suppressed within a curriculum-centered method.

Campbell (2009) interprets DI as differentiated content, process, and product, which he explains as "differentiated curriculum, instruction, and assessment. In other words, we can differentiate the resources we use, the ways we ask students to interact with the content, and the ways we ask students to demonstrate their learning" (p. 7). Campbell (2009) suggests, "The formula is a structured, teacher-directed, and content based, but it is student centered and provides students with multiple entry points into the content areas and personal choices based on their individual strengths or learning profiles" (p. 9). Nevertheless, "the primary goal of differentiation . . . is to help teachers develop and use multiple pathways for students to learn whatever they teach, including the content standards" (Campbell, 2009, p. 19).

Readiness, interest and learning profiles are ways teachers can differentiate curricular content, process, and product. The approach is teacher-designed and teacher-directed, not child-designed or child-directed. There is little to no room for children's choice and autonomy to unfold. The ultimate goal is to accomplish the curricular goals while trying to be learner-centered, sensitive to children's readiness, interests, and learning profiles. However, curricular goals are still the priority over the children's needs, interests, and development. Again, DI fits within a curriculum-centered, not child-centered approach.

Becoming Good Factory Workers

Another downside and concern regarding DI is the way the priority of the curriculum unfolds for the children. Our current system was designed on a factory model thus, in many ways children are still envisioned as factory workers. The expectations for factory workers and for our children in our educational system are surprisingly similar.

The goal of DI is the mastery of content and to also help students "form their own identities as learners" (Tomlinson, 2008, p. 26). DI is perceived as the "logical way to achieve the goal of content acquisition" (Tomlinson, 2008, p. 27). Content acquisition becomes the product of the factory workers. When mastery of the content is the goal, then learning is often misconstrued as following directions, getting the work done, following the rubric for curricular success, and demonstrating on-task behaviors. These are admirable factory worker expectations. Is this the identity we want our children to develop as learners?

With DI, the identity of the learner is formed as a "student" playing the "game of schooling" well, not about an "individual" following one's own pathway to understanding, interests and passions (Brooks & Brooks, 1999; Gray, 2013). If students are successful at the game of schooling in elementary and secondary education then they will be well prepared to play the game of schooling in college (Tomlinson & Imbeau, 2012). The element of learning is distorted to mean succeeding at schooling, not true learning, nor life-long learning. The focus is on "educating for *education*" not for life pursuits or personal well-being.

While DI proposes that instruction is "learner-centered," the "center of gravity" is still outside the child as Kohn (2015, p. 34) suggests; the school is organized around the curriculum, not around the child's own projects, problems, and questions. In a child-centered approach, the center of gravity is within the child and his or her interests and purposes (Kohn, 2015). The power in the learning process is within the child, not within curriculum and instruction. Learning as a process cannot be mandated or controlled through instruction, as it is a personal construction. A curriculum-centered approach, even if differentiated, does not represent the unique learning and accomplishments a child builds for himself or herself.

The factory product of schooling becomes successful curriculum knowledge with factory workers demonstrating compliance to the product assembly. Is this really the identity we want our children to form?

Teacher-Directed/Controlled Methods. Because curriculum success is the ultimate goal, the structure of schooling, in spite of modifications, creates a climate of teacher-directed or teacher-controlled methods to motivate students for goal accomplishment. Even though DI suggests its approach is "learner centered," the students are still subservient to the curriculum and instruction, which dominates the process rather than the children being dominant or in control, with the curriculum and instruction subservient to the children and their needs.

Tomlinson (2008) suggests four elements for DI teachers to develop to help students chart their own learning and lives: trust, fit, voice and awareness. Tomlinson makes child-friendly suggestions such as developing *trust* with students so they know the teacher is on their side. The students know the teacher views them as worthwhile, and that they have the capacity to succeed. The teacher makes sure the learning is a good fit, gives students a voice in their learning, and an awareness of how learning works.

If learning is child-centered, all these elements are valuable. However, when situated in a curriculum-centered approach where the goal is accomplishing and mastering the curriculum, the benefits of these attributes fade. The teacher is on your side to help you *accomplish the curriculum* and believes you can do it. The teacher will provide a good fit for each student by providing *different ways to master the curriculum*. The teacher will ask students for input in "developing classroom rules and routines; provide guided choice

for tasks and ways of accomplishing them . . . provide students to review one another's work using clear criteria . . ." (Tomlinson, 2008, p. 29). The students are asked for input in order to *maximize the routines and tasks to accomplish the curriculum*. For awareness, the teacher helps students understand how learning works. However, learning is always defined as successfully accomplishing the curriculum. As Tomlinson (2008) indicates the students

know how to make sense of text, how to listen, and how to ask questions. They know how to gauge their work based on criteria for success. They know how to capitalize on their learning strengths and how to compensate for their weaknesses. They know how to plan, follow through with plans, modify plans when necessary, and evaluate the effectiveness of their planning. Through these avenues, they come to believe they are captains of their own fate as learners. Teachers who differentiate for student ownership of learning guide each student in developing these abilities (p. 30).

Being "captains of their own fate as learners" only means that they are the ones in control of whether they meet the expected criteria of the curriculum. The diligent factory worker (student) who makes sure the factory work (the curriculum) is mastered is doing a good job of accomplishing the factory work (content mastery). As Tomlinson (2008) notes, to build awareness, teachers

. . . use rubrics that are carefully constructed to support student thinking about the quality of their work instead of merely awarding points for completed work. They help students analyze their points of entry in the rubrics and set goals for next steps. They have students keep track of their own skill development, feedback, and grades. They give students opportunities to reflect on their work through exit cards, journals, or plus/minus/deltas charts that aid them in thinking about their strengths, their weaknesses, and the changes they will make as they approach future work. Academic awareness builds academic success (p. 30).

Tomlinson (2008) shares how even at age six, children are "learning to position themselves as successful learners by controlling their working conditions" (p. 30) For example, the child may decide to find someone to work with when he or she cannot accomplish a task on his or her own. This is a sad commentary when we see children viewing learning as a "task accomplishment" rather than growing more and more each day and confident in their progressing abilities. For example, when a young child learns how to jump for the first time, it is like we are asking the child to evaluate whether he or she jumped well enough, or if can he or she can do it better. Does the jump fit the rubric criteria for jumping? It is not about the joy of jumping, but about the work ethic to accomplish a task.

DI advocates students becoming skilled workers on the curriculum tasks (George, 2005; Tomlinson, 2008). Are we more concerned with training good "factory workers" who successfully accomplish curricular goals? Is being accountable to the curriculum and diligent work performance what learning is really about? Or, do we want our children to find different pathways and the freedom to follow their interests and passions? Do children's own pathways and interests really count? (Gray, 2013).

Proponents of DI are to be applauded for trying to make schooling more child-friendly, even learner-centered, but it is not a child-centered approach. DI is a misguided approach for so-called learning. It is not about honoring a child's curiosity, internal drive for understanding, creativity, imagination, or personal well being.

Neudecker (2012) relates how Greek Procrustes chopped or stretched travelers to fit the bed of his inn. She relates this to our educational system by suggesting that we are changing the "wrong variable." As Neudecker (2012) proposes

For decades, we have tried to differentiate learning for our students so they will fit nicely within our educational setting. We have myriad instructional models to address a wide variety of students, settings, educational needs and learning styles. On the surface, the intentions are honorable – to ensure all students achieve to our standards. Yet we continue to expect dramatic changes in student achievement within the same educational framework we have used for more than a century. We talk about accommodating the needs of individual learners, yet we try to implement the changes within

the traditional classroom, grade level school day and school calendar. Our methods simply may not be sufficient for the 21st century. We no longer can expect our students to be high achievers when we continue to subscribe to a Procrustean approach of establishing a standard to which we expect – and demand- all students conform. . . A one-size-fits-all education is not meeting the needs of our learners nor our society. While we must ensure a quality education for all learners, we must courageously transform our systems to meet those needs (p. 43).

Unfortunately, we are still trying to fit our students to the same educational bed, instead of designing a bed that fits our children’s actual learning (not curriculum tasks) and natural development. We are not actively supporting our children to be part of the process of learning, pursuing their own interests and personal well being. We are trying to make our children more comfortable through differentiated instruction by fluffing the pillow, changing the bed spread, and providing warm pajamas. However, the actual bed is nevertheless the same, standardized size. Children still need to fit the curricular bed. The children continue to be managed by instructional procedures designed by teachers. Children are trapped in grade levels, with a grade level curriculum, and the same expectations for all when it comes to accountability and testing even though DI proponents say it is not a “one-size-fits-all” approach. Unfortunately, for our children, the factory model of education is alive and well.

Tomlinson and Murphy (2018) acknowledge that often schools today try to cover the curriculum, so students will succeed on standardized tests which teachers “believe are oppressive and even unjust” (p. 20). Tomlinson and Murphy (2018) advocate for “empathetic schools,” which “humanize our work in schools” (p. 20). Even Tomlinson and Murphy (2018) advise that we must “resist pressures to standardize young humans” (p. 27); yet at the same time DI continues to reside in, coexist, and accept, this flawed educational system. While its attempts to invest a sense of respect for the diversity of children and to humanize schooling are commendable, DI cannot give up the trappings of a curriculum-centered approach. DI continues to embrace children meeting the essential criteria of a prescribed curriculum which is often matched to the standards, or the tradition of grading students based on the curriculum criteria, or using teacher-directed and -controlled curriculum approaches, and ultimately reducing children to see learning only as successfully accomplishing curricular tasks, the product on the conveyor belt.

DI proponents believe educators can still make a high-quality curriculum work for varied and diverse learners within our current system if the teaching approach is refined by differentiation (Birnie, 2015; Campbell, 2009; Huebner, 2010; Parsons, Dodman, & Cohen Burrowbridge, 2013; McTighe & Brown, 2005; Tomlinson, 2000a, 2000b, 2005a, 2017; Watts-Taffe et al, 2012). Isn’t this ultimately an oxymoron?

We may live in a world where rigorous academic standards are judged by performance on high-stakes test, but we can change this. We do not have to continue to try to bandage a system designed without the working knowledge of human development, in order to make it more palatable for our children. We do not have to train our children to be compliant to curriculum mandates. To do so, we do our children an extreme disservice. Unfortunately, DI cannot truly accomplish meeting the needs, interests, and personal goals of our children within our current system.

While differentiated instruction is to be commended for trying to accommodate the diverse needs of our children, it situates itself within the wrong system. Some of the appropriate measures DI is attempting to do such as ongoing assessment, pursuing children’s interests, and recognizing how children learn differently are approaches that could have the freedom to unfold in a different way in child-centered system based on child development, process learning, and the ungrading of schooling (Goodlad & Anderson, 1987). Differentiated instruction, as it exists now, is simply a Band-Aid approach for a flawed system. As Neudecker (2012) suggests, we must “courageously transform” our system of education to meet the needs of *all* our children (p. 43). We cannot allow our current, archaic graded system to continue to dominate education. A new and different system must be invented (Stone, 2010).

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Early Childhood Education in Iran: Progress and Emerging Challenges

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Abstract

Frequently, our world seems filled with nations in conflict. The ultimate legacy of nations' inability to cooperate will be inherited by the world's children. Perhaps the most effective solution to creating a more peaceful world in the years to come is to provide high quality education for all children. Such education, however, is more likely to result if teachers of the world become willing to share their success stories and examples of supportive resources. Admittedly, professional collaborations between teachers in the Islamic Republic of Iran and those of the West are rare, at best. Despite political challenges, it is time to find ways to share. A place to begin is to provide teachers with background information regarding the current status of early childhood education (ECE) in Iran. This paper is also a call for a global teacher-response to initiate greater dialogue in support of all of our children.

Keywords: Iran, Education, Early Childhood

Early Childhood Education in Iran

In 1924, Jabbar Baghcheban, “a pioneer of early childhood education in Iran,” established the first kindergarten in Tabriz called “Children’s Garden.” Most children of wealthy families were attending these centers. The first government-supported kindergarten program for children, ages three-to-six years old, was established in 1931 when the Supreme Council for Culture adopted the first law supporting kindergarten. Three decades later, independent kindergarten programs were authorized by the Ministry of Culture (Research and Educational Planning Organization, 2016). Initially, these newer programs were specifically designed to provide early education opportunities for children who spoke languages other than Farsi, the national language of Iran, and as well provide improved support for working mothers (Talebzadeh Nobarian, 2006). These initial programs were later expanded to advance early education for all Iranian children. Today, there are approximately 17,800 kindergartens in Iran (Jahanpanah, 2014).

Current pre-primary school in Bojnord (city in North East of Iran)

Current kindergarten in Tehran (Capital city of Iran)

Supervision of Early Childhood Education (ECE) Programs in Iran

Prior to the Islamic Revolution, the Iranian Women's Organization was charged with the supervision of these centers (UNESCO International Bureau of Education [IBE], 2006). After the 1979 revolution, however, the Iranian Women's Organization was dissolved and kindergartens and the monitoring and licensing of all public and private kindergartens and day care centers became the responsibility of the State Welfare Organization of Iran and the Islamic Council (Research and Educational Planning Organization, 2016). Currently, responsibilities for licensing, evaluating of pre-primary schools, editing book content, and monitoring qualifications of pre-primary schoolteachers reside within the Ministry of Education (Zaare & Ghoshuni, 2008).

In Iran, the terms "*kindergarten*" and "*pre-primary school*" convey different meanings than typically acknowledged by Western countries. Kindergartens in Iran are formal educational programs for children three months to four-years old. Programs for children four-to-six years old are considered pre-primary school education. This means, the kindergartens are under the supervision of the State Welfare Organization; pre-primary school education is the responsibility of the Ministry of Education.

The age of entry to pre-primary school has been the subject of disputes between the Ministry of Education and the State Welfare Organization. While the State Welfare Organization considers four-year-old children of kindergarten age, the Ministry of Education refers to them as pre-primary schoolers. In 2010, two organizations signed an agreement to resolve this agency controversy (Islamic Parliament Research Center of the Islamic Republic of Iran, 2014). However, controversy continues because the State Welfare Organization refuses to implement this agreement. Additionally, creation of dual authority for licensing, supervising, and determining of educational content has become quite problematic for programs in the private sector for those attempting to meet licensure requirements. Since pre-primary education is considered “official but not compulsory,” it has become exclusively privatized. The primary reason for this privatization is financial. Since the education system is free in Iran, the government refuses to include pre-primary education as part of its compulsory education system. This lack of government support for pre-primary school programs has had an impact on most lower and middle-income families since they are frequently unable to afford private tuition. The magnitude of this lack of government sponsorship of pre-primary school programs is clearly seen in the enrollment in public first grade since a pre-primary school completion certificate is required. Struggles of lower-income parents attempting to enroll their children into first grade are becoming increasingly common in the news media (Iranian Students News Agency, 2015).

Types of ECE Programs in Iran

While government programs do exist for children prior to primary school, the majority of both kindergarten and pre-primary school programs in Iran are private businesses. Common program types are as follow.

Pre-primary school education

The Ministry of Education is the only licensing authority to establish pre-primary school program centers. All pre-primary school centers, including private centers and other governmental and non-governmental organizations, are required to implement their plans in concert with this license. Pre-primary school centers must include a maximum of five days a week with about 3.5 hours of daily activity. The principles and framework of the curriculum and educational activities of pre-primary school programs were approved at the 77th session of the Supreme Council on Education (Sheraki Ardakani, Riahi Nejad, & Razaghi, 2013).

Some pre-primary school programs are located in public elementary schools. Children must be five years of age to be eligible for enrollment. These programs are operated by the Ministry of Education and tuition is generally lower than that of the private sector programs.

Many pre-primary school programs are also located in private ECE centers. Directors in these centers must apply for licensure through the Ministry of Education and allocate some of their classrooms to pre-primary school programs. However, these centers are faced with many additional challenges to meet the requirements of licensure for kindergarten and pre-primary school programs. Such confusion is primarily explained by the dual governmental oversight framework. Private programs must follow standards of the State Welfare Organization for kindergarten level while at the pre-primary school level they must meet the Ministry of Education standards.

Private sector kindergartens

Goals for private sector programs include developing cognitive, social, religious, spiritual, physical and mental health of children from birth through pre-primary school. While government kindergarten programs do exist, the majority of kindergarten programs are private. These programs are funded solely by tuition paid by parents. These programs are strongly influenced by location. Facilities located in affluent areas typically contain better educated teachers and greater access to advanced techniques and technologies.

Rural kindergartens

Kindergartens in rural areas, which comprise about half of all centers, are generally established by the semi-private sector and are responsible for the development and education of rural children. While not as costly as private kindergartens, a vexing challenge of these programs is finding teachers with adequate academic credentials. As in many developing nations, this problem is affected by younger teachers who tend to prefer employment in larger cities.

Workplace kindergartens

Child care for children of employees of companies and factories is provided under Article 78 of the National Labour Law. Developed with the collaboration of the Ministry of Labour and Social Welfare, these programs allow parents to have their children cared for near their worksite. This allows parents to visit and breastfeed their children during break times as well as be able to see that their children are in good care. The cost for these programs is subsidized by industry so tuition is generally less than private kindergartens. Admittedly, there are few of these kindergartens in the country.

Public sector kindergartens

These programs are established by ministries, organizations, institutions, and other governmental agencies. Where they do exist, they are free for female employees and offered at cost to the general public. However, as with Workplace Kindergartens, such programs are rare.

Kindergarten for the indigent

Public childcare is established by the State Welfare Organization to provide services to children of poor and vulnerable parents. These programs are sparse in number and generally located in high poverty areas. Indigent programs receive little funding and very few resources. The quality of instruction and services of these programs are not comparable with kindergartens found in the private sector (Zaare & Ghoshuni, 2008).

Quran kindergartens

In addition to providing an educational program similar to those in the above programs, Quran kindergartens are established for teaching of the Quran and Islamic religious concepts. In these programs, children sing both religious and secular songs and use play to learn social and religious skills. Teachers are trained in both spiritual doctrine and basic pre-primary school education (Research and Educational Planning Organization, 2016).

Friday prayer day care

These facilities provide childcare on Fridays from 10 a.m. to 2 p.m. to enable parents to participate in Friday prayers. This is a free program funded by the government (The State Welfare Organization, 2009).

ECE Staffing in Iran

The quality of staff of any organization is critical to the success of that venture. ECE staff in Iran generally include directors, teachers, and assistants.

Pre-primary school staff in ECE Center in Tehran

Directors of ECE centers

In general, directors of ECE centers are female, Muslim, and at least 25 years of age with a bachelor or higher degree in early childhood education or related fields. If the director is not Muslim, she must be of one of the official religions sanctioned by the constitution of the Islamic Republic of Iran (i.e., Zoroaster, Jewish, or Christian) and meet the same academic requirements (The State Welfare Organization, 2009).

Kindergarten and pre-primary school center director

Teachers of ECE centers

ECE teachers must have a minimum of a high school diploma. In addition, these teachers must complete training prior to starting the job and receive a certification from either Jihad Daneshgahi Organization (Iran's official training organization) or the State Welfare Organization. Teachers must pass the courses such as first aid skills, play and movement, psychology and child development, education of religious and social concepts, common diseases in children, storytelling techniques for children, and children's emotional and behavioral disorders. The length of the training periods for those with only high school diplomas is six months to a year (Hoot et al, 2015).

Pre-primary school teachers receive the lowest salary in the educational system of this country. Since they work minimum weekly hours, their employers are not required to follow Department of Labor regulations such as provision of insurance or minimum wage. Qualifications for teachers in these programs include the ability to communicate with children under age six years, the capacity to provide appropriate Quranic instruction, the interest in teaching Quran to pre-primary school ages (teachers of religious minorities pre-primary school are exempt from this requirement). Additionally, teachers must achieve an associate degree in a related field and evidence clearance from the Department of Labor (Talebzadeh Nobarian, 2006; Sheraki Ardakani, Riahi Nejad, & Razaghi, 2013).

Teaching assistants

Assistants generally have minimal formal education and seldom have professional ECE backgrounds. In addition to supporting the teacher, assistants participate in janitorial tasks such as washing and cleaning the classroom. Toileting and bathing young children is exclusively reserved for teaching assistants. It is rare, in Iran, a teacher would assist with this task (The State Welfare Organization, 2009).

Recent Progress and Challenges in ECE in Iran

Research is clear that quality early childhood education is the key to optimal development of future citizens as well as our best hope for future economic progress of nations (Blakemore & Frith, 2005; Shonkoff & Phillips, 2000; Sylva & Pugh, 2005). For example, studies suggest that children who have experienced high quality early education are more successful in terms of both social and educational development during their higher education (Barnet, 2008). Research studies further indicate that early education has a more powerful effect on pre-primary school children from lower income environments than on their wealthier counterparts (Lamb 1998; Myers 1995, 2004).

In addition to rapidly emerging research, a number of recent societal aspects also contributed to Iran's rapid development of early childhood education programs including the increased numbers of working parents, the more educated parent population who understands the importance of high quality early education as well as the increased awareness of addressing issues relating to second language and special needs learners. While progress has certainly been made in recent years, access to pre-primary school programs is still not universal. In Iran, of the 7 million pre-primary school children, four-to-seven years old, 5 million children from primarily poor and rural households still do not have access to pre-primary school education (UNICEF, 2012-2016). Additional challenges include rules and regulations for child care centers, ECE teacher preparation programs, lack of incentives to become a pre-primary school teacher, and issues related to language.

Rules and regulations for child care centers

According to the law, each day care cannot accept more than 100 children and only women are granted permission to open centers. Further, both the proprietor and director of a day care center must generally be both Muslim and of Iranian descent. Non-Muslims whose religions are accepted by the Iranian Constitution (i.e., Christians, Jews, and Zoroastrians) can request permission to open day care centers if those centers are designed to serve only the children of the same religious community and the centers are located near those children's homes. In addition, prospective day care operators must swear allegiance to the Islamic Republic and its principles and may not belong to illegal parties or groups. They must also be at least 25 years of age and in stable mental and physical health condition as determined by The State Welfare Organization. Physically handicapped women, whose condition would not interfere with the administration of the centers, are allowed to apply to operate a day care center. Applicants must possess a bachelor or higher education degree in ECE, educational science, psychology, or sociology, and have, at least, one year of practical experience in working with young children (Talebzadeh Nobarian, 2006).

ECE teacher preparation

The professional preparation of ECE teachers in Iran comes in two forms—preservice and in-service education (Hoot et al., 2015). At the preservice level, degree programs at the associate through master's level are provided by universities. At the in-service level, short-term courses are provided for those currently teaching who have only high school diplomas in order to update these teachers with emerging knowledge in the field. In this dual system, only those with formal preservice education/degrees may become directors and, thereby, receive much higher salaries.

Preparing pre-primary school teachers in Bojnord (city in North East of Iran)

Lack of incentives to become a pre-primary school teacher

ECE teachers rarely hold graduate degrees in pre-primary school education from teacher education institutes or universities. Since pre-primary school is not part of Iran's compulsory education system, those who hold graduate degrees in ECE generally work as managers or directors of centers. Further, pre-primary school teachers have little incentive to continue formal education since pre-primary school centers are generally non-profit schools. As such, the Ministry of Education is not responsible for benefits such as job security or insurance. In addition, the potential for obtaining a salary commensurate with teachers in the public education sector is low. Teachers usually are not able to independently live on a single teaching job salary and have second or even third jobs to satisfy their living expenses (Hoot et al., 2015).

Language issues

While Farsi (Persian) is the national language of Iran, many languages are spoken (e.g. Turkish, Arabic, Kurdish, and Lori). Children from different geographic regions of Iran, such as west and south, may not speak Farsi. The language barrier is a major challenge for these children. In response to this challenge, in 1989 the Ministry of Education proposed to start a formal first day of school and pre-primary bilingual school classes one year earlier. While many question the impact of such a short time for learning a second language, it is reasoned that this opportunity would provide a bit more time for children to learn Farsi and adjust to a new environment (Mofidi, 2008). Moreover, some native Farsi speaker teachers suffer from similar language challenges in their teaching as well as in communicating with parents. The lack of language skills and cultural background clearly causes a lack of trained teachers in these areas. In order to attract more teachers to these areas, the government has recently increased stipends for rural teachers. However, even this increased benefit does not appear to be changing this trend.

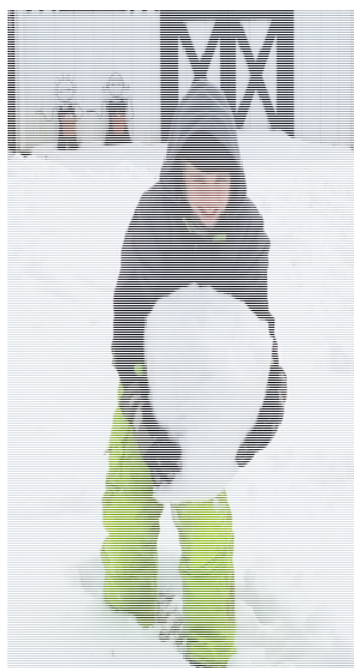
Conclusion

Children deserve the best that the world has to offer. However, political systems and responses to these systems often keep nations from sharing their successes and challenges with others who might support them. The current article details Iranian progress from opening the first public supported kindergarten in 1924 to today. Accompanying growth is a challenge in the area of preparing teachers for diversity, working with second language children and parents, and providing financial benefits that will attract and retain the brightest and best professionals. Such challenges are not dissimilar to ECE teachers throughout the world. Perhaps if specific strategies were developed for sharing ECE progress and failures internationally, teachers of the world could begin to better prepare children, resulting in a better future for all. It is our hope that professional ECE organizations such as Association for Childhood Education International (ACEI), World Organization for Early Childhood Education (OMEPE), and Comparative International Education Society (CIES) might begin to address this challenge in the near future.

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Pictures for Reflection



Playing in the Snow and Much More: What do you see in the photographs? If you say you see children playing in the snow, you are correct, but take a closer look. Do you see the children planning, organizing, and communicating? Do you see the children physically committed, intellectually strategic, and emotionally engaged? Playing in the snow provides children with a range of opportunities to experience, explore, and enjoy cold weather. Snow play can be as an individual, as a small group or as a larger organized team; the snow is for all ages, stages, and varied skill levels. Building snow villages, ice skating, cross and down-hill skiing, ice sculpturing, ice fishing, snow shoe walking, and ice hockey playing provide a diverse range of children with choices, challenges, and cold noses. As children learn to adapt and enjoy their environment, they as well develop a respect for the natural world. This regard for nature allows children to grow in empathy and therefore better enable their stewardship of our planet (Hoot & Szente, 2010). Where do our children first realize this deep and profound insight, appreciating that they are an integral part of nature? This relationship with a winter world may begin when, as a very young child, they stick out their tongue and catch their first and most beautiful snowflake.

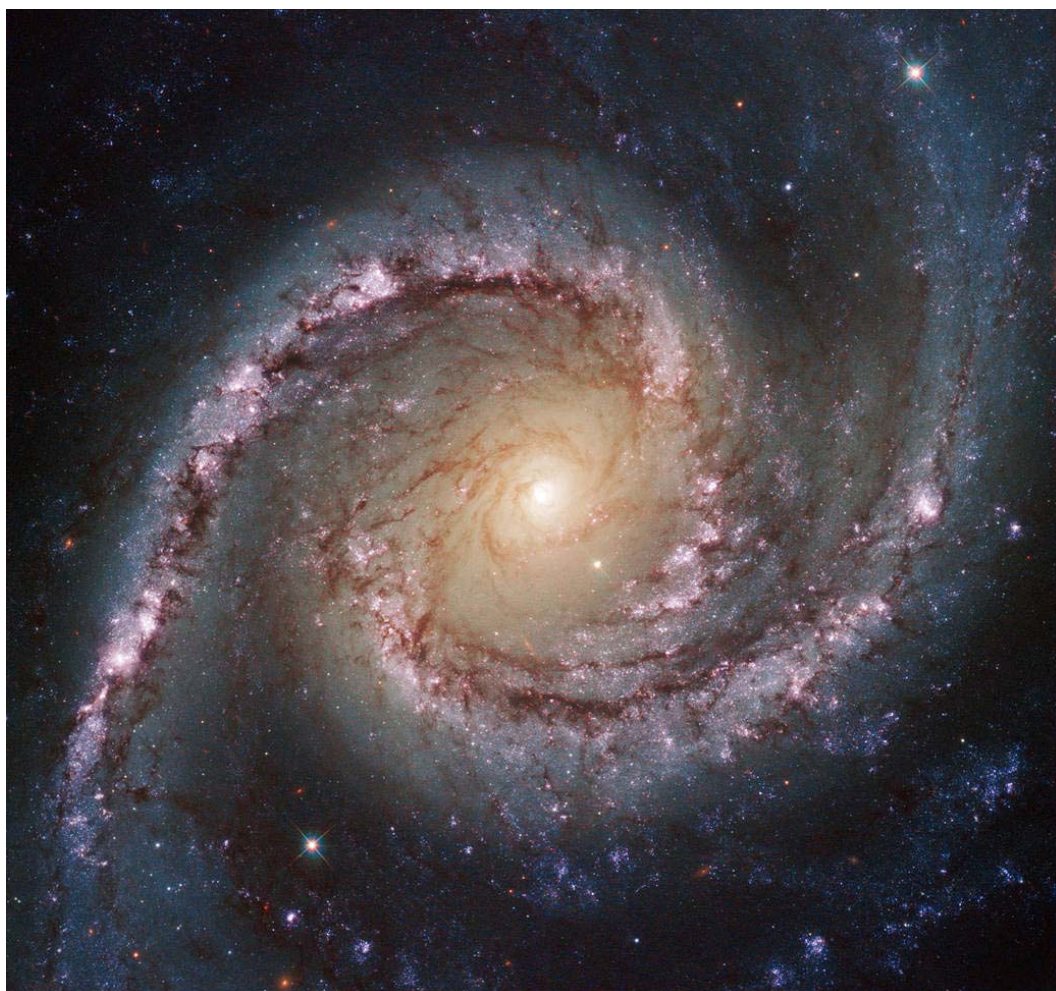
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Star Parties: Bringing The Infinite Universe Into A Small Classroom

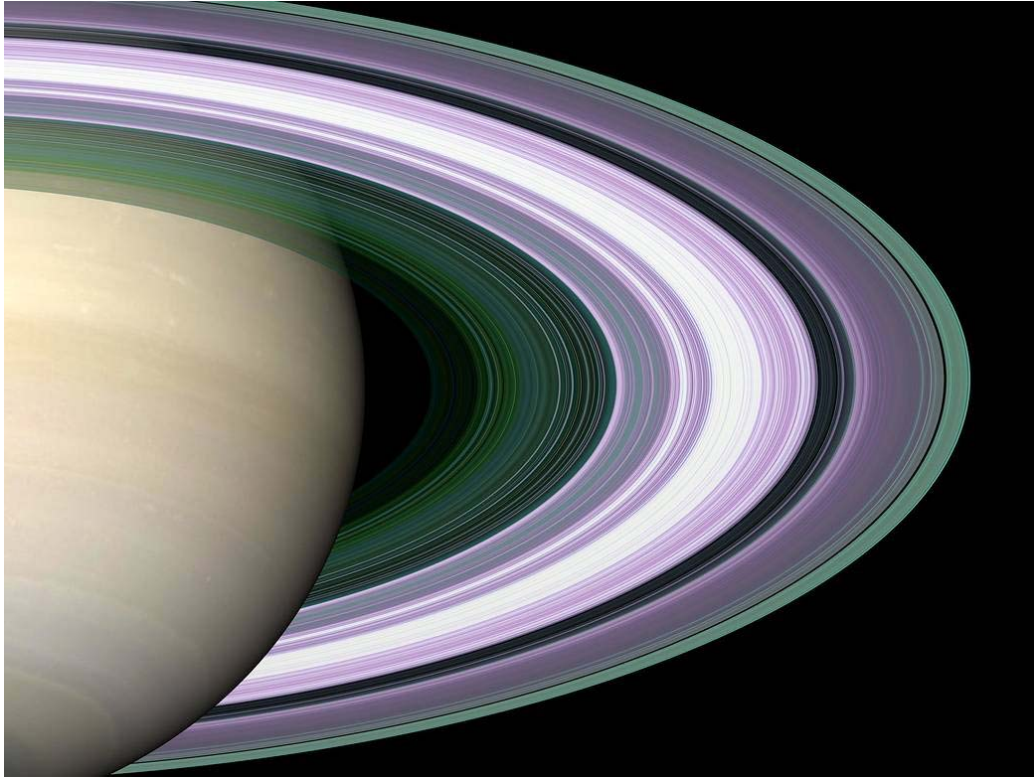
Larry L. Burriss^a

^aMiddle Tennessee State University

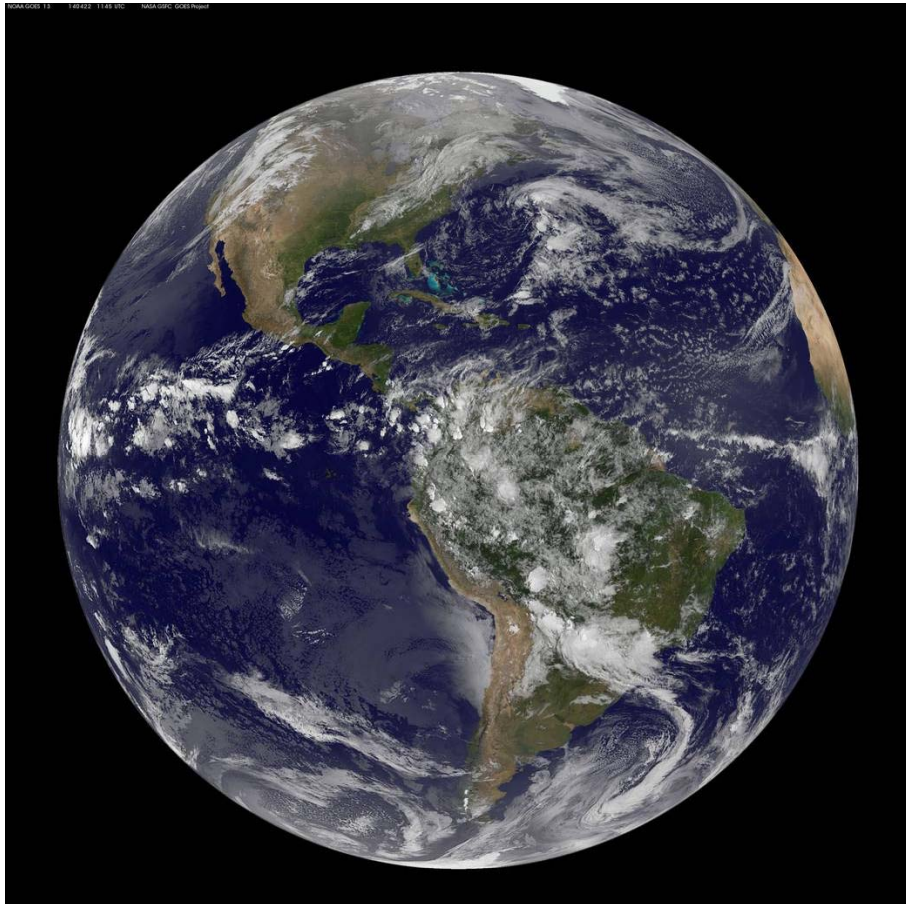
Dr. Larry L. Burriss, B.A., M.A., M.A., Ph.D., J.D., LtCol USAF, is a professor in the College of Media and Entertainment at Middle Tennessee State University. He is a strong advocate for First Amendment freedoms and particularly interested in issues related to media and national security.



Grand Swirls from NASA's Hubble ©NASA



Simulation of Saturn's Rings ©NASA



Satellite View of the Americas on Earth Day ©NASA

Background

As everyone knows, astronomers are nerdy guys who spend all of their evenings looking through telescopes at celestial objects with strange names. Or they sit in front of computer screens staring at circles and ellipses surrounded by high-powered equations and numbers out to ten or more decimal places.

That's the image, unless you show up at one of the monthly first-Friday night star parties hosted by the Middle Tennessee State University department of astronomy and physics.

Here you (yes you, with no math or science since high school) will get to talk with a real astronomer (male or female) about the origins of the universe, how we'll go to Mars, the best way to observe an eclipse (solar and lunar), the possibility of life on other planets, and the reason why most rainbows in movies are all wrong, and why phasers and blasters won't work in space (and will rarely work on earth).

With an audience ranging in age from cub scouts to octogenarians, the event offers families from the community an opportunity to join with University astronomy faculty, students and staff to view and discuss the wonders of the sky.

The star parties have been presented since 1999 when Dr. Eric Klumpe decided to try to bring the entire universe into a campus classroom. Using a combination of PowerPoint and hands-on demonstrations, well-mixed with a helping of often self-deprecating humor, Klumpe is now joined by a number of other astronomers who bring the sky, well, down to earth in easily understood lectures and discussions.

If math is not your strength, there are numerous pictures and words. If you are a bit more math-aware, an equation or two will be provided. If you want to toss out a challenge related to the effect of time and gravity on black holes and the heat death of the entire universe, well, get ready for some equations, words and theories most of us will probably never encounter.

Then, after about 45 minutes of handouts, demonstrations, lectures and discussions, participants can go outside for telescope time at the Middle Tennessee State University Observatory. Many amateur astronomers bring their own telescopes and share the viewing experience, and the University telescope has a camera that feeds the images to 61-inch flat panel plasma displays mounted on two outside walls of the observatory.

Topics

"Funky Fizix in Film" is a popular theme Dr. Klumpe has used for years. He explores how physics and astronomy are used in the plot of popular films. Unfortunately, he usually has to conclude that the Hollywood portrayal of physics and science are grossly inaccurate (fun, but wrong).

Recently, themes dealt with Cassini's Grand Finale at Saturn. From Black Hole Trivia to Exotic Matter, professors use technology to draw the audience into the universe as our neighborhood. Participants have the opportunity to listen to the sounds of Jupiter, be amazed at the rings of Saturn, and consider the journeys of the Mars rovers.

What is most exciting about this time shared together is the willingness of Star Party participants to suspend their current understandings of space and time and consider the possibility of the future tomorrows.

For more information, please see:

https://www.mtsu.edu/observatory/star_parties.php

<https://www.usatoday.com/story/news/local/schools/mtsu/2017/05/03/mtsu-solar-eclipse-may-star-party/101215482/>



Teaching Sustainable Practices as Part of a Holistic Education in the Saudi Context

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Dr. James Ernest is Professor of Early Childhood Education and the advisor for the PhD program at the University of Alabama at Birmingham. He is a committed advocate for promoting developmentally and culturally appropriate pre-k practices and enjoys working with colleagues and students from a variety of countries.

Fatimah Hafiz is a Ph.D. student at the University of Alabama at Birmingham. She believes a quality early education is fundamental for future successes. Her ultimate goal is to support developing early education in her country, Saudi Arabia.

Children of every culture love to hear stories about their heritage. Storytelling creates shared experiences through the combination of time and space (Langellier, 2010). Educators and parents often use storytelling to explore characters, plot, setting, conflict, and resolution or other key elements of a story. From a more holistic view, storytelling is a teaching tool that is a natural way to teach about the environment and ethical and moral obligations to each other; it has the potential to create a social process that supports cultural survival (Rankin, Hansteen-Izora, & Packer, 2007). Storytelling can help maintain a sustainable culture, which is a basic element of a sustainable society (Abdul-Malik, 2012). Supplementing traditional benefits of storytelling, many activities and routines in early childhood lend themselves to broader discussions of sustainability. In the current article, authors share an example of how sand and water activities have been used to support sustainable environments in Saudi Arabia. To accomplish this, the authors explore how transformative and developmentally appropriate activities fit within a Saudi early childhood context, and provide examples of experiences that support a whole child approach to education.

Sustainability and Education

The term *sustainable development* was first proposed three decades ago (International Union for Conservation of Nature, 1980) and is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p. 43). Sustainability, in general, refers to thinking of a long-term goal of having a more sustainable world or "thinking about forever."

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2005), sustainable development comes about when you have four interrelated and coordinated dimensions:

ecologic, economic, political, and social stability. Ecological, or natural, sustainability considers resources, such as food and water, which support life. Economic sustainability is related to people's salaries, jobs, and income; economic sustainability is best defined by its broad definition of maintenance of capital, or keeping capital intact. Political sustainability is concerned with the political system and political power's role in making decisions about social and economic consumption of natural resources. Finally, social and cultural sustainability deals with human rights and people's interaction through culturally appropriate aspects. The role of education as a catalyst for sustainable development was proposed during the 1992 United Nations Conference on Environment and Development (UNCED):

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues.... It is critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision-making (Hopkins & McKeown, 2002, p.15).

Although it is well acknowledged that education is a critical practical tool for sustainable development (Manteaw, 2012), progress in the area of education for sustainable development (ESD) was limited until December 2002 when the United Nation (UN) announced 2005-2014 to be the Decade of Education for Sustainable Development (UN, 2015). Conceptually, education had been considered essential to help bring the four domains together (UNESCO, 2014), and more recently research has provided support for education as the key to a nation's sustainable development (Gyberg & Löfgren, 2016).

The concept of ESD was originally described as "a world where everyone has the opportunity to benefit from quality education and learn the values, behavior, and lifestyles required for a sustainable future and for positive societal transformation" (UNESCO, 2005, p. 5). Within ESD, programs are developmentally and culturally appropriate and should consider the local environmental, economic, and societal and cultural factors (UNESCO, 2006). Teacher-education organizations have been identified as carrying the key to training and encouraging teachers to apply sustainability in their classroom, which will, in turn, globally impact the future (Alenimat & Taha, 2013). However, without a shift in thinking about the pedagogical practices we use in education, teachers are not likely to consider a more holistic education that "aims at the integration of elements: self and world; mind and body; knowing and feeling; the personal and societal; the practical and transcendent" (Griffin, 1981, p. 111) while at the same time valuing ESD. To move beyond the traditional focus of reading, writing, and math, a promising approach to ESD integrates developmentally appropriate practices within a transformative model of teaching in education. As Samuelsson and Kaga (2008) believed, "Every child has the right to adequate care, learning, development and protection, and a sustainable society is where everyone's rights are recognized, respected and fulfilled" (p. 14). Not only is engaging children in appropriate practices important, but we should be developing a child's sense of responsibility toward a sustainable world as well.

Connecting Developmentally Appropriate Practice with Culture

In 1987, the National Association of the Education of Young Children (NAEYC) released the first position statement about developmentally appropriate practices (DAP) for young children. The DAP guidelines are based on research and theories of how young children develop and learn. The guidelines provide teachers and care providers with examples of best practice in early childhood education (ECE) serving children from birth to 8 years old (Copple & Bredekamp, 2009). Since DAP's first edition, the guidelines have received criticism from professions in the field of ECE, with editions that have responded to the criticisms in 1997 and 2009.

The universal consensus underlying DAP philosophy was the rejection of an education that focused on drill and practice and ignored higher level thinking skills (National Commission on Excellence in Education, 1983). Thus, the authors of DAP have advocated for a learning style that focuses on the whole of the child using effective teaching approaches and practices. The learning style based on DAP guidelines is a child-centered pedagogy where the child is a center of the overall learning process (Samuels, 1994; Aldridge,

1992). Children in developmentally appropriate classrooms are seen as active learners, problem-solvers, and action-takers (Stuhmcke, 2012). As DAP was initially based on a framework of well-known European theorists' views of child development and theory, questions have been raised about the relevance to children from different ethnicities (e.g., Delpit, 1988; Jipson, 1991; Kessler, 1991; Wien, 1995; Spodek, 1991; Lubeck, 1998).

The diversity of human culture and the wealth of social and traditional values shape the way in which education has formed in different parts of the world (UNESCO, 2009). Therefore, many see early childhood education as influenced by varied social perspectives deeply rooted in local culture and customs (Spodek & Saracho, 1996; Mallory & New, 1994; Hoot, Parmar, Hujala- Huttunen, Cao, & Chacon, 1996; McMullen, Elicker, Wang, Erdiller, Lee, Lin, & Sun, 2005). A shift in more recent versions of DAP emphasize an awareness of cultural appropriateness and attention to the role of bringing children's culture to the classroom (Walsh, Sproule, McGuinness, Trew, & Ingram, 2010). To do this, teachers bring children's culture into the classroom by knowing what is culturally important to the children as well as listening with an open mind to family's preferences regarding child rearing and education (Copple, Bredekamp, Koralek, & Charner, 2013). As Copple et al. (2013) note, this is a shift to pluralism where educators "create a harmony in the face of differing practices, [and where] it is important to move away from viewing contrasting practices as right or wrong, instead thinking of them simply as different" (p. 20).

Even with the most diverse early childhood classrooms, teachers cannot have in-depth knowledge of the cultural dimensions of specific individuals or families. Indeed, teachers cannot have a detailed understanding of every culture they encounter in the classroom (Copple et al., 2013). Culture is a highly complex concept and encompasses various aspects of human-living patterns within a particular social structure. Culture is a complex term that "represents traditional and contemporary expressions of human achievement (e.g. language, art, tools, religious beliefs and practices, values, architecture, fables, traditions, customs and all other forms of human endeavors) that bind together groups of people" (UNESCO, 2012, p.16). Rather than teachers using a top-down approach to bring culture to a classroom, a goal of teaching for transformation to change the world to be a better place is a natural fit for ESD.

Transformation as a Model of Teaching

Aldridge and Goldman (2007) argued that educational practices and approaches usually fall under three main categories: transmission, transaction, and transformation. Teaching as transmission considers teaching as the action of transmitting knowledge from the teacher's head to the student's head. As much social knowledge is transmitted (e.g., names of letters, remembering sequences such as numbers or months of the year), transmission works well if a teacher simply wants students to repeat what a teacher tells them, often without knowing whether or not children understand the information they are repeating. The second model is teaching as transaction. Here, teachers guide students to construct their knowledge through investigation or exploration, often following their interests.

The third general model considers teaching as a transformative experience and one that leads to meaningful change. As an ancient Chinese proverb says, "if I don't change my direction, I will likely end up where I'm headed." In the same way, transformational teaching often begins with changing students' thinking in order to change their actions; a process of reflecting on what is learned is followed by belief systems being challenged, which, in turn, shifts our perspectives and assumptions. Transformational teaching is intended to change people's view of themselves and the world around them (Wright Knapp, 2013). As with transformative education, taking action is a key feature for DAP which encourages and supports children to be active agents in their own environments (Aldridge & Goldman, 2007). Teaching within a DAP framework supports teachers' decision-making skills as intentional in planning and practice, but also stresses building a caring community for learners, and establishing reciprocal relationships with families (Copple & Bredekamp, 2009). An illustration of joining DAP culturally sensitive practices together with transformational teaching, toward a goal of ESD, is seen with the example of how children learn about the importance of sand and water in Saudi culture.

A Case Study of Saudi Arabia's Transformational Practices in ECE Educational Influences in Saudi Arabia

Early childhood education in the Kingdom of Saudi Arabia is highly influenced by the unique religious characteristics of Saudi society. Saudi Arabia, often regarded as the most religious and conservative society in the Middle East, is known as "The Land of the Two Holy Mosques" with Al-Masjid Al-Haram in Mecca city, and Al-Masjid Al-Nabwi in Madinah city. Geographically, where these two mosques are located, provides the country with a special responsibility, among all other Muslim nations, to be custodian for the most sacred places of Islamic faith. This religious significance in the country has shaped the identity and the nation's philosophy of education.

The presence of Islamic spirit and faith is strongly supported in all levels of formal education and ECE. The education in the preschool years, known as kindergarten level, is the earliest stage of education and is considered a general orientation for formal schooling (Al Sunbul, Al Khateeb, Matwalli, & Abdu Al Jawad, 2008). The Educational Policy in Saudi Arabia (1970) is used as a main reference for developing ECE programming. The document defines objectives and goals that serve as guidelines for preschool teaching. The objectives encompass different aspects of children rearing (see Figure 1) with a notable presence of cultural and spiritual values that mesh with the Saudi philosophy of educating young children (World Data on Education Report, UNESCO, 2010/2011, p.8).

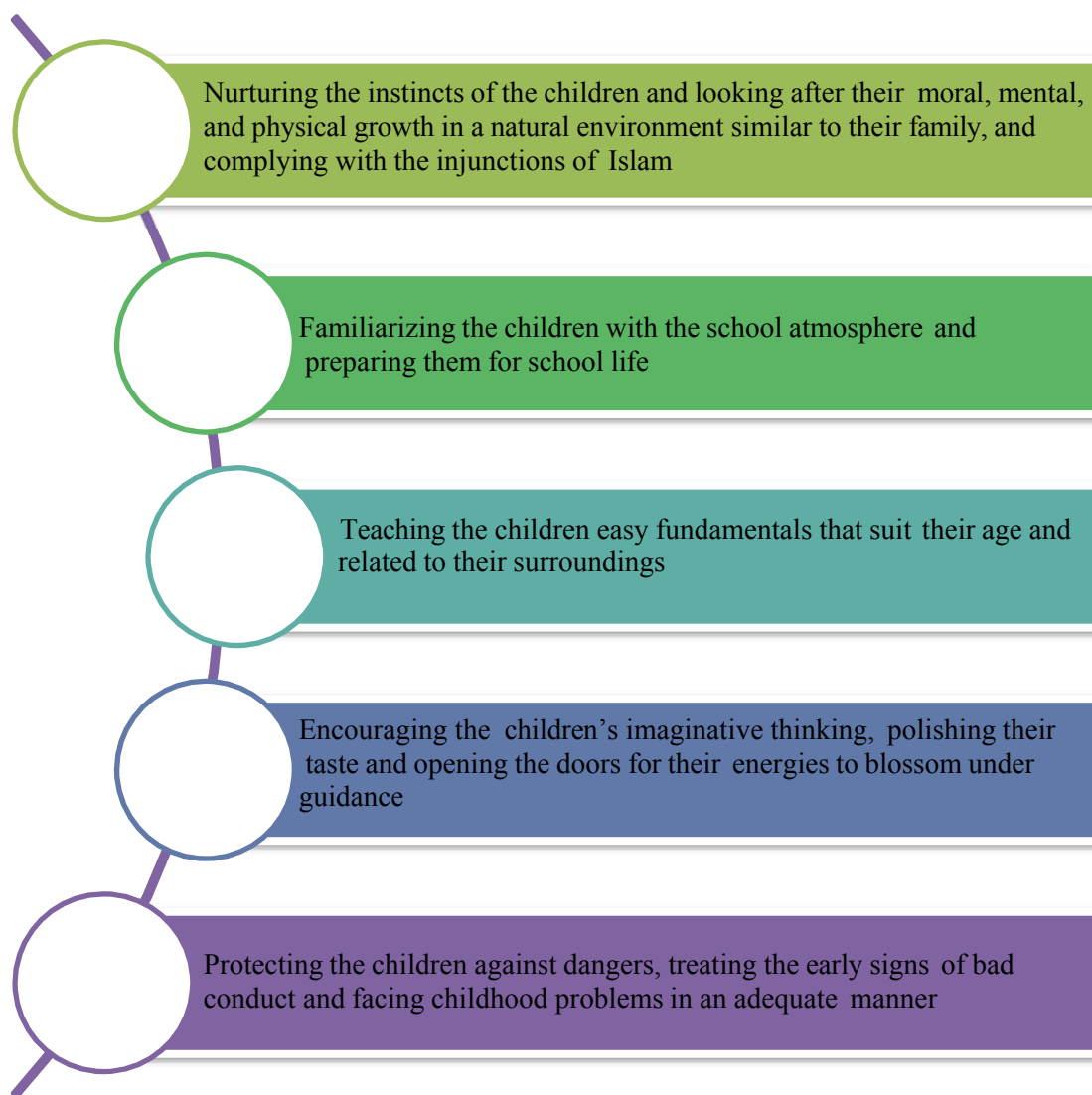


Figure 1: The Main Objectives of Saudi Early Childhood Education

The curriculum implemented in preschool programs is the National Self-Learning Advanced Curriculum developed by the Ministry of Education in 2002 (Al Sunbul et al, 2008). The curriculum is based on three core considerations for Saudi preschool teaching and include: a) suitability for children's developmental stage of physical, social, emotional, and cognitive growth, b) an abundance of age appropriate learning experiences and hands-on activities, and c) a consideration of children's present and future lives (Al jabreen & Lash, 2016). All units and lessons are designed in theme-related experiences with descriptions of objectives and suggested activities with flexibility for teacher implementation (Al qassem, Dashash, & Al zahrani, 2016).

The content of any learning unit is categorized as academic, vigorous, or religious contents (Al Hamed, Zayadah, Al Otebi, & Matwali, 2007). Academic content includes letters, numbers, and subject of matter in different content areas (e.g. math, science, geography, history). Children's physical development includes outdoor/indoor play, hands-on activities and games, and religious content is integrated in the daily program through Qur'an recitation, daily supplication, and storytelling time which mostly relates to Hadith legislation (the Prophet Muhammad's legacy and teachings). Finally, the curriculum also advocates for teaching skills related to self-exploring, environmental observations, cooperative work, developing the spoken language, good conduct and manners, socialization, following rules, cleanliness and personal hygiene (Megren, 2003).

Recently, the country has witnessed major improvements in its educational system starting with the preprimary and preschool levels. Current educational reforms toward alternative ways to work with the young in the Kingdom shows a remarkable shift to a Western style of educating young children. The Saudi Early Learning Standards (SELS; Ministry of Education, 2015) reflect NAEYC standards and presents a new policy to support children's comprehensive development toward optimal learning while still considering Saudi culture and tradition. The SELS is a culturally appropriate package that respects Saudi Arabian policy regarding educational philosophy and, at the same time, is aligned with NAEYC's global vision of ECE around the world (Ministry of Education, 2015).

Water and Sand Learning Unit

Water and Sand is a learning unit for preschoolers taught as a part of the self-learning advanced curriculum in the Kingdom of Saudi Arabia. The ecological feature of the desert-like country is widespread and is part of a sand landscape that covers most of the Arabian Peninsula. It is known as one of the largest continuous bodies of sand in the world with a land surface of about 900,000 miles (Saudi General Authority of Statistic, 2017). The land is locally named *Rub Al-Khali*, or in English *Empty Quarter*, in reference to its dryness and extreme climate. Within this desert territory, the country is arguably the least water-secured region in the world.

According to the World Resources Institute (2015), Saudi Arabia is considered one of the world's most water-stressed countries. This shortage of water as resource led the Saudi Ministry of Water and Electricity (MOWE) to initiate a national campaign for sustainable water consumption (Ouda, Shawesh, Al-Olabi, Younes, & Al-Waked, 2013). The campaign has received much attention from the educational sector in the country including preprimary and primary education.

Natural resources. The growing threat of water shortage and the nature of the geographical area makes water and sand two essential components of Saudi children's ecological surrounding. One of the main objectives that guides the Water and Sand unit is to help children develop a growing wealth of knowledge and understanding about the country's natural resources with special focus on water resources and conservation. Learning experiences designed for this unit include: watching a video of sea water desalination process in the kingdom, creating a poster about using water responsibly, and discussing ways of preventing wasting water in school and at home.

History and culture. Sand, on the other hand, is a natural element of the planet and at the same time, a dominant ecological feature for this specific environment. Essentially, sand is not only considered an elemental component of a child's immediate surroundings, rather, it is deeply connected to historically and culturally valued events of the country. For example, a hundred years ago, the home tent lifestyle was popular in the Arabian Peninsula region where modern Saudi Arabia is now located. With oil exploration, the rapid economic wealth has led to major transformational changes in the country. Valuing this transformation of the desert into modern society is strongly supported through education; the Water and Sand unit is an example of how history and culture are important parts of Saudi's philosophy of educating young children. Learning experiences associated with this unit reinforce children's participation in nationalistic behavior and traditional customs. Examples for some popular activities in the Water and Sand unit include: wear traditional clothes in dramatic play area, discuss ways people might make adaptations to live in the desert, and read a book about safety with respect to local weather challenges (e.g., sunstroke, sand storm).

Patriotism. Within Saudi policy, patriotism is an important dimension of educating young children. Children's emotional and cultural attachments help develop a sense of national loyalty and is an important value that are educationally and culturally appreciated in Saudi Arabia. According to the Saudi Early Learning Standards (SELS, 2015), patriotism is a critically important standard that is strongly supported throughout education and starts as early as the preschool years. As the document notes, "children begin to appreciate and take pride in the characteristics of their group, those characteristics become an important component of their sense of self, which will later develop into a sense of citizenship in the Kingdom of Saudi Arabia" (2015, p. 124). It is most common to see children in Saudi preschools bringing the history of their great grandparents' generations to topics of interest in the classroom. Children are often seen building a tent with local materials, wearing traditional clothes, or sitting on the floor. All are customary activities that children enjoy in the dramatic play center.



Home Tent Lifestyle in Dramatic Play Center

Integrating Rich Cultural Texts with DAP Activities

One strong tradition of the Saudi preschool is to use stories as a powerful medium for mixing historical and religious teachings with social guidance. Saudi storytelling, as with many cultures, includes many historical references but also includes explicit connections to religious beliefs. These can be intentionally connected to current day challenges:

It is a storytelling time where children sit quietly on the carpet waiting for the teacher to read them a story. Ms. Amal walks toward the book shelf and chooses a book about how life began in the barren Arabian Peninsula. As she walks back to the carpet, Ms. Amal says to her children: Are you excited to hear a story about a well that was originally dug by an angel from heaven? As children stared at her with eyes filled with curiosity, Ms. Amal starts to read. A long, long time ago, Prophet Abraham, his wife Hajer, and his son Ismael had a long journey. They walked and walked for a long time until they reached a desert of the Arabian Peninsula. They came to a very dry valley named Mecca. The valley had no sign of life, no trees, no food, and no water. Prophet Abraham, for almighty purpose, left his wife and son with little food and water and walked away. Hajer began to drink the water and eat the food that Abraham had left for her so she could feed Ismael her milk. But that water and food soon ran out. Hajer and her baby were so hungry and thirsty that she looked for food and water but she couldn't find any. She was running back and forth between two hills of Al-Safa and Al-Marwa seven times looking for people to help her. The last time she reached Al-Marwa hill, she heard a voice calling her. All of a sudden, she saw an angel digging the earth until the water flowed from the ground. Hajer tried to contain the spring water and shouted Zom Zom--meaning stop flowing—which was later named ZamZam. The water kept flowing and flowing and never stopped until this day!

After reading this type of story, teachers talk to children about conservation and the value of water, water and its relationship to sand, and direct children to a sand box. Values are connected to their religious teachings and help create strong intergenerational bonds. The story of the abundance of sand and the need to respect water leads to children frequently playing with sand in the Kingdom. Each preschool has to have a proper sand area in its facility with appropriate equipment and tools in order to meet standards. The sand used is all purified natural sand regulated to 20 inches in height above the walking surface for children's safety. Sand located in outdoor areas is protected from the extreme hot weather by providing suitable shelter and appropriate air conditioning.



Children Play in Small Group in Sand Block Area

To prepare the sand for children, the sand's surface is commonly sprayed with an amount of water to cool it down which allows opportunities for children to participate in manipulative play. Children are encouraged to remove their shoes and socks before they enter the sand block area; children gain from playing with sand as much as they benefit from playing with water. Sand is a compelling source of pleasure for most children whether on a warm beach, in an attractive sandbox, or at a messy playground. Children enjoy sand as sensory learning and a joyful experience wherein they see, touch, smell, hear, and more importantly, explore one of the basic elements in nature. Many conversations emerge as teachers talk with children about mixing sand with water to allow them to observe the physical properties of sand change in texture, consistency, smell, and color.

Sand is an excellent medium for exploring and applying many mathematical and scientific thinking skills; sand is valuable in stimulating children's cognitive growth. Building, digging, scooping, sifting, or burying are all hands-on activities that build upon children's exposure to concepts such as counting, measuring, balancing, dividing, predicting as well as using various learning contexts such as heavy, light, more, less, equal. Playing with sand works well for developing children's language and verbal communication. As children play with sand, they talk, negotiate, and exchange thoughts. This discourse leads to children cooperating as a group which enhances children's creativity and imaginative play. Moreover, playing with sand also supports children's physical development. Children are consuming considerable energy when they interact with sand. It is a fun way to develop children's gross motor skills as well as fine motor skills when appropriate tools are provided.

Conclusion

Children have the right to a well-resourced tomorrow. Education for sustainability could be meaningfully addressed by adapting approaches that see children as significant contributors to their environment. Providing children with learning experiences that encourage them to make a positive change in their environment is consistent with DAP and becomes transformative education. Nature differs in its geography in different parts of the world which, in turn, is associated with a diversity in human culture, styles of adaptations, as well as ways to sustain natural resources. Recognizing children's curiosity about the world around them is a common theme in ECE in different parts of the world. Once coupled with educating young children about science and the environment, children have an instinctive desire to explore, especially when it comes to base elements like water and sand. The use of the Water & Sand learning unit can help with promoting sustainable ways of thinking about natural resources. This is especially important when considering the uniqueness of the history and the culture of the country of Saudi Arabia. The Saudi experience of how children engage in exploring and interacting with the Water & Sand learning unit can lead to sustainable practices that are environmentally, educationally, and culturally appropriate.

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