International Journal of the Whole Child

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International Journal of the Whole Child

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Volume 1   Number 2   2016

Introduction

In the Fall IJWC 2016 publication, three manuscripts provide teachers with information and insight toward improving appropriate and effective instruction for diverse groups of children. Viewing Pictures for Reflection, readers discover how engaging, intellectual, and academic dirt truly can be. In the segment titled Etc., two authors describe ways in which schools directly linked with their communities in partnerships.

Articles

In the first article, "Are Korean Early Childhood Teachers Becoming More Responsive to Multicultural Children?" authors, Reina Park, James Hoot, and Hyejin Shin, analyze data drawn from the Korean Institute of Child Care and Education (KICCE) survey. These researchers were interested in the progress being made in the preparedness of Korean teachers to address diversity issues. Findings indicate teaching experience, close teacher-child relationships, and awareness of recent standardized curriculum may play a role in higher levels of diversity self-efficacy of early childhood educators. The study concludes with policy recommendations describing the roles of teacher dispositions and university education.

In the second article, "Technology Integration into Early Childhood Education," Shaunna Smith, Lauren Burrow, Kathy Fite, and Laurie Guerra explore the context for technology and technology integration into early childhood classrooms. Defining technology assumes different meanings. For the early childhood educator, there are multiple concerns about technology integration that go beyond access and classroom management of student use. Considering the current trend to eliminate the standalone technology course in favor of technology integration into methods and content courses, these authors were interested in the implications for early childhood teacher practice. "Are university instructors effectively modeling the knowledge early childhood teacher candidates need?"

In the third manuscript, Kathleen Fite provides readers with a review of Kirylo's book, Teaching with purpose: An inquiry into the: who, why, and how we teach. Fite outlines Kirylo's discussion describing the importance of teachers' purposeful thoughts and actions. Fite describes how Kirylo believes, in order to be "change agents" on behalf of equity and justice for all children, teachers build and maintain culturally responsive classrooms. What collaborative efforts do teachers engage on behalf of genuine partnerships and relationship building? In building respectful and trustful relationships, what is important for teachers to know about themselves and others? After reading this review by Fite, readers will be left wanting to read the text for themselves.

Pictures for Reflection

Two photographs capture a child's total involvement while their playing in the dirt. Titled, Digging in the Dirt is Serious Business, the descriptive cutline provides insight for readers on what learning is actually occurring. After reflecting upon these many learning possibilities, classroom teachers will insist on creating an area for dirt and mud play for their students.

Etc.

In an effort to describe unique learning experiences, the ETC. section provides readers with two extraordinary ways to celebrate and partner with the community.

In the first Etc. article, "The Halloween Holiday: A time for Community Celebration",
Claudia best describes how for more than 40 years, a school in New York, uses the Halloween holiday as a town-wide celebration. From the morning assembly where children perform skits, songs, and poetry to the afternoon parade through the town, the children, teachers, and community members use this day to celebrate their school and children. In addition to maintaining academic excellence, this elementary school intentionally integrates curriculum, actively involves families and businesses as learning partners, and respects that children are unique and deserve a range of diverse learning possibilities.

In the second Etc. article, "Growing Up Healthy: from the Farm to the Cafeteria," Tylar Setser provides a step-by-step guide to creating this partnership. She describes how to build a relationship between a local farmer and the school. Collaboration among the farmer, cafeteria staff, families, teachers, and children becomes a life-long commitment toward healthy eating and nutritious choices. She provides ways to effectively plan, clearly communicate, and cautiously avoid pitfalls.

Are Korean Early Childhood Teachers Becoming More Responsive to Multicultural Children? An Analysis of Diversity Self-efficacy Data From the Korean Institute of Child Care and Education (KICCE) Survey

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Korea is in transition toward becoming a multicultural society. This study assessed progress in the preparedness of Korean teachers to address diversity issues in this rapidly changing society. Analysis of diversity data from a 2011 national survey suggests that progress is being made toward making teachers more aware of developmental needs of diverse children. Moreover, data suggests that teaching experience, closer teacher-child relationships, and awareness of recent standardized curriculum may play a role in higher levels of diversity self-efficacy of early childhood educators. This study concludes with policy recommendations.

Introduction

An article in the New York Times aptly pointed out that "South Korea, a country where until recently people were taught-to take pride in their nation's 'ethnic homogeneity' … is struggling to embrace a new reality" (Choe, 2009). This new reality has emerged largely from a rapid increase in the numbers of foreign workers needed to fuel Korea's growing economy and an increase in the number of foreign brides. In 2008, foreign residents in Korea made up about 2% of the total Korean population. One year later, the rate of foreign residents increased by more than 17% (Moon, 2010). Another indicator of this increase is that in 2008, 13,443 babies were born to inter-racial Korean couples. This number increased to 22,014 in 2011. This figure represents 4.7% of all births in Korea in 2011 (Korean Statistical Information Service, 2011). Korea's recent journey in diversity has even begun to alter its language. Widespread use of terms such as "*Danil Minjok*" to describe the former one race native Korean nation is becoming less used in daily conversations. Such descriptors are now being increasingly replaced by words such "*Damunhwa*" (multicultural) when referring to citizens of mixed race or families of inter-racial couples.

Rapidly increasing diversity in Korea presents many challenges for our highly industrialized nation. Perhaps one of the most critical challenges likely to affect our future economy, however, lies in the education sector. Specifically, we must learn how to better prepare teachers and children to celebrate the recent diversity in our nation. Since 2012, Korea has been applying a revised curriculum called the *Nuri* Curriculum to 5 years old children in Korean public childcare programs. The application of this standardized curriculum has more recently been extended to children ages 3 to 5. In this curriculum, cultural diversity is clearly emphasized. For example, the curriculum states children must "…learn to recognize and to embrace diverse socio-cultural differences…" It also indicates that teachers must consider the

educational needs of multicultural families when preparing teaching-learning environments. In the social interaction section of the curriculum, it is emphasized that multicultural issues "take priority in creating anti-bias environment where children can learn about different countries, races, and cultures." It also emphasizes, "Children are to respect physical differences between oneself and others" and actively encourages children to "work toward living cooperatively with diverse cultures." Emerging curricula such as this is clearly in line with Korean goals of becoming a 21st century diverse nation. However, we know very little about how *teachers* in the schools are currently prepared to use such curricula to achieve national goals.

Increasing numbers of leading scholars are expressing the critical nature of diversity education in early education. Keenhwe (2010), for example, suggests that it is important to focus on multicultural education from an early age to most effectively develop the ability to communicate with and relate to others from diverse backgrounds. Likewise, the 100,000 plus members of the National Association for the Education of Young Children (NAEYC) in the United States acknowledge the importance of an anti-bias approach to early education in position papers and in its accreditation process (Derman-Sparks et al., 2010). Similarly, the Association for Childhood Education International (ACEI) addresses the importance of diversity preparation in global teacher education programs. In their position paper, "Preparation of Early Childhood Education Teachers"(1997), ACEI stresses that teachers should develop:

… comprehension of the variety and complexity of communication patterns as expressed by people of differing cultural and socioeconomic backgrounds in a global context; a knowledge and understanding of differences and similarities among societies and cultures, both at home and abroad; an awareness of the social, historical and political forces affecting children and the implications for education within individual nations and world contexts (p.164).

Teachers and parents play an important role influencing children's identity as well as developing an anti-bias perspective from very young ages. Data collected by the Panel Study on Korean Children in 2011(KICCE, 2012) suggests that Korean children spend more than 7 hours per day in preschools or kindergartens. Other than an average of 10 hours of sleep per day, this figure suggests that the majority of our children's time is spent in school. If Korea is to create future citizens who value diversity more than previous generations, the development of lasting dispositions to respect and value those who are different must begin in the earliest years. And, classroom teachers will play a vital role in the development of such dispositions as Korea transitions toward becoming a truly multicultural society. Yet, research is just beginning to emerge to provide direction for qualities and experiences of teachers that are likely to result in more diversity-conscious teachers.

Teacher Impact on Multicultural Classrooms

Some teacher variables were investigated in the KICCE teacher survey. This study investigated carefully selected teacher variables based on recent study trends of teacher impact on diversity in classrooms. Research provides a promising glimpse of teacher variables that are likely to result in more productive multicultural classrooms. Two promising variables include: teacher-child relationships and teacher-parent communication.

Teacher-child Relationships

Productive teacher-child relationships appear to be a critical factor in the academic achievement of children. In an experimental study (*n* = 120) of teacher-child relationships with kindergarten children, Ahnert, Milatz,

Kappler, Schneiderwind, and Fischer (2013), for example, found that children with a closer relationship with teachers showed higher cognitive processing. In their study, teacher-child relationships were measured first and, then, children participated in computerized tasks in a laboratory situation. In order to measure teacher-children relationships, the researchers visited children in kindergartens. They first asked their teachers to report on the quality of the teacher-child relationship using Student-Teacher Relationship Scale (Pianta, 2001), which measured closeness, dependency, and conflict. In addition, children and teachers were observed together. Later teachers were asked to provide evaluations of their teacher-child relationships from the children's point of view. Children were then given laboratory tasks challenging their cognitive processes relating to basic knowledge and belief systems. Tasks included things like classifying items (i.e., using a computer mouse, click on the figure which does not belong to the rest), ordering (i.e., click on the patterns which should be replace the blank in a way to match the order rows), and composing and comparing (i.e., click on the figure which best fits in the big pattern). Before beginning the tasks, an image of a child's teacher was shown to the experimental group ($n = 60$) whereas children of the control group were shown a neutral image. Results suggested that cognitive processing was significantly ($p < .05$) impacted by closer teacher-child relationships.

In addition to cognitive benefits of positive teacher-child relationships, other studies (Greenberg, 2002; Liew, Chen, & Hughes, 2010; Neu, 2013; Wentzel & Berndt, 1999) suggest closer teacher-child relationships may provide a powerful social context for ethnic, linguistic, and cultural minority children. These studies suggest that closer teacher-child relationships may positively impact language development, academic achievement and greater involvement in classroom learning environments.

Teacher-parent Communication

Teacher-parent communication has also been shown to be important in the maximal development of children in the early years. Miedel and Reynolds (1999), for example, investigated the association between parent involvement in early education and children's later school performance. In their longitudinal study of 704 parents of preschool and kindergarten children in Chicago, USA, researchers found a significant relationship between parent involvement in schools and higher reading achievement.

Likewise, Cheatham and Ostrosky (2013) conducted an analysis of conversations in teacher-parent conferences with native Spanish speaking, Latino bilingual and native English speaking parents and teachers. For this study, researchers gave teachers three different methods of setting goals for their children. The first method involved the teacher telling the parent a goal they had set for the children. In the second method, the teacher asked parents a goal they would like to establish for their children. In the third method, the teacher shared with parents a goal they had established and requested parent input into how to address this goal. Examples of goals described above included items like working with other children, helping the child better understand math patterns and help with writing letters. This investigation found that cultural differences and misunderstanding between teachers and parents might affect children's goal setting differently. For example, when teachers largely controlled child goal setting during parent-teacher conferences, particularly native Spanish speaking parents were confused by teachers' decisions but reluctant to ask teachers for a detail explanation. This study concluded that understanding of cultural backgrounds of children's families were productive when recognizing the value of what families can bring to teacher-family communication.

Eberly, Joshi, and Konzal (2007) also found that teachers in their study struggled to interpret parents' child-rearing practices due to different cultural perspectives. In their qualitative study, teachers indicated that they could not make generalizations about a child's culture based solely on their race or ethnicity because "*there are cultures within cultures.*" For example, teachers were confused and struggled in terms of understanding

child-rearing styles when parents mentioned "*we give our babies coffee because coffee to us is a dessert*," or when Puerto Rican mothers says to a child "*you touch it and die… because I said so.*" A teacher also expressed different cultural aspects on gender: *"… in certain cultures education for girls is not valued as much as it is for boys*." The researchers concluded that more effective communication with parents resulted from better teacher understanding of the families' perspectives.

Teacher Preparation for Diversity

If Korea is to maintain and expand its place, as an economic force in the world, greatly improved education for diversity is needed - urgently needed - especially in the preparation of teachers for very young children. Yet, little is known about how universities in Korea prepare teachers to work with diverse very young children in classrooms. Other nations such as the USA have a long history of teacher education institutions being required to assure graduating teachers are prepared for a 21st Century global economy based on multicultural participation. The majority of U.S. teacher education universities, for example, follow, standards developed by the National Council for Accreditation of Teacher Education (NCATE) (Gorski, 2009). Standard 4 of these guidelines deal specifically with "*Diversity*" (NCATE, 2008). In order for teacher education programs to be accredited, the curriculum of institutions being assessed must demonstrate how they prepare candidates to be able to "demonstrate and apply proficiencies related to diversity" and "apply them effectively in schools" (p. 34). It further requires that all teacher candidates "must develop proficiencies for working effectively with students and families from diverse populations and with exceptionalities to ensure that all students learn."

Children of multi-ethnic families are a growing population in Korea. In order for all children to be competent in a global society, diversity should be addressed from an early age. However, little research exists regarding Korean multicultural education- especially regarding teacher preparation. This study sought to fill the research gap of Korean teacher education for multicultural education through analysis of data emerging from the 2011 KICCE survey relating to diversity issues.

Research Questions

The following research questions guided this investigation:

1. What is the current status of diversity self-efficacy of Korean early childhood   educators?
2. What teacher variables appear to impact the level of teachers' self-efficacy regarding diversity?

Methodology

1. Data source

The data used in this study was collected in 2011 by the Korea Institute of Child Care and Education (KICCE). A total of 1,425 surveys were distributed to Korean teachers of children ages birth to 5 years who worked at national public daycares and kindergartens, and at private, religion-based early childhood programs. The response rate on the survey was approximately 45.2%. Accordingly, total 800 cases were used to investigate diversity self- efficacy of Korean early childhood teachers.

2. Instrumentation

The survey was developed by KICCE to obtain national data regarding Korean childcare and education. The survey included separate questionnaires for teachers, mothers and fathers. Since this study was

designed to explore state-of-the-art diversity status concerning classroom teachers, only data from the teacher questionnaire was used for this study. The Teacher Survey portion of this survey required self-reported responses to questions based on a 5-point Likert-type scale ranging from 1(*strongly disagree*) through 5(*strongly agree*). For this study, we selected only survey items that were related to the diversity variables investigated in this study. This included teacher self-efficacy, child-teacher relationships, parent-teacher communication, and awareness of Korean national standardized curriculum for childcare programs. The teacher self-efficacy survey (7 questions) was developed based on Bandura's (2006) not in references Teacher Self-efficacy Scale. For the purpose of this study, three items that measured teachers' confidence in their ability to promote diverse students' learning were selected and named *diversity self-efficacy.* These included the following items:

1. efficacy to motivate academic achievement for children at-risk,
2. efficacy in supporting children to work collaboratively
3. efficacy to help children overcome poor environments that prevents them from learning.

Each score of the three items was aggregated to get the total score for diversity self-efficacy. Also, within the survey, the three main predictor variables were measured as follow: 1) ten items relating to *teacher-child relationships* were used to measure teachers' use of various methods to interact with children, 2) four items considered *teacher-family communication* to measure how well teachers maintained communication with families and 3) *awareness of national standardized curriculum* was measured. The KICCE survey also included teacher's general background information (i.e. gender, teaching experience, and teacher certification). Teaching experience was measured by months of classroom teaching. Teacher certification was defined as whether the participant was certified to teach children in early child settings.

3. Variables

The dependent variable in this study was teachers' level of diversity self-efficacy (DSE) as measured by the survey. In order to answer the research questions under investigation, the following predictor variables were investigated: 1) *teacher-child relationship*, 2) *teacher-family communication*, and 3) *awareness of national standardized curriculum.* Total scores of the three items were calculated respectively. Teachers' characteristics were also considered as independent variables. These included: 1) *gender*, 2) *teacher certification*, and 3) t*eaching experience.* Gender variable was used as a dummy variable indicating male (ref. female). Whether teachers were early childhood certified was indicated by the dummy variable (ref. not certified). We aggregated the teaching experience from each institution where the teacher taught, and then, the aggregated total teaching months, were controlled as an independent variable. Table 1 provides a summary of variables explored investigated in this study.

Table. 1
Summary of Variables

Variable	*Descriptions*
Dependent variable	
Teaching Efficacy	Total scores of Teacher Self-Efficacy on diversity
Independent variables	
Gender	A dummy variable indicating gender (0 = Female, 1 = Male)
Teacher certification	A dummy variable indicating certification (0 = No, 1 = Yes)
Teaching experience	Total teaching experience (unit: months of teaching experience)
Teacher-child relationship	Relationship between teacher and children
Teacher-family comm.	Communication between teacher and parents/families
Curriculum awareness	Awareness of latest early childhood educational policy

4. Analytical method

A regression analysis was used to investigate what variables might better explain teachers' level of diversity self-efficacy (DSE). The following multiple regression model was used for this study.

$$Y = \alpha + \beta_1 E_1 + \beta_2 E_2 + \beta_3 E_3 + \beta_4 E_4 + \beta_5 E_5 + \beta_6 E_6 + e$$

Where
Y = level of diversity self-efficacy
E_1 = gender, E_2 = teacher certification, E_3 = teaching experience, E_4 = child-teacher relationship, E_5 = family-teacher communication, and E_6 = awareness of national standardized curriculum

Findings

This study used results of the KICCE survey to explore the current status of Korean early childhood teachers' level of DSE and predictor variables relating to the levels of DSE. Findings related to Research Question 1 are as follows:

Research Question 1: What is the current status of Korean early childhood educators' DSE?

The mean of total DSE score in this study was 11.49 (out of a possible score of 15). This suggests that Korean early childhood teachers, in general, were comfortable in their ability to celebrate diversity in their preschool classrooms
Most of the participant teachers (99%) were females (*n* = 792). Data also suggested that the majority of teachers were certified to teach in childcare programs (*n* = 791) (only 9 teachers were not certified). Descriptive results of the variables are summarized in Table 2.

Table 2.
Summary of Descriptive Statistics Result

Variable	N	Mean	SD	Min	Max
Dependent variable					
Diversity self-efficacy	800	11.49	1.65	3	15
Independent variables					
Gender	800	0.01	0.10	0	1
Teacher certification	800	0.98	0.11	0	1
Teaching experience	792	70.02	59.30	0	311
Teacher-child relationship	800	42.30	4.65	10	50
Teacher-family comm.	800	17.73	2.13	4	20
Curriculum awareness	800	6.20	1.06	2	8

Research Question 2: Teacher variables effect on *diversity self-efficacy*

The results of multiple regression analysis for the teacher variables effect on diversity self-efficacy are presented below in Table 3.

Table 3.
Summary of Regression Analysis of Predictors of Diversity Self-efficacy

Variable	Beta	S.E.	P-Value
Intercept	2.013***	.666	.003
Gender	.519	.464	.264
Teacher certificate	-.358	.438	.415
Teaching experience	.003***	.001	.001
Teacher-child relationship	.188***	.012	.000
Teacher-family comm.	.048*	.025	.060
Policy awareness	.139***	.047	.003
R^2	.382		

Note: *$p < .10$, **$p < .05$, ***$p < .01$.

As can be seen in the Table 3, the prediction model for this study was statistically significant, $F(6, 800) = 3.02$, $p < .001$, and accounted for approximately 38% of total variance of the DSE ($R^2 = .38$). A significant effect on DSE was not found in either gender ($\beta = .52$, $p > .10$) or teacher certification ($\beta = -.36$, $p > .10$). Since the data included very few of certified teachers (0.02%) as well as very few male teachers (0.01%), the dummy results were not likely affected. The teacher-family communication effect was estimated to be about .048 at the 10% significant level ($p = .06$). This suggests that when one point of teacher-family communication increases, .048 point of the teachers' DSE increases.

Other significant predictors from the survey were stronger indicators of the teachers' level of DSE. First, the effect of teaching experience was significant at the $p = .001$ level. This suggests that if one unit (month) of teaching experience is increased, the level of DSE was increased by .003. For example, a teacher who taught ten months more than another can be predicted to score .03 higher in DSE. This

suggests that more experienced teachers may have a more positive impact on working with diverse children and families.

Second, teacher-child relationships accounted for approximately .19 ($p < .01$) of the variance. Third, awareness of recent educational policy was positively related to teachers' DSE ($\beta = .14$, $p < .01$). This suggests that DSC scores increased by .14 points with each additional degree of national standardized curriculum awareness Thus, teachers who were more aware of the standardized national curriculum tended to have higher levels of DSE.

Overall, approximately 38% of all variance investigated in this model was accounted for by the dependent variable. This suggests that DSE may be best predicted by examining predictor variables of teaching experience, teacher-child relationship, and awareness of national standardized curriculum. Data from this study also found that teacher-parent communication was moderately related to DSE. Thus, active communication between teachers and parents may help promote more positive atmosphere where cultural gap may be reduced between school and home. Such positive communication appears to be more ideal when there is an open, two-way communication between teachers and their caregivers.

Discussion

This study investigated the relationship between diversity self-efficacy (DSE) and its predictor variables selected from the 2011 KICCE teacher survey. The most important finding of this study was that it appears that progress is beginning to emerge in the area of early childhood teacher's confidence in dealing with diverse children. While this finding offers optimism that we may be moving in the right direction, it also raises a number of issues. First, the human race has been consistent over the years in sometimes not necessarily *doing* what they know they should. This may well be the case with teachers in this study. They may *feel* relatively competent in dealing with classroom diversity; yet, instructional practices may present a different result. From this, it appears a highly productive line of research might be to explore the relationship between teachers' DSE and *evidence in the classroom* supporting a given DSE level. For example, do teachers who score high in DSE have classrooms with children's books, posters, and artifacts of diverse children? Perhaps an even more productive line of research might be to compare teachers' DSE with measures of *children's* views toward diversity?

Commensurate with previous studies of teacher-child relationships (Brown, 2002; Miedel & Reynolds, 1999), teachers in this study tended to have higher DSE as they professed closer relationships with children. Based on the specific survey items asked of teachers, closer teacher-child relationships may be summarized as a teacher who: 1) has positive attitudes when communicating with children, 2) encourages children to work together, and 3) a teacher who actively responds to children's demands with affection. These items address views toward general interactions between teachers and children within the classroom. Yet, close teacher-child relationship can be defined differently from the above. For example, Pianta (2001) defined closeness of teacher-child relationship as child's view of how much teachers support them and are appreciative of students as a resource. Another possible definition might be how attuned teachers are to children as individuals. For example, do teachers know families personally (e.g., number of siblings, family issues such as being refugees from North Korea), cultural background (e.g., nation, origins of family), and special interests of children (e.g., pets, goals). It may be, then, that the more a teacher knows about children and their family, the more likely teachers might be to respond more appropriately to instruction. More qualitative classroom-based research may allow researchers to better assess possible differences in what teachers profess and the reality of their relationships with children. Such research, for example, might explore specific ways that a teacher might support a child's adjustment while children are in transition (e.g., learning a new language, culture shock).

Teacher-parent communication showed a moderate relationship with teachers' DSE. Descriptive result showed that teachers tend to actively communicate with families through various methods (M = 17.73, SD = 2.13). Teachers in the sample reported that they frequently communicated with families via phone, face-to-face, text messages, and newsletters. While these methods may support greater teacher-family involvement, they may be overlooking even more effective methods not mentioned. Methods of communication such as these tend to represent a uni-directional flow of information- i.e. from the teacher to parent. In such one-way information flow, families who are cultural/linguistic minorities may not be fully considered as active participants. The ethnic minority participant parents in the KICCE survey were only .5% of total sample parents (n = 9). Since diverse families are likely to rapidly increase, it is important for future research to begin to explore more effective strategies for building stronger teacher-family relationships. Further, the data from this study also suggests that family involvement strategies identified in the KICCE survey consisted primarily of teacher oriented activities such as: inviting families for their children's performances and reporting the developmental growth of the child. Teachers may have to find more effective ways to support families in taking greater responsibility for teacher-parent relationships. This is likely to be especially true when considering parents of mixed race. Lack of teacher knowledge of diverse cultures can widen this critical relational gap. Given the impact of this variable upon the child development, however, effort in this area appears likely to result in highly positive outcomes.

Teacher awareness of curriculum was also found to be significantly related to diversity self-efficacy. Korean educators appear to be knowledgeable of the new policy relating to development of dispositions toward supporting diversity in classrooms. Since the most recent *Nuri* Curriculum places major emphasizes upon diversity, this trend suggests that teachers may be more aware of diversity issues in early childhood programs. However, as discussed above, it is worth noting that higher DSE does not, in itself, predict how effectively teachers actually interact with diverse children and their families. In light of national diversity goals, it would appear prudent to investigate in depth the relationship between DSE and instructional proficiency as it relates to diversity in the actual classroom.

Results also suggests that teachers with more teaching experience profess to have greater confidence in dealing with diversity in their classrooms. Based on our nation's long history as a homogeneous nation, this result was a bit surprising. If, for example, preparation for diversity is just beginning to be included in teacher preparation programs, it would seem that more recent teachers in the field would be more knowledgeable and supportive of diversity than teachers who were educated when multicultural issues were not included in teacher preparation. It might be that this finding simply suggests that more experienced teachers are more confident in dealing with a host of potential classroom issues- diversity being but one. Further, a more experienced teacher might have had more experiences working with ethnic minority students- both good experiences and bad ones. Perhaps a more important issue that "self efficacy" would be to what extent more/less experienced teachers impact the development (cognitive, social, emotional) in a more positive direction. Thus, it could be that while teachers with less experience may be less confident in their "ability" to deal with diversity in their classroom, they might, in fact, be more likely to impact the actual educational attainment of diverse learners.

Suggestions

    1) **Suggestions for Educators and Policy Makers**

In light of data from the KICCE survey relating to diversity self-efficacy of teachers, the following implications appear warranted for early childhood educators. First, early childhood researchers and policy makers would do well to provide specific information on how to ensure that dispositions towards valuing

diversity is increasingly stressed in both teacher training and in-service education. Second, Korean teacher colleges and universities would do well to create campus climates and experiences that foster positive diversity values. In particular, institutes of teacher education have the responsibility to prepare early childhood educators to support diverse learning communities where all children have the equal opportunity to learn. Third, in addition to providing more appropriate and effective diversity knowledge and instructional strategies in pre-service teacher preparation, attention is also needed for educators who are already classroom teachers who have not had diversity preparation in their programs.

2) Suggestions for Future Study

Internationally, the United Nations Convention on the Rights of the Child (CRC) applies to every child equally- especially for ethnic minority children who are most vulnerable. This global standard for humane treatment of children obliges educators to provide an environment that supports children in developing their full potential regardless of cultural background. While the importance of multicultural teaching competence for the world's children has emerged as a central issue in education in very recent years, little is known about the extent to which Korean educators are prepared to meet this rapidly emerging cultural challenge. This study has suggestions for future research.

First, research is needed to determine the nature and quality of diversity preparation in teacher education programs, field experiences and in-service workshops. This information would assist decision-makers in determining those activities/programs that appear to be more productive in achievement of a national diversity goal.

Second, as described above, there might be a major gap between teacher's professed confidence in working with diverse children and what strategies they might actually use in their classroom to support positive diversity dispositions. Qualitative investigations into this potential problem could be especially helpful in addressing national diversity goals.

Finally, research is needed to identify more productive ways to develop better relationships between immigrant children and their families. Research from other nations might provide positive directions for strengthening such relationships.

Conclusion

Children come into our world without cultural bias. As early as age 3, however, biases begin to emerge and often last a lifetime. If Koreans purport to create a nation based upon justice and equality for all, serious attention to diversity needs to be addressed in the earliest years. Derman-Sparks and Edwards (2010) Not in references suggest that children are aware from the earliest ages that color, language, gender, and physical ability differences are connected with privilege and power. While recognizing differences is a natural component of cognitive development, accepting and respecting these differences are the result of moral development that is acquired within a socio-cultural context. Prominent researchers (e.g., Piaget, Vygotsky, and Bronfrenbrunner) are consistent in their view that a child's social environment is an essential component of a child's cognitive development. Thus, an increasingly productive, yet diverse, society has no choice but to address cultural diversity in the earliest of years. National educational policy is beginning to respond to diversity challenges (e.g., diversity emphasis in *Nuri* curriculum and becoming more supportive of multicultural families) (Lee, 2013). However, much work remains if we are to promote a culturally appropriate education for all of our children.

As results of the KICCE survey suggest, Korea has made progress in the area of diversity. However, our long-term ability to survive and thrive as a major economic force in the world may well depends as much upon our ability to respond to diversity as our traditional emphasis upon academic acumen of our students. Twenty-first century citizens need 21st century competencies. Skill in dealing with diverse cultures may well determine Korea's future. It is now time for Korean educators to move ahead full-speed in addressing multicultural educational challenges that will dramatically impact the future of Korea.

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Considering Instructional Appropriateness of Technology Integration into Early Childhood Education

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Introduction

In a research context, the very nature of how one defines technology and technology integration into an early childhood (EC) classroom takes on different meanings that can complicate the national discussion. In an early childhood education (ECE) context, there are multiple concerns about technology integration that go beyond access and classroom management of student use. McMannis, Nemeth, and Simon (2013) point out that lack of research on technology integration in EC classrooms could be contributing to common misconceptions in the discussions about affordances and translation of theory into practice.

In order to keep with the changing educational landscape of preparing pre-service teachers (PSTs) to effectively integrate technology into classrooms, institutions of higher education have previously required standalone educational technology courses. However, due to changing accreditation requirements or programmatic restructuring, there is migration toward the elimination of the standalone course in favor of technology integration into methods and content courses.

Technology integration in an EC classroom is critical to prepare and provide students with the evolving 21st-century skills that are recommended and essential for operational success in a technology-reliant society. While technology standards for both students and teachers (ISTE Standards, 2008) have been identified, standards for teacher educators who model initial knowledge and application necessary for PSTs to carry out those standards are still in development. Without national standards and with many teacher education programs no longer providing a specific course on technology integration to instruct PSTs on how to navigate working, learning, and teaching in an increasingly connected digital society, the questions then become --- What do PSTs know and believe about ECE technology integration? How well are instructors effectively modeling the knowledge PSTs need? And, if there is no room in programs for a standalone technology integration course, what messages about technology integration are PSTs receiving and how is instructionally appropriate technology integration being modeled by faculty instruction?

Context

This exploratory study used a researcher-created survey to identify the current state of PSTs' knowledge and attitudes about technology integration in EC classrooms. Survey and follow-up focus group results were used to re-examine the impact teaching foundations without formal technology training (due to a national trend to cut out standalone technology courses) has on PSTs in teacher preparation programs.

Re-examination allowed the researchers to surmise what next steps should be taken in order to best prepare PSTs within the confines of sharing technology practices only through integrative course instruction. This study is informed by the following guiding questions:

1. What are the contributing factors to pre-service teachers' current perceptions about technology integration practice in early childhood classrooms?
2. What do pre-service teachers' current perceptions about technology integration practice in early childhood classrooms mean for instructors in teacher education programs?

Related Literature

Current theory on approaches for integrating technology into instruction emphasizes the importance of choosing technology tools that compliment content and pedagogy. Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge (TPACK) adds the role of technological knowledge to Shulman's (1986) Pedagogical Content Knowledge (PCK) theory that effective instruction is dependent upon choosing pedagogies that compliment content- specific needs. Pierson (2001) further contextualizes this theoretical concept by explaining that technology integration exemplifies pedagogical expertise and each tool that an educator chooses to integrate into classrooms has direct connections to specific content and pedagogy needs of lessons being taught. Often times in ECE contexts, choices to implement technological solutions relies on what is viewed as developmentally appropriate practice (DAP) as defined by PSTs' usage and training in such practices. Drawing upon Shulman, Mishra & Koehler, and Pierson, authors for this current project argue that DAP is of important concern in an EC classroom; however, PSTs' awareness of instructionally appropriate technology integration is paramount.

Developmentally Appropriate Practices

In ECE contexts, technology integration is primarily viewed through the pedagogical lens of developmentally appropriate practices (DAP). DAP is an educational philosophy that requires educators to evaluate individual children's developmental stages, contexts, and desired developmental goals in order to be intentional in making curricular decisions that will further promote learning and development (Copple & Bredekamp, 2009; Finegan & Austin, 2002; NAEYC, 2009; NAEYC, 2012). Within the DAP framework, educators begin with basic knowledge of developmental stages for a certain age range and from this understanding they will have a general concept of what activities, routines, interactions, and curriculum are most effective in promoting development and learning (Copple & Bredekamp, 2009; NAEYC, 2009, p. 10). Each child within the group is then considered individually and "within the context of that child's specific family, community, culture, linguistic norms, social group, past experience (including learning and behavior), and current circumstances" (NAEYC, 2012, p. 5).

Given that children are being exposed to technology at progressively earlier ages and are becoming increasingly proficient at using technology to accomplish developmentally appropriate tasks, the context of technology and interactive media must also be considered factors within the DAP framework for educators when selecting instructional materials and facilitating learning environments (NAEYC, 2012). Because of this cultural phenomenon, attention and awareness is being brought to phrases such as "digital natives" (Prensky, 2001a) and "net generation" (Kumar & Vigil, 2011; Oblinger & Oblinger, 2005; Tapscott, 1998) that refer to individuals who have grown up around and are frequently using technology (Parette, Quesenberry, & Blum, 2010). There has been significant increases in uses of technology in EC

classrooms and home settings; yet, there are still many EC teachers who are not tapping into this potential educational resource due to various concerns about what role technology should play in EC curriculum, as well as lack of knowledge on ways to successfully integrate technology into developmentally appropriate instructional practices (Blake, Winsor, Burkett, & Allen, 2011; Finegan & Austin, 2002; NAEYC, 2012; Grunwald and Associates, 2010; Parette, Quesenberry, & Blum, 2010; Wartella, Blackwell, Lauricella, & Robb, 2013).

DAP with Technology

It is easy to see why EC educators might be hesitant to jump on board the technology bandwagon. Many people fear the potential hazards presented by technology mis-use to children's physical, emotional, social, and cognitive development (Grunwald and Associates, 2010; NAEYC, 2012). To combat these potential harms and ensure safe and secure learning environments for young children, it is pertinent for teachers to understand what is developmentally appropriate and effective when monitoring and restricting the amount of time that children spend using technology. Even more essential, though, should be the significance placed on *how* that time is actually spent using chosen technology (Barron et al., 2011; Christakis & Garrison, 2009; NAEYC, 2012; Parette, Quesenberry, & Blum, 2010; Tandon et al., 2011). "Early childhood educators who are informed, intentional, and reflective use technology and interactive media as additional tools for enriching learning environments. They choose technology, technology-supported activities, and media that serve their teaching and learning goals and needs" (NAEYC, 2012, p. 10). Informed and effective EC teachers practice what these researcher's call "instructionally appropriate" technology.

Instructionally Appropriate Technology Integration

While DAP still appears to be the primary guiding force for making most decisions regarding EC curriculum, when specifically considering technology integration into EC curriculum it may be more correct to focus on "instructional appropriateness" to guide pedagogical decisions. Instructionally appropriate technology focuses on the best way to teach what needs to be taught; and while that may take into consideration children's learning preferences and developmental abilities (just as DAP does), primary concerns should be about determining whether or not technology will simplify, amplify, extend, or transform children's ability to learn and then choosing those programs, apps, and hardware that improve teacher instruction by purposefully aiding student understanding and application of content knowledge. When approached from an instructionally appropriate perspective, student learning takes priority instead of allowing technology to take center stage. Rather than allowing national or school district demand for "more technology in the classroom" to drive classroom instruction, instructionally appropriate technology practice encourages teachers to consider the instructional purpose and place of technology. With this practice, technology becomes one of many tools in teachers' instructional toolkits.

The problem is that too often EC teachers are entering classrooms from their undergraduate education and PST experiences and are ill-prepared to successfully navigate the waters of effectively incorporating technology within their instructional practices (Ertmer, 2005; Kumar & Vigil, 2011; Moursund & Bielefeldt, 1999; Parette, Quesenberry, & Blum, 2010; Williams, Foulger, & Wetzel, 2009). While some PSTs are simply unaware of technology tools at their disposal, it appears that many more are familiar with technology in their personal lives, but lack necessary training for effectively transferring that tool knowledge for maximum benefit into an EC classroom.

Early Childhood Pre-service Teacher Preparation for Technology Integration

While there appears to be a high use of technology in PSTs' personal lives (Kumar & Vigil, 2011), there is a general lack of transferability to classroom settings in part due to PSTs' attitudes, values, and beliefs in regards to educational technology (Ertmer, Ottenbreit-Leftwich, Sadik, E. Sendurur, & P. Sendurur, 2012; Lei, 2009; Williams, Foulger, & Wetzel, 2009), as well as a lack of effective modeling and practice applied during their pre-service educational experiences (Blake, et.al., 2010; Kumar & Vigil, 2011; Lei, 2009). From this research the following questions were pursued: 1) What factors contribute to PSTs' current perceptions about technology integration practice in EC classrooms and 2) What does that mean for instructors in teacher education programs?

Methodology

To discern how EC PSTs think about instructionally appropriate technology integration, this exploratory study used mixed methods, including a survey that combined quantitative and qualitative methods (Marsland, Wilson, Abeyasekera, & Kleih, 2001) and a retrospective focus group (Wallen & Frankel, 2011).

Participants

Eighty-eight EC PSTs from a large urban university in the southwestern United States participated in this study. The study took place during the spring 2014 semester, in which participants were enrolled in a Human Growth and Development course required within their teacher preparation program in the College of Education. Ranging in age from 18 to 34, these participants were in the early semesters of their program and were demographically representative of undergraduate PSTs enrolled at the university. Their participation was voluntary; however, all 88 participated in the survey and follow-up focus group.

Survey

The survey was designed by the research team and consisted of 35 questions that included 30 questions with four Likert scale levels (strongly agree, agree, disagree, strongly disagree) and 5 questions with open-ended response. In line with Bandura's (1997) theories of socio-cultural impacts on self-efficacy, this survey was crafted to look at influences on attitudes, motivation, and self-efficacy beliefs toward technology integration, including technology use in personal life (mastery experience), current models of technology integration (vicarious experience), awareness of related theories and perspectives (social persuasion), and psychological impacts on motivation (physiological state). Additionally, the survey included a 6th factor that focused on future intended use. Although Bandura does not theorize about the validity of participants' projections into the future, these glimpses into future intentions are important for this study's context. The survey was administered by hardcopy (pen and paper) at the end of one of the face-to-face class meetings.

Focus Group

The focus group with all 88 participants immediately followed the completion of the survey. The research team guided participants through a series of semi-structured questions that were based upon items on the survey. The entire 45-minute focus group was audio recorded. Participants were encouraged to feel free to speak up and comment or ask questions whenever they desired. In typical dialogic style, the research team asked questions and participants indicated agreement and/or elaborated by voluntarily voicing personal opinions.

Validity and Reliability

This study used purposive sampling to target EC PSTs in a large urban university teacher preparation program. This specific group of participants was purposefully chosen based on relevant knowledge and experiential history (Berkowitz & Donnerstein, 1982) with regard to shared phenomenon (i.e., knowledge and attitudes about technology use for EC classrooms). The sample size for this study (n=88) constituted the entirety of the target population with 100% of the sample population fully participating in both the survey and focus group. In terms of qualitative validity, the researchers crafted measures (i.e., survey and focus group) that allowed participants to share individual interpretations of lived experiences with regard to shared phenomenon (Maxwell, 1992). Additionally, while the researcher-created survey is currently undergoing a validity study, the focus group provided exploratory confirmation of construct validity by providing multiple data sources and methods of collection (McGrath, 1982; Scandura & Williams, 2000). Further construct validity is found in that results from this study continue to be in line with other studies' results (including Blake, et al., 2010) thereby inferring that there is convergence across data sources, methods, and researchers (McGrath, 1982). Finally, construct validity is confidently inferred for this study due to the involvement of multiple researchers with varied expertise, experience, and knowledge in the fields being studied (i.e., EC practices and technology) (Jick, 1979; McGrath, 1982; Scandura & Williams, 2000).

Data Analysis

The research team collected surveys and then analyzed each factor using descriptive statistical procedures involving one-way tables and cross-tabulations. The focus group audio recording was transcribed and coded. Coding analysis procedures ranged from descriptive coding to more explicit "in vivo" codes of exact participant wording for an emic (insider's) perspective (Saldana, 2009).

Results

Guided by Bandura (1997), six factors were explored to examine self-efficacy toward technology integration for early childhood educational contexts, including 1) awareness, 2) confidence, 3) value, 4) current practice in personal life, 5) current models, and 6) future practice. The results of both the survey and focus group are woven together throughout each factor in order to explore each disposition below.

Awareness of and Attitudes toward Technology Integration Issues

Five items on the survey prompted participants to rate the level to which they had been exposed to issues related to instructionally appropriate technology integration within EC classrooms. Since exposure to related theories and perspectives can heavily influence PSTs' attitudes toward technology integration (Williams, Foulger, & Wetzel, 2009), these items draw upon whether or not participants have received encouraging messages from faculty and peers, or "social persuasions" (Bandura, 1997).

DAP with technology

Initial questions gauged connections between awareness of theories related to EC instructional practices and technology integration. When asked if they were aware of theories related to DAP, 87% of participants answered affirmatively. Participants elaborated on their survey affirmations by indicating need for "hands-on activities" and "active" learning experiences in EC classrooms (open-ended survey response). However, when asked about their awareness of how DAP directly related to technology integration, there was a near even split between 52% of participants who indicated awareness and 48% of

participants who indicated that they were not aware of theoretical connections. It should be noted that when probed further during the focus group, many participants revealed that they struggled with an accurate understanding of both DAP and technology integration.

As expected, a majority of participants indicated awareness of many general uses of technology for teaching and learning, including 94% awareness of hardware that could be used for classroom instruction and/or learning (i.e. computers laptops, iPads, projectors, interactive whiteboards), 95% agreed that technology is most effective when used to support content and instructional strategies, and 96% agreed that technology is most effective when presented as active learning. This was confirmed during the focus group in which participants voiced positive perspectives that technology had great potential for teaching and learning in EC classrooms. Table 1 shows participants' self-reported awareness levels and attitudes toward technology integration issues.

Table 1.
Awareness of and Attitudes toward Technology Integration Issues

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Awareness of Developmentally Appropriate Practices (DAP)	6%	81%	10%	3%
Awareness of DAP & Technology Integration	2%	50%	43%	5%
Technologies Appropriate for Teaching & Learning	33%	61%	6%	0%
Technology Should Support Content & Pedagogy	41%	54%	5%	0%
Technology Should Be Presented as Active Learning	38%	58%	4%	0%

Confidence with Technology and Technology Integration Issues

Six items on the survey asked participants to rate the level to which they felt confident in performing tasks or what Bandura (1997) identifies as the "physiological state." Self-assessment of current levels of confidence in these tasks is an important consideration for PSTs' own self-efficacy, but also a predictor of their ability to confidently perform the task in EC classrooms. Table 2 shows participants' self-reported confidence with technology and technology integration issues.

Personal technology skills

Despite some participants who indicated that they are "horrible with technology," many participants indicated need to embrace technology integration. As one participant reported, "children in this generation use so much technology every day, they are used to it so it will be beneficial for teachers to use it also" (open-ended survey response). Others shared this thought with 75% of participants indicating that they felt confident taking risks to try out new technologies and 62% of participants indicated that they were confident in their ability to troubleshoot their own technical problems.

Technology and others

Despite generally positive perspectives of their own individual technical abilities, only 44% of participants indicated that they were confident in their ability to explain to others how to troubleshoot technical problems. In general, respondents felt that young students already know how to use technologies, "my nephew is even more knowledgeable in using an iPad than I am" (open-ended survey

response). This creates an interesting juxtaposition between participants' confidence in their own troubleshooting ability versus their ability to facilitate someone else's troubleshooting, which is a very important factor for facilitating student use of technology in classroom settings (Lei, 2009). Similarly, 76% of participants indicated that they felt confident operating technology in front of other people. However, upon further discussion during the focus group, two-thirds of participants revealed that they had personal experiences when technology did not work as expected as they were presenting to their peers in class --- "it seems to take forever because they are staring at you while you're waiting for it to work" (student communication, focus group interview, line 108).

Communicating about technology

Though it was expected that participants would be confident in their own technical abilities, the researchers were surprised by the levels of confidence they reported with regard to communicating key issues of technology integration with others especially given the evenly distributed levels of awareness they indicated in the previous section. Despite only 53% of participants reporting that they were aware of DAP and technology integration theories, 61% indicated that they felt confident explaining to others how to integrate technology to support student learning in the grade level and content area that they plan to teach. Similarly, despite their awareness of related theories, 60% of participants felt confident about their ability to explain to others why technology integration is essential to student learning.

Table 2.
Confidence with Technology and Technology Integration Issues

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Confidently Take Risks by Trying New Technologies	22%	53%	22%	2%
Confidently Troubleshoot My Own Technical Problems	10%	52%	35%	4%
Confidently Explain to Others How to Troubleshoot	6%	38%	48%	7%
Confidently Operate Technology in Front of Other People	16%	60%	22%	1%
Confidently Explain to Others How to Integrate Technology	7%	54%	35%	4%
Confidently Explain to Others Why Technology Integration is Essential	6%	54%	36%	4%

Value of Technology Integration

Ten items on the survey asked participants to rate the level to which they perceived the value of technology for teaching and learning. Guided by Bandura (1997), these items were based on literature regarding affective and/or emotional beliefs held toward technology. An overwhelming majority of participants indicated that they highly valued technology. Table 3 shows participants' self-reported attitudes towards the value of technology integration.

Technology for teaching and learning

With regard to practical instructional strategies, 95% of participants felt that technology could be integrated in a variety of ways to support teacher-centered instruction. In open-ended survey responses, participants suggested this could be accomplished by using common didactic instructional tools, such as videos and PowerPoint presentations. Though 94% of participants indicated that they felt that technology could be integrated in a variety of ways to support hands-on, student-centered instruction, no examples of developmentally appropriate technology tools were given through open-ended survey responses or during the focus group. When probed further in the focus group, participants revealed that they could not think of specific examples, but felt there had to be some technologies that could support this type of active learning. Acknowledging "technology comes with its malfunctions," 70% of participants still indicated they believed technology use in EC classrooms would not require teachers to spend too much time troubleshooting technical problems (open-ended survey response).

Impact on students' behavior

Eighty-eight percent of participants indicated that they felt the use of technology in EC classrooms would not result in behavior issues; however, 33% of participants believe that it could result in students developing poor attention spans. One participant expounded upon this by stating, "kids are always on technology and don't know what to do without it" (open-ended survey response). Similarly, 68% of participants believe that technology use causes students to neglect traditional learning resources, which many participants seem to feel would lead to an abandonment of "real books, writing, or spelling" or "libraries, art, or outside play/learning" (open-ended survey responses).

Generally perceived as adding value, 96% of participants felt that technology could add engagement to instruction and student learning. This was reinforced with 93% of participants who indicated their agreement that technology could transform teaching and learning. Acknowledging the necessary role of teacher facilitation to promote successful student use of technology, one participant stated, "teachers should also teach students how to use it effectively for learning," while another participant added "if it is not used properly it is just a distraction. But it is important to make sure students know how to use it to their benefit" (open-ended survey responses).

Impact on students' creativity

Despite these optimistic perspectives, interesting divisions between positive and negative views of technology integration appeared more prevalent when participants were asked about their perceptions of technology's possible impact on student abilities. Forty-one percent of participants believed that technology stifles student imagination and creativity, which one participant explained by using the following example: "when children are in younger grades they need to be creative with their minds not through a computer. Also children should not have to be stuck depending on technology. They should come up with ideas on their own" (open-ended survey response). In contrast, another participant indicated the importance of teacher facilitation to support technology use by stating, "technology can open many doors for learning but it must carefully be utilized" (open-ended survey response).

Ultimately, 89% indicated they felt that technology integration is essential to 21st-century learning. Despite overwhelming positive value perceptions, a small percentage of participants consistently indicated negative views of the general value of technology integration, resulting in 1% of participants "strongly disagreeing" with the value statement. Though a small percentage, it is important to ascertain

what contributes to such perspectives. Some of the open-ended survey responses illuminated these negative views with responses, such as "21st-century technology is the norm; however, I am not a supporter of using technology to teach a classroom. I think a lot of time is wasted and it doesn't promote actual learning. It also burns my eyes" (open-ended survey response).

Table 3.
Value of Technology Integration

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Technology Can Require Too Much Time Troubleshooting	3%	27%	65%	5%
Technology Can Support Teacher-Centered Instruction	25%	70%	5%	0%
Technology Can Support Student-Centered Instruction	21%	73%	6%	0%
Technology Can Result in Behavior Problems	0%	22%	73%	5%
Technology Can Add Engagement to Student Learning	23%	73%	4%	0%
Technology Can Transform Teaching and Learning	25%	68%	6%	0%
Technology Can Stifle Student Creativity	16%	25%	54%	5%
Technology Can Cause Poor Attention Spans	5%	28%	58%	9%
Technology Can Cause Neglect of Traditional Resources	19%	49%	30%	3%
Technology Integration is Essential to 21st Century Learning	28%	61%	10%	1%

Current Practice in Personal Life

According to Bandura (1997), perceptions of one's mastery experiences are important factors for measuring self-efficacy. It appears that the majority of college students use technology throughout their personal life for a variety of academic, social, and personal purposes. The five questions in this category asked participants to indicate the level to which they felt they could *effectively* use technology in their personal life. The overwhelming majority of participants (> 98%) indicated that they felt confident in their use of hardware, applications, as well as the use of various technologies to communicate, research, and create multimedia for academic, social, and personal purposes. Table 4 shows participants' self-reported current practices of effective use of technology in their personal lives.

Table 4.
Current Practices: Effective Use of Technology in Personal Life

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Effectively Use Hardware (i.e. computer, smartphone, tablet device, etc.)	70%	28%	1%	0%
Effectively Use Applications (i.e. web-based applications, apps on smartphone/tablet, software, etc.)	65%	35%	0%	0%
Effectively Communicate (i.e. texting, email, social media, blogs, etc.)	77%	23%	0%	0%
Effectively Research & Investigate Topics (i.e. Internet, search engines, online databases, etc.)	69%	31%	0%	0%
Effectively Create Multimedia (i.e. cameras, microphones, record audio, take photographs or videos, etc.)	64%	33%	2%	0%

Current Models of Technology Integration

Vicarious experiences, such as observation of exemplars and models, are very important to self-efficacy development (Bandura, 1997). Particularly in the field of education, PST development is most successful when preparation programs provide opportunities to not only observe best practices, but also dedicates time for discussion and reflection with instructors and peers thereby creating reflective practitioners (Ertmer, 2005; Kumar & Vigil, 2011). Unfortunately, participants overwhelmingly reported a lack of consistent technology integration being modeled and discussed by professors. As one participant indicated, "in all five of my classes I am not taught about ways to use technology in a classroom, which I think would be helpful since technology is growing in schools and among students" (open-ended survey response).

Encouraging examples

Despite the lack of modeling of technology specifically for the context of EC instruction, participants indicated that they are generally encouraged when they observe their professors successfully using technology throughout instruction. And even when professors experience technical difficulties, it only discourages approximately 28% of participants from attempting technology integration on their own. Focus group discussion further revealed that the majority of participants find these instances more comical than discouraging and most participants indicated that they would be willing to get up during class to help professors in need of technical assistance. Above all, the focus group highlighted discussion about the generational gap and perceptions that their professors are not as tech savvy as they are. As one participant eloquently warned, "we're going to get outdated too. In 15 years the technology will be completely different" (focus group discussion).

Discouraging examples

Amidst participants' individual descriptions of in-class experiences with professors being confused by Mac and PC operating systems or having too many Internet browser windows open, a resounding 50% of participants recounted similar stories about professors canceling class because instructors' technology (e.g., computer, PowerPoint) was not working properly (focus group discussion, lines 132-141). One participant emphasized the importance of having a "plan b" by asking, "what do you do when the

batteries run out or the computer isn't working" (focus group discussion)? This laughable contradiction of modeling a dependence on technology for teacher-centered instruction was pointed out as an inaccurate representation of real-world EC classrooms. Table 5 shows participants' self-reported attitudes towards current models of technology integration that professors model for them in their teacher education courses.

Table 5.

Current Models of Technology Integration

Item	Always	Frequently	Sometimes	Never
Professors Model Grade Level Specific Technology Integration	5%	25%	59%	11%
Professors Model Teacher-Centered Technology Integration	6%	28%	49%	16%
Professors Model Student-Centered Technology Integration	4%	16%	49%	31%
I Am Encouraged By Professors' Successful Technology Use	28%	43%	27%	1%
I Am Discouraged By Professors' Unsuccessful Technology Use	14%	14%	37%	36%

Future Practice

Five questions on the survey asked participants to indicate the level to which they would like to engage technology integration in their future classrooms. Though projections of future use have inconsistent validity, it is important to consider participants' current thoughts on how and if they can apply this knowledge in future contexts in order to better inform teacher educators' practices. Ninety-one percent of participants indicated that they can think of ways that everyday technologies can be integrated into teaching, though much like in the "value" section, they did not provide specific examples. The focus group revealed participants' general concern over access to devices and district policy on common social media tools such as Facebook, Twitter, and YouTube.

Despite the overwhelming majority of participants proclaiming an affinity toward hands-on student use of technology, only 70% indicated that they would actually like to encourage students' hands-on use of technologies during class time in their future classroom (which is 20% less). The percentage returns to 90% when measuring how many participants would like to encourage students to use technologies outside of class to support their learning. Likewise, 90% would like to encourage parents of their future students to use everyday technologies outside of class time to support their child's learning. The results show that despite seeing uses for everyday technologies to support teaching and learning, many participants feel that student use of technology is better suited for out-of-class time rather than during class time. Table 6 shows participants' self-reported visions for technology integration as part of their future practice in their future EC classrooms.

Table 6.

Visions for Technology Integration in Future Practice

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
Everyday Technologies Can Be Integrated Into Classroom	21%	70%	9%	0%
Encourage Students To Use Technology During Class	11%	58%	29%	1%
Encourage Students To Use Technology Outside Of Class	16%	74%	9%	1%
Encourage Parents To Use Technology Outside Of Class To Support Student Learning	20%	70%	9%	1%
Include Student Opinion When Choosing Technologies To Integrate	33%	64%	2%	0%

Discussion

Despite personal affinity toward technology in their personal lives, participants in this study verbalized numerous potentially problematic misconceptions about --- and in some cases even a total lack of conception about --- instructionally appropriate technology integration in ECE. The results indicated that these misleading perceptions could be formed by a general lack of awareness and inconsistent modeling of best practices by professors. Corroboration between survey results and the focus group revealed varying levels of misconceptions about technology integration in an EC context, including the instructional nature of technology integration itself, as well as hands-on, playful, and social affordances of technology tools.

Disconnect/Misalignment of Theory and Practice

While most participants initially responded positively concerning their knowledge about current theories of DAP and technology integration on the survey, open-ended responses during the focus group revealed significant disconnect between participants' understanding about such topics. At best, participants' focus group responses revealed surface-level knowledge about DAP, while their knowledge of how to effectively and appropriately apply technology in EC classrooms was nearly nonexistent. Since foundational courses in technology are quickly becoming a luxury for most colleges of education, teacher education programs will need to take amplified steps to dispel myths and correct misconceptions so as to ensure that instructionally appropriate messages can be received.

General Misconceptions of Technology in an Early Childhood Context

One of the recurring themes throughout this study was participants' view that technology use is a passive activity in which students are in-actively consuming information from technology tools or the teacher-centered use of tools for didactic instruction. Though 96% of participants agreed that technology could engage students, often their view of engagement was equal to "consumption" or being babysat by technology absent of actual learning. Similarly, it was alarming that 41% agreed that technology would stifle student creativity. These misconceptions could be related to interpretations of how "play" is defined within ECE because perhaps participants do not feel that technology translates into an active definition of play. Results show that despite seeing uses for everyday technologies to support teaching and learning,

many participants feel that student use of technology is better suited for use in settings outside of class rather than during class time.

ECE + Technology can be a hands-on, playful learning tool

During the focus group, participants were quick to identify examples of commonplace technology, such as computer, laptop, projector, and PowerPoint; yet none of them mentioned ways in which students could use those tools for hands-on learning, nor did they mention other tools that lend themselves to individualized artifact creation. Much like there are didactic teacher-centered instructional strategies, there are in-active and consumptive uses of technology tools. Successful technology integration that supports development is not solely about teachers showing PowerPoint presentations on projection screens, nor is it about students merely replacing paperback books with reading e-books on iPads (NAEYC, 2012).

As facilitators of learning, teachers can empowers students to see how to use technology to support their own learning and creativity (ISTE Standards•T, 2008). More than just portals to view videos through, technology can be placed in the hands of children to reinforce content and developmental growth. As one participant pointed out, "when done correctly, using a computer influences inquiry and improves fine motor skills (i.e. typing /mouse control)" (open-ended survey response).
When placed in the hands of students, these technology tools can be used to actively create personally meaningful artifacts (ISTE Standards•S, 2008). For example, they could give children a digital canvas to explore letters and color as they "type" their own expressive story or let children swirl the mouse to create digital drawings or paintings for story reflections. Students can use video cameras to capture peers' reenactment of read-alouds or use digital cameras to take photos of geometric shapes throughout school. Each of these hands-on creations can be printed and displayed as evidence of their personal expressive inquiry.

ECE + Technology can be a social learning tool

As one participant responded, "technology is cool, but it also takes away from the social aspect of a classroom environment by letting kids focus on things like screens rather than people" (open-ended survey response). According to NAEYC (2012), "All screens are not created equal" is a mantra to live by. It is pertinent for EC teachers to understand that looking at screens does not necessarily mean the absence of socialized play, when in fact students can interact with one another while using technology tools in classrooms (Barron, et al., 2011). Through our digitally connected world, not only can they share what they have created with one another, they can share it globally with students from around the world. Examples include using Skype to communicate with pen pals, using GoogleEarth for virtual field trips, and promoting 3-to-1 use of iPads to match struggling readers with more advanced students who can help model critical thinking strategies.

Lack of consistent modeling impacts confidence

The focus group revealed that participants were unsure how they could incorporate their knowledge and skills with everyday technologies into EC classrooms to support teaching and learning. As Kumar and Vigil (2011) pointed out, this concern needs to be addressed through effective modeling in PST education to help bridge the gap between technology integration in their personal life with that of their professional life.

Implications for Teacher Education

Results from this research indicate that many PSTs at this large urban institution are not, as of yet, sufficiently prepared to understand intricate relationships between DAP and technology integration, which results in instructionally appropriate technology practices. Throughout their responses about their present values and beliefs on technology integration in an EC classroom, many had conflicting opinions as to what it meant exactly to successfully integrate technology within their own teaching practices. Although a vast majority felt comfortable using technology in their personal lives and had an overall positive attitude towards technology for academic use, they did not feel confident in transferring their personal skills to their own future classroom environments. Additionally, many felt resigned to the inevitably of technology's place in their classrooms while simultaneously feeling unprepared to effectively manage this significant classroom component. While a lack of efficacious modeling through coursework by faculty did not dispel participants from at least thoughts of technology integration, many were left unaware as to what technology integration in practice actually embodied.

As colleges of education charged with preparation of tomorrow's teachers, it will be up to individual instructors' work with colleagues to determine to what extent their students' experiences parallel with those discussed in this study. Since each institution is different, with varying access to schools, varying districts to prepare student for, and varying commitments to effective technology integration throughout courses, each teacher preparation program will need to determine to what extent they are failing their PSTs in the area of instructionally appropriate technology practices so that they can then begin discussion and take action to proactively and purposefully capitalize on students' apparently positive attitudes towards technology while minimizing their misconceptions about and building up their authentic understanding of instructionally appropriate technology practices. Just as EC teacher educators have had to explain, model, and reinforce committed practice to other developmentally appropriate EC pedagogy (e.g., project-based learning, emergent curriculum), the same will need to done to promote effective technology practices.

Conclusion

Based upon the results, participants appear to see opportunity for practical technology integration and minimal hurdles to acting upon that; however, it is their actual view of what technology integration is that is disconcerting. Open-ended responses indicated that most have already committed to uninspired, teacher-directed technology use. Without a dedicated course that explicitly and inspiringly deals with ways to integrate technology to support pedagogy and content in EC classrooms, teacher preparation programs must encourage faculty to effectively model throughout their courses in order to provide broad ranges of integration options to PSTs. As suggested by Ertmer (2005), in order for beliefs regarding technology integration to be changed, we must first provide multiple sources of real world application modeling and opportunity for practice, as to increase confidence and encourage changes in beliefs. If this is not done effectively, misconceptions will continue to manifest within preparation programs and continue to infiltrate into EC classrooms.

Due to a lack of consistent modeling by program faculty, these PSTs are less likely to try to find ways to integrate technology on their own time outside of their designated teacher education courses. It is through proper guidance and opportunity that teacher educators can facilitate hands-on explorations of technology integration to better equip PSTs with various instructional tools and strategies that can be implemented in an EC classroom to further support DAP.

Future Research

The goal of a future exploratory study is to use this data in order to generate hypotheses for identifying both pre-service and currently practicing in-service teachers' barriers to instructionally appropriate technology integration in EC classrooms. By identifying psychological barriers that prohibit one from successfully integrating technology in practice, the research team will be able to further explore those educators who comprise "threats to technology integration" category and explore the deeper cognitive and psychosocial issues that are presented towards professional development in regards to technology integration.

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A Book Review of J.D. Kirylo's "Teaching with Purpose: An Inquiry into the Who, Why,

and How We Teach"

Publisher: Rowman & Littlefield Publishers, Inc.

Reviewed by Kathleen Fite

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What does it mean to teach with purpose? In this book, Kirylo carefully guides his readers on a journey of inquiry and discovery to learn more about the; who, why, and how teachers teach. His goal is to underscore what it means to be a teacher; to present critical aspects that intersect the teaching and learning process; and, to acknowledge the numerous considerations teachers deliberate through when teaching.

The book consists of seven sections (27 chapters): From the Inside Out; Entering into Relationships; The Goal is to Inspire (An Artistic Endeavor); The Glue that is Educational Psychology; Five Components of Knowledge; Assessment is to "Sit With"; and, Teacher as Leader: Hierarchy, Poverty, and the Village. Kirylo weaves the thoughts of numerous, relevant authors and their works, foundational and contemporary, into a scholarly tapestry designed to frame his message. He provides the origin of many terms and concepts, some of which are surprising. The content underscores how being a purposeful teacher translates into an entire way of life.

According to Kirylo, teaching as a way of life implies a calling in which one works to influence others. In order to be effective in positively influencing others, he advocates for an understanding of developmental theory and the nature of knowledge. Teachers are entrusted with the most valuable treasure of society, our children – our future. Their influence is powerful. Therefore, it is critical for them to know which instructional practices are appropriate for children at a particular time.

Kirylo discusses guiding assumptions: the importance of knowing self; teaching is about entering into relationships; education is about opportunity; the chief task is to inspire; and, education is a political enterprise. He encourages teachers to realize their personal philosophy of education and to reflect often on their beliefs and values. He reminds us that reflection informs thoughtful action. Understanding what you believe and how it motivates and integrates with your school's mission statement is integral in becoming a purposeful teacher.

From the author, we learn purposeful teachers foster collaborative relationships with students, parents, caregivers, and the local and greater communities. Genuine relationships are trustworthy, supportive, and encouraged through authentic dialogue. Kirylo describes how the many facets of multicultural education are nurtured through the teacher's purposeful incorporation of respect, hope, and justice. Based on his own teaching experiences, he has learned that teachers are in a unique position to inspire their diverse students.

In order for teachers to become change agents, Kirylo says it is critical for them to know and regard their students' unique backgrounds. Only in knowing students as individuals, can purposeful teachers create culturally responsive curriculum and just and equitable instruction that can foster inspiration. Kirylo incorporates fascinating stories of motivational teachers like Anne Sullivan, Jaime Escalante, Erin Gruwell, and Herman Boone. He believes these teachers were driven by a greater cause than self, had passion for helping others, and grounded themselves in hope. He urges us to learn from the stories of these and other great teachers. Additionally, he asks readers to turn inward to hear their own voice and know their personal story. He calls teaching an autobiographical affair and underscores how individual histories influence how and what we teach. Knowing your story, and the stories of others, adds to the artistry of teaching. Insightful teachers evolve into connoisseurs of pedagogical practice and develop a keen sense of the nuances that occur in their classes.

In addition to knowing their students, subject matter, and how to teach, purposeful teachers research how individual students learn and how to manage a classroom. Teachers are sensitive to the unique value of direct teaching, indirect instruction, and an integrated or differentiated approach to instruction. To assist the reader's understanding, Kirylo provides his beliefs as well as ideas from foundational leaders. He champions an understanding of theory; doing so increasingly enhances teaching as we become familiar with observing developmental stages and behaviors. He introduces the theories of John Locke and Jean-Jacques Rousseau to help illuminate aspects of nature and nurture and what can be defined as a child-centered philosophy of education. The author frames theorists in the context of behaviorism, cognitivism, and humanism. The works of figures such as John Watson, Jean Piaget, Eric Erikson, and Abraham Maslow are also revisited.

Kirylo says the purposeful teacher should understand the terms assessment and evaluation. Many people use the terms interchangeably; however, the terms are different. He thinks it is important to discern the unique qualities for each term and to understand when and how it should be used. For example, we do not perform assessment "on" our students but we do use assessment "with and for" them to gain information about what is happening with respect to their learning. Evaluation places a value or judgement on what we find. Formal or informal, formative or summative, evaluation provides us with an idea of the value and merit of what or who is being evaluated.

Kirylo leads the reader through a fascinating path as he explains the evolving testing movement. Recapping ideas from such leaders as John Dewey and Edward L. Thorndike, he explains how differing views about testing developed. Fueled by the quest to define and measure intelligence, an array of approaches and beliefs about intelligence evolved. Several are described.

Readers learn about the influences of such reports as *A Nation at Risk,* shifts in education, and differing perspectives on teaching. Heightened expectations for teacher preparation and more rigorous standards became the norm for reform. Teachers moved from simply testing to what is referred to as high-stakes testing. In theory, it was to yield needed reform; it blamed many failings on teachers. Kirylo presents staggering statistics on how many tests are now given, the cost of testing, and how much time is spent in

preparation for testing. He postulates, in this current educational system, that the focus on accountability indicates slowing both the depth and breadth of what is actually being taught.

Kirylo states that by definition teachers are leaders. Their leadership occurs in both formal and informal roles. They are mentors, instructional leaders, heads of departments, literacy coaches, and lead teachers. Effective principals encourage and support an array of teacher leadership both on campus and in the greater educational and public communities.

Part of being a leader involves being socially conscious and politically involved. The author discusses how poverty is a major societal challenge that impedes student learning and effective schooling. Poverty influences a range of social and personal vulnerabilities in health, housing, nutrition, and intellectual stimulation. His message is straightforward. Our education system needs to be more just and equitable, engaging, culturally relevant, and developmentally appropriate.

In sum, Kirylo, a master wordsmith, takes his readers along a fascinating, introspective, and retrospective journey to clarify understanding and appreciation for what teaching with purpose means. He clearly examines the; who, why, and how teachers teach. Beginning and experienced teachers, others in education, and the greater community will find *Teaching with Purpose* informative and inspirational.

Digging in the Dirt

This "dirt digging" is serious business. Some people smile and say, "I am just having fun and playing." In reality, "I am estimating, predicting, hypothesizing, digging, pouring, mixing, blending, planting, building, creating, planning, weighing, sensing, balancing, discovering, knowing, and organizing. As I dig in the dirt, you may hear me talking to myself. Yes, I do this to help me think through my digging issues. Do I dig deeper? Do I add more water? Should I mix the dirt with the sand? What materials do I need to construct a mud wall? Is there another tool I can use than just my shovel? My dirt playing is quit complex. If you are still not sure, consider the content areas I am targeting including language arts, chemistry, geology, physics, mathematics, and art. And finally, playing in the dirt is great fun."

The Halloween Holiday: A Time for Community Celebration

Claudia Best

Akron Elementary School

As the glorious season of autumn unfolds before us, communities, schools, families and most importantly, children begin to prepare for the arrival of Halloween. It is interesting to examine the various ways that school philosophy and policy differ as districts prepare for this holiday. Many school districts decided to regard this holiday as just another traditional school day due to high stakes testing and accountability. However, for nearly 40 years, a school district in Western New York has used this holiday to highlight their students in a celebration shared with the entire school and town community

All classroom teachers recognize the many challenges confronting them during any holiday time. It is difficult to help students focus on curriculum when their thoughts turn to costumes, parties, and "trick or treating". But instead of turning Halloween into a "tug of war" between curriculum and holiday activities, Akron Central School , approximately 575 students (K – 5), uses this day to connect with their "school family" and involves the entire community in these activities.

The day begins with a "Home-grown" assembly wherein K-5 classes volunteer to perform on stage for the student body, parents and community members. These performances include songs, skits, and poetry. This type of assembly is presented four times each year and plays to a full house of students and families.

After the morning performances, children enjoy lunch with classmates. Then, students and teachers don their costumes and prepare for their annual Halloween parade into downtown Akron. As students parade, the sidewalks are lined with enthusiastic parents and community members. Local police monitor traffic and parents and teachers make sure everyone is having fun and walking safely. On this special day, and entire town comes out to support its elementary school and its children.

The administrators, faculty, and staff of Akron Elementary School fully understand the important relationship between the school and the community. This day provides an extraordinary opportunity to integrate the curriculum and highlight the role of multiple intelligences in quite unique ways. In addition to their annual parade, teachers regularly incorporate walking field trips to local businesses and invite guest speakers from these businesses to speak to their classes. Each grade level has a business partner from the town that they keep in regular contact. Akron Elementary School maintains an open door practice with parents. The faculty acknowledges their students learn in different ways and require many types of learning experiences to fully develop and be successful.

Akron Elementary School places 70th out of 242 public schools in Western New York. This ranking clearly evidences that students can learn and still be children.

For our international readers, the following link provides a history of this holiday.
http://www.history.com/topics/halloween/history-of-halloween

Growing up Healthy: From the Farm to the Cafeteria

Tylar Setser

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As a FoodCorps Member in Mississippi, my responsibilities included grant writing, school garden development, and educational outreach. In particular, I coordinated with local farmers and local District Nutrition Directors to source local produce into school cafeterias. The benefits for children are extraordinary including describing healthy choices, identifying new fruits and vegetables, and introducing different nutritious recipes and food preparations. The following discussion provides teachers with information to secure fresh, local produce on behalf of the health of all children. Building on my experiences and those of my colleagues, the following guidelines provide a map to creating a "culture of food appreciation".

1. Developing a relationship with a local farmer. Start by asking about farm practices (Is it organic? Is there a heavy use of pesticides? How much product do they cultivate? What produce do they grow to sell? What are the seasons for the available produce?).
2. Establishing a solid understanding of local farm practices and capacities is critical. This knowledge allows you to ask informed questions regarding the farmer's interest in sourcing to local schools.
3. Thinking cautiously. Be sure not to lead the farmer in believing that you will need an overwhelming amount of produce. Starting small in your buying is key to program sustainability.
4. Developing a relationship. A relationship will assist in the ultimate cost of your produce and the possibility of your farmer making a school appearance. Remember, this is about building a relationship.
5. Talking with the district Nutrition Director. School district personnel are responsible for layers of paperwork with respect to sourcing food for the district. This may be a "new" concept for your district. Initially, they may not be willing to consider this proposal. The best access point into this process is through your Nutrition Director. They know the guidelines for the district and will ultimately be the "yes" or "no" on whether or not the buying will happen. Be prepared for some hesitancy, but do not be dissuaded. Focus on the benefits for children and move forward.

Moving forward, stay small. This is worth repeating, "start small."

6. Talking with your food service staff. These are the individuals that will be preparing the new produce. Be sure they have the knowledge and equipment to implement the recipes identified for the new produce.

7. Getting the word out. It is critical your school families are well informed regarding the significance of locally sourced produce. It is important this information is shared with the

community prior to program implementation.   In this way, families are included in the discussion and become part of the conversation. Family support is integral to ultimate program success. Involving students. Including students of all grades in the planning, implementation, and evaluation of this partnership is important. For example, create a problem-based lesson wherein students brainstorm, investigate, and interpret harvest and recipe possibilities; highlight a Harvest of the Month board, and create a healthy recipe book.

10. Extend media coverage by inviting local television news and newspapers to your event. This is an excellent way to spread the message.

11. Be sure to actively include students. Identify what produce and recipe the students will eat. This can easily be done through a school wide taste test. Based on the Farmer's availability, select what produce to be served and then describe what simple recipe can make the vegetable/fruit delicious.

12. Talk to your school principal, cafeteria manager and cafeteria staff to set up a date for the taste test. Volunteers help pass out the samples and support the children in their voting.

13. Recruit volunteers to assist in the cafeteria on this day. Help will be needed to prepare the recipe, to scoop the samples, and to assist children in voting. This vote will determine whether or not the new recipe is added to the school menu.

14. Set up a buying plan: this is accomplished only after there is a evidence-based idea of what produce the district can afford, the farmer can source, and of course, the children can enjoy.

15. Work with the nutrition director to set up the buying plan with your local farmer. Did I say to remember to start small? Begin with getting one local item in the cafeteria monthly or biweekly and gradually work your way forward. Build the program slowly, offer more taste tests, try new recipes, and continue stronger community support and partnerships.

16. Do not forget to capture these moments in picture. The community and school websites will enjoy this opportunity to celebrate this partnership.

Finally, remember the reason you started this initiative. It is always about helping children to be healthy. And yes, this will take some time and effort, but the benefits are long-range and most rewarding.