Preparedness of Preschool Children for Incorporating Values of Sustainable Development through E-Learning: Sustain or Retains Future Demands?

Ayaz Muhammad Khan[*]
Amna Ramzan[**]

Abstract

The foremost purpose of this empirical study was to explore the role of e-learning in the preparedness of preschool children in the incorporation of the values of sustainable development in pre-school students. The paradigm of the study was interpretivism and the phenomenology design was used for this qualitative investigation. Through the judgemental sampling technique, 30 preschool children and eight teachers were selected. An observation checklist and interview protocol were prepared to measure the role of technology (e-learning) in the Preparedness of Preschool Children for Incorporating the values of Sustainable Development through E-Learning and how e-learning Sustain or Retains Future Demands of preschool children. Four themes (Television, Mobiles phone, tablets and digital gadgets) were noted during the analysis of data by N-Vivo-10. The results indicate that TV and Mobile Phones were the most used tools for Childers for incorporation of the standards and values of sustainable development in the preschool children.

Keywords: sustainable development, preschool children SD values, e-learning

[*] Director Division of Education, University of Education Township Lahore
ayaz@ue.edu.pk
[**] PhD scholar University of Education
amnaramzan70@gmail.com

Introduction

E-learning is the type of learning through which students learn by utilizing electronic technologies to access the educational curriculum by denying the traditional classroom. Sustainable development is a tough notion to state (Fawcett & Watson, 2016; Garrison, 2011; Gunga & Ricketts, 2008; Prensky, 2001). *The frequently referred description of sustainable development which was reported by Brundtland:*

"Sustainable development meets the needs of the existing without compromising the capacity of future generations to fulfil their own requirements" (p.115)

Equivalently, sustainable development changed into pigeon-holed by the worldwide conversation union the terms of; improving the human life even as reducing inside the exhausting capacity to support the biological system. The features of the system improving is the human capacity outstandingly and defensive human presence for the earth capacity for ensuring eras. The summit conducted in 2002 at Johannesburg affirm that social terms and efforts into the meaning of practical change to accentuate social equity and won the battle of future demands and fulfil needs (UNESCO, 2005).

Education is considered the energetic instrument to accomplish the quest for those triple practical enhancements recommended that schooling undertakes a key role in empowering the individuals and social organization for the purpose of carrying on and more noteworthy reasonably (Andersson, Jagers, Lindskog, & Martinsson, 2013; Azeiteiro, Bacelar-Nicolau, Caetano, & Caeiro, 2015; Björneloo & Nyberg, 2007). It is presently generally illustrious that schooling guides social orders to learn toward supportable methodologies of the abode. Subsequently, since the time sustainable development turned out to be first portrayed with the guise of the concept of education for sustainable development in UN general meeting held on 1987 (Wals, 2013, 2014). The term ESD (education for sustainable development) is a thought that is extra than dominance base identified with the earth, fiscal system, and society; it in like manner tends to get data of capacities, points of view, and characteristics that guide and motivate people to endeavour to find attainable occupations (Azeiteiro, et al., 2015; Björneloo & Nyberg, 2007; Bryman, 2004; Tilbury, 2011; UNESCO, 2005).

Today we are living in a digital world and technology has become the necessity of a successful life. The literature advocated that children have to face emotional, academic, health stress, and some learning through technology. This learning of a child is (e-learning) may be

positive or negative. Literature affirmed that values of sustainable development assumed to be incorporated through e-learning tools. The most recent researches in the field of medical now defining this technology and screen time "digital heroin" and "electronic cocaine." But the other aspect of the use of technology is the use of this media for e-learning and the values of sustainable development among preschoolers.

The phenomenology is qualitative and systematic methodology which investigates the lived experience of several individuals about the phenomena (Husserl, 2012; Kockelmans, 1994). This phenomenological (using transcendental approach) study subjected to explore the lived experience of the teachers of preschoolers and the learned values of children through e-learning.

Literature Review

This paper contends that independent of technological change all the more intense computers, satellite observing, even man-made consciousness the issue of supportable advancement will remain basically the same in the cutting edge eventual fate of tomorrow. The present data society is being based on innovation, information and knowledge. E-Learning engages the two individuals and machines with data, which is changed into information and insight. Proper utilization of the information by the two individuals and machines adds to supportable advancement (Ahmed & McQuaid, 2005; Andersson, et al., 2013; Azeiteiro, et al., 2015; Björneloo & Nyberg, 2007; Bryman, 2004). While educated and engaged understudies to know their part as future subjects in a naturally supportable society, enabled machines to have the information to limit vitality and material utilize, squanders, and contaminations. E-learning encourages quick, modest, fair, and asset productive access to data, gathered information, learning openings, and co-activity bolster apparatuses for its clients (Immordino-Yang & Damasio, 2007; Prensky, 2001; Santrock, 2007; Shaffer, Squire, Halverson, & Gee, 2005; Weigel, Martin, & Bennett, 2005).

The perceived significance of incorporating sustainability issues into training, together with the reflection on various instructive ways to deal with investigating key feasible subjects, ought to be repeated in e-learning and the manner in which we educate, and in this manner how the understudy learns. Hansen (2008) featured that fruitful online understudies ought to have more noteworthy tendency to exchange information to another space, a more prominent feeling of network and

correspondence, and more noteworthy responsibility for and freedom, which prompts effective learning and exchange likewise expressed that the adaptability in the decision of learning systems and the trading of information with peer understudies are decidedly identified with learning accomplishments. Understudies who utilize openings in self-managed and community-oriented adapting additionally encounter higher learning accomplishments, extremely vital issues inside ESD. By and by, there is as yet constrained research on the viability of e-learning, regarding information increased (ecological sustainability) through online conveyance strategies, or if the course substance, association and learning administration enable understudies to get skills identified with supportability, and change their mentalities and practices amid the deep-rooted learning, instructive, and proficient process.

Environmental Sustainability In sustainable environment a safe biological community would save population and common biodiversity over an extended time frame. The environmental sustainability has subjected to develop healthily and balance environment both for existing but future generation as well. The characteristics and structure of the environment is the major deal of this pillar.

 Economic Sustainability Economic Sustainability is an exercise in careful control. It is also called ecological sustainability. Keep in mind the way that while handiest the monetary components of something are thought of it as may now not generally advance certified manageability. There are a few key thoughts that makeup money related manageability. As a case, governments need to hope to advance "astute blast" through straightforward land utilize arranging and endowments or tax reductions for green improvement. Tough monetary guide for colleges, preparing projects, and studies and change is a critical a piece of financial manageability as legitimately. Furthermore, an accentuation should also be situated in different regions which incorporate bringing down unnecessary spending and lessening formality.

Social sustainability Social sustainability concerned with an opportunity that a purpose or enterprise that advance the upgrading of society. In the stylish, future and the future era, the same or the social soundness for future of life points of interest in light of the fact that the cutting edge time does.

    It is an orderly and key education process that expects to uncover the present capability of youngsters. Thus, if tutoring for supportability is a deep-rooted framework, at that point it needs to start inside Henceforth, if preparing for sensibility is a dependable system, by then it must begin

in the soonest long stretches of life in the midst of the most essential developmental time span. It must not be left until the point that the moment that the child begins formal tutoring. Thus, Early Childhood Education for Sustainability a mix preparing' and 'direction for reasonability' is finally beginning to ascend as a dynamic new field of interest (Elliott, 2010). It's far a consistent and think mentoring way that hopes to exhibit the present ability of adolescents. The soonest and long periods of life has all through the most extraordinary goliath developmental length. It needs to not be left until the point that the child starts off cutting-edge formal coaching. In this manner, Early youth training for Sustainability a union tutoring' and 'ESD' is finally starting to twist up an eager new field of the relaxation action. In such a way, it is basic to consider that preschool children play out a key position in influencing a psyche to move to sensible change. Another point to spotlight is the reason it is basic to begin ESD in early developmental years. Numerous studies had been coordinated and results highlighted the centrality of early identity and scholarly change of energetic teenagers (Azeiteiro, et al., 2015).

The leading aim of the research was to explore the children's technology used for the development of sustainable values. The use of technology has been proven to be successful in incorporating the values of sustainable development in preschool children. In this digital age and growing world of technology, the users of digital devices for learning are much increased. The core focus of this research would be on the effects of technology on the developing child' sustainable values and will introduce a program including parents and teachers for a sustainable society.

As literature supported that the digital media or other e-learning tools have a great place in the life of a preschool child (Bryman, 2004; Elliott, 2010; Evans & Powell, 2007; Fawcett & Watson, 2016; Garrison, 2011). The present study was subjected to explore the phenomena of sustainable development and its habit in the preschool children through e-learning sources.

Purpose

The study was carried out for the purpose of exploring the role of e-learning or preschool children:
1. To explore the phenomena of e-learning and preschool children in the development of the values of sustainable development.

2. To explore the role of electronic media in the preparedness of preschool children in the incorporation of the values of sustainable development in pre-school students.
3. To assess the views of teachers in the preparedness of preschool children in the incorporation of the values of sustainable development and electronic media.

Research Questions

1. What was the role of electronic media in the preparedness of preschool children on 3 pillars (Environmental, Economical, and Social Cultural) of Sustainable Development?
2. What is the level of preschool children in the development of the values of sustainable development through electronic media?
3. What were the perceptions of teachers in the preparedness of preschool children in the incorporation of the values of sustainable development and electronic media?

Methodology

Methods section has considered a blueprint for the empirical study (Creswell, Shope, Plano Clark, & Green, 2006; Gay, Mills, & Airasian, 2009). The paradigm was interpretivism and qualitative methodology was applied to conduct the current study. The phenomenological method was applied for data collection and analysis. The semantics phenomenology design was the basic method for current study. A qualitative research design that aims to describe the "lived experiences "of individuals around a phenomenon (Punch, 2013). Phenomenology method was adopted for data collection from participants. The paradigm of existing paper was social constructivism. This study intends to illustrate preschool children ideas on sustainable development in terms of environmental, social and economic pillars. Basic qualitative research methods were employed for both data collection and data analysis procedures (Merriam & Tisdell, 2015). As stated by the literature fundamental qualitative methods explore the in-depth and detailed understanding of the phenomena being researched. In the study in order to attain an in-depth understanding of the phenomena of preschool children from the field were chosen and observed.

Participants

The logic behind a specific sampling technique significantly domineering and replicate the determinations and inquiries leading the study (Husserl, 2012). In choosing the sample of participants the researcher used a purposive sampling method (Bryman, 2004).

The participants of the study were 4-year (n=100) and 6-year old (n=100) preschool children. There were 100 boys and 100 girls, all from families with medium level socioeconomic status. Participants of this study were selected through convenience sampling. They (n=200) were attending eight different public and private preschools supervised by the Ministry of education. As for the school context, none of the schools specifically highlights on for sustainable development. However, only one out of the eight preschools has a recycle bin in the school entrance and children can use it. After ethical and parental permissions were obtained, a participant list was prepared, and each observation was made with the help of preschool teachers in each school. Secondly, the structured interviews caring 18 questions were conducted by 8 preschool teachers. An early appointment was made before conducting each interview. The participants of the study were (200 preschool children) 4 years (n=45), 5 years (n=67), and 6 years (n=88). There were 112 boys and 88 girls, all from the public and the private sector. The second category of participants was 8 preschool teachers from the public and private sector. Participants of this study are selected through judgmental sampling.

Instrument

In the current study, the self-developed observation checklist (for preschool children) comprised 38 factors were used to identify the ideas about three pillars of sustainable development and interview protocol (for teachers) included 18 questions about 17 goals of SD were used to collect data.

Observation Checklist: To measure the learned values of sustainable development through e-learning tools researcher developed an observation checklist consisted of 29 items. By using checklist 200 children were observed and find the learned sustainable values through e-learning (presented in table 3). After the observation, the checklist was divided into three pillars of sustainability (Environmental, Social and Economic) on the kind of learned values.

Interview Protocol In the study in hands researcher developed an interview sheet as a data collection tool. The interview protocol was developed for the teachers of preschool children nominated purposively. The interview protocol was semi-structured and consisted of 10 questions regarding the children's sustainable value and habits development through e-learning sources i.e. Television, mobile phones, video and audio tapes, digital game gadgets and other electronic tools they use at home and at daycare centres. During the interview the researcher finds some other e-learning tools such as some kids use online games through the internet but this was only two or three cases noted in table 1.

Data Analysis

Using manual coding the sheet of observation was being evaluated and for describing the investigations summaries were being written. Researcher coded and transcribed every interview after audio-taping the one-to-one interviews.

Participants (Preschool Teachers)

A total number of eight female teachers opted for interviews and among these teachers, four teachers were from sector public and other four were from private. Every participant belonged to the district Lahore.

1. **Participant 1st**
   The participant who was first was opted from The Educators city campus (Private) Lahore and was doing the job there from 12 years. Before doing the job as coordinator she was a teacher at that preschool, so she had a great experience in the relevant field.

2. **Participant 2nd**
   The participant who was 2nd was opted from a public school and was doing the job there since 2007. She was teaching prep class from the current year before that she was a teacher of nursery class.

3. **Participant 3rd**
   The participant who was 3rd was also a public teacher but with professional qualification and she was a certified Montessori teacher. She was doing the job as a fresher but with great ideas about teaching in preschool.

4. **Participant 4th**
   The participant who was 4th was a private school teacher with experience of 5 years. She was mainly interested in kids of playgroup.

5. **Participant 5th**
   The participant number 5 was a public school teacher and was teaching since 1999. But her teaching experience as a preschool teacher started after completing B.Ed and M.Ed and after that, she taught a preschool class for the whole year. She had an experience of six years as a preschool teacher.

6. **Participant 6th**
   The participant number six was teaching in private school and had an experience of teaching of 3 years. She had a qualification of Masters in Education and was enjoying her job of teaching in preschool.

7. **Participant 7th**
   The participant number 7 was a private teacher teaching in a school which was built separately as a preschool. All the working employees were professional. They were given pretraining for teaching preschool kids. This teacher had an experience of 4 years of teaching.

8. **Participant 8th**
   The participant number 8 was a public school teacher with a teaching experience of 5 years in the preschool.

Table 1

Demographics of Participants (N=8)

Participants	Sector	Age	Marital Status	Job Title	Experience
1	Private	45	Married	Coordinator	12 Years
2	Public	36	Married	Teacher	10 Years
3	Public	32	UnMarried	Head Teacher	6 Years
4	Public	29	Divorced	Teacher	5 Years
5	Public	23	UnMarried	Teacher	11 Months
6	Private	30	UnMarried	Teacher	5 Years
7	Private	27	UnMarried	Teacher	4 Years
8	Private	25	UnMarried	Teacher	3 Years

Interpretation of Interview Protocol

Themes
Development --The question that was asked at the first in the interview was "Development is a process; do you agree it should go *on"? and teachers from both public and private sector admitted it a process which should go on continuously.*
Social values by Television-- *Item numbers 2, 3 depicted the fundamental individual need that was related to abolishing deficit and no*

drought. Every instructor admitted for poverty with no existence and food needs of everyone must be fulfilled. Another part of the question was related to donation. There was an opposition in the concepts of donation public schools were not in favour while private was in the favour of promoting this concept. One of the respondents from public school explained his thoughts…

> *"Once in our school our sweeper was seriously ill, so we decided to collect charity and we asked the class to bring 5 Rs each for this purpose. Next day we found lots of complaints from parents that we teachers are collecting money for ourselves so we stopped to promoting such activities".*
>
> *(Participant 4)*

> *"Yes, I am strongly in the favour of the concept that everyone should be provided all the basic rights (food, job according to one's expertise, shelter, health and education facilities) by the state. This is why I like the concept of Socialism or communism, in which these things are imposed by the state. At the student level, I urge my students to contribute to charity via teaching others what you have learnt. Grab 2,3 children who are labouring and teach them. At least those who cannot afford to attend formal education, give them some basic education to nourish their minds".*
>
> *(Participant 3)*

Good health, Preservation of water-- *The item numbers 4, 5, and 7 were regarding fundamental individual rights such as education with quality, pure water for drinking and hygiene. To acknowledge these problems responses were not as much opposed besides this one:*

> *"To some extent, at the time of admission we do ask the parents if their kids have any disability we tried to overcome that, we don't have a doctor or nurse in school to maintain this all, for example, if someone is asthmatic we keep him away from dust or advice to use face marks etc. if someone have the kidney problem we facilitate him with water and he is exempt from permission if he intends to use washroom. In the beginning, we use the growth chart but no medical checkup".*
>
> *(Participant 1)*

Skills and digital videos-- *Varied responses were depicted for item numbers 6,9,11 and 17. There was a huge dissimilarity in the opinions of*

teachers of the private and public sector.

> *"When nations define that education is a matter of life and death, they promote it and put their efforts and resources to educate their people. But unfortunately, our feudal mindsets even at lower levels of society have not incorporated their ways to understand the concepts of education promotion and even female education is still touching very low rate. When we put our resources and efforts to improve this sect0r, all these solutions will be incorporated as they are not much tough to implement".*
>
> *(Participant 3)*

> *"If some students are good in their class reputation and habits and the teacher likes those students, this is not favouritism according to me. I try to give equal attention to all students".*
>
> *(Participant 4)*

Participants (Preschool Children)
The participants of the other category of this study were 200 kids in preschool. For the collection of data, a sheet for observation was made. This sheet was constituting three props of the environment, society and economy for the sustainability. For investigating these factors 38 number of items were arranged. For the investigation, 2 schools of sector public and 2 schools of sector private opted.

Table 2

Values of SD	Pillars of SD	E-Learning Media
Sustainable Development		
1. Switch of light		*Television*
2. Take off the Fan		*Mobile Phones*
3. Take off battery		*Television*
4. Use both sided paper for drawing		*Television*
5. Needlessly sharp pencils		*Television*
6. Discard paper from notebooks	*Economic*	*Television*
7. Money saving through "Goolak"		*Others*
8. Charity habits		*Others*
Sustainable Development		
9. Work peacefully		*Television*
10. Work Safely		*Television*
11. Like noise		*Audio types*
12. Play safely		*Television*
13. Do not harm the pets		*Others*
14. Respect their teachers		*Television*
15. Care of peers		*Television*
16. Bullying behaviour		*Mobile Phones*
17. Sharing food with peers		*Television*
18. Quarrel with peers/siblings		*Audio/Video types*
19. Avoid violence	*Social*	*Television*
20. Greeting manners		*Mobile Phones*
Sustainable Development		
21. Close the tap		*Audio types*
22. Avoid wastage of water		*Others sources*
23. Plant a tree		*Television*
24. Less use of plastic		*Television*
25. Care of the plants/gardens	*Environmental*	*Digital Godets*
26. Use of recycling beg		*Television*
27. Use of mobile phone		*Mobile Phones*
28. Digital Games habits		*Digital Godets*
29. Spitting on floor		*Television*

Findings

On the basis of result following were the findings of the current paper

## Observation Public Sector Children

A school of the public sector was being investigated first by the researcher. The pupils with age of four to five in the class nursery were not aware of switching the fans and lights off before exiting the classrooms. They were also observed with not closing the taps when they washed their hands. Kids were making noise even in the presence of an instructor. In the recess time, kids were not having fun in a calm way. Kids were quarrelling and were not peaceful. It was observed that children were giving honour to their teachers. Pupils were not commemorating with their companions. Some addressed to instructors before joining the class. Drooling on the ground was also being investigated. Misuse of papers of textbooks and notebooks was also being observed. There were no ideas of charity and donating or sharing money with poor people. Wastage of food was not being observed.

Observation Private Sector Children

During the inspection of a private school, researcher of kids in private school examined that kids in the nursery class were being shockingly perceived for switching the fans and lights off before exiting the classrooms. Moreover, those kids were also observed while closing the tap when they were washing their hands. Yet in petite jar kids had a fabulous approach for planting a tree. It was told that class honoured green day last Friday and it was asked to carry a tiny plant for that day to each kid. The class was remarkably calm, no shouting, the kids were moving in the gathering evenly. The pupils were participating cautiously in the yard during recess time. More sharping of shafts was seen from Six to Seven pupils. Every disciple was asking for confirmation and was addressed to the instructor before joining the class. It was observed that kids were collaborating with their companions. Problems of bullying and drooling on the ground was not being witnessed. Mobile phones as well as tablets were being used by pupils to have fun but only in their homes. Only two students are seen for not sharing water. The idea of saving money in the kids of private school was also being observed. On Friday all children were donating their money in the donation box for charity. This money was being shared with poor people at the end of the month. It was also observed that there was no misuse of paper and food.

Themes of the Qualitative Analysis

A. Development
B. No poverty, no hunger
C. Good health, quality education, clean water & sanitation
D. Gender equality, good jobs, reduces inequality, and promote peace
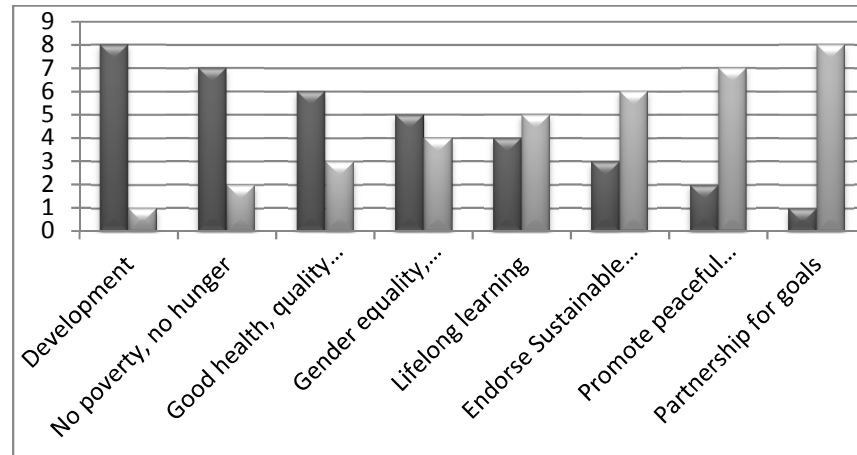
Discussion and Implication

As noted in the result this study was conducted using the hermeneutic methods of phenomenology. The result revealed that the e-learning tools has crucial role incorporating the values of sustainable development in the preschool children. The related literature (Ahmed & McQuaid, 2005; Andersson, et al., 2013; Azeiteiro, et al., 2015; Björneloo & Nyberg, 2007; Bryman, 2004; Elliott, 2010; Evans & Powell, 2007; Fawcett & Watson, 2016; Garrison, 2011; Gay, et al., 2009; Gregory et al., 2012; Gunga & Ricketts, 2008; Husserl, 2012) also support this assumption. In the resent studies there is a great deal for young children of their sustainable values through e-learning tools. In Pakistani context there is a great use observed this phenomenon may also be treated in experimental studies for its real worth. This study provides baseline to change the negative assumptions (Elliott, 2010; Evans & Powell, 2007; Fawcett & Watson, 2016; Garrison, 2011; Gay, et al., 2009; Gregory, et al., 2012; Gunga & Ricketts, 2008; Immordino-Yang & Damasio, 2007; Prensky, 2001; Santrock, 2007; Shaffer, et al., 2005; Weigel, et al., 2005) regarding the use of e-learning tools at young age.

These technologies can be efficiently used for developing the values of sustainable development.

Acknowledgement

References

Ahmed, A., & McQuaid, R. W. (2005). Entrepreneurship, management, and sustainable development. *World Review of Entrepreneurship, Management and Sustainable Development, 1*(1), 6-30.

Andersson, K., Jagers, S. C., Lindskog, A., & Martinsson, J. (2013). Learning for the future? Effects of education for sustainable development (ESD) on teacher education students. *Sustainability, 5*(12), 5135-5152.

Azeiteiro, U. M., Bacelar-Nicolau, P., Caetano, F. J., & Caeiro, S. (2015). Education for sustainable development through e-learning in higher education: experiences from Portugal. *Journal of Cleaner Production, 106,* 308-319.

Björneloo, I., & Nyberg, E. (2007). Education for sustainable development in action Technical Paper No 4. Education sector coordination of UN priorities in education/UN DESD UNESCO [Internet].[cited 2014 Jul 7]. Available from: http://unesdoc. UNESCO. org/images/0015/001509/150966e. pdf.

Bryman, A. (2004). The Disneyization of society: Sage.

Creswell, J. W., Shope, R., Plano Clark, V. L., & Green, D. O. (2006). How interpretive qualitative research extends mixed methods research. *Research in the Schools, 13*(1), 1-11.

Elliott, S. (2010). Essential, Not Optional: Education for Sustainability in Early Childhood Centres. Exchange: *The Early Childhood Leaders' Magazine, 192,* 34-37.

Evans, M. A., & Powell, A. (2007). Conceptual and practical issues related to the design and sustainability of communities of practice: The case of e-portfolio use in preservice teacher training. Technology. *Pedagogy and Education, 16*(2), 199-214.

Fawcett, M., & Watson, D. (2016). Learning through child observation: Jessica Kingsley Publishers.

Garrison, D. R. (2011). E-learning in the 21st century: A framework for research and practice: Routledge.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2009). Educational research: Competencies for analysis and applications, student value edition: Upper Saddle River, NJ: Merrill.

Gregory, S., Gregory, B., Hillier, M., Jacka, L., Farley, H., Stokes-Thompson, F., . . . Scutter, S. (2012). Sustaining the future through virtual worlds. Future Challenges, Sustainable Futures: Proceedings Ascilite 2012, 361-368.

Gunga, S. O., & Ricketts, I. W. (2008). The Prospects for E-Learning Revolution in Education: A philosophical analysis. *Educational Philosophy and Theory, 40*(2), 294-314.

Husserl, E. (2012). Ideas: *General introduction to pure phenomenology:* Routledge.

Immordino-Yang, M. H., & Damasio, A. (2007). We feel, therefore we learn: The relevance of affective and social neuroscience to education. *Mind, Brain and Education, 1*(1), 3-10.

Kockelmans, J. J. (1994). Edmund Husserl's phenomenology: Purdue University Press.

Merriam, S. B., & Tisdell, E. J. (2015). Qualitative research: A guide to design and implementation: John Wiley & Sons.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon, 9*(5), 1-6.

Punch, K. F. (2013). Introduction to social research: Quantitative and qualitative approaches: sage.

Santrock, J. (2007). A topical approach to life-span development, 3E. Ch, 5, 192.

Shaffer, D. W., Squire, K. R., Halverson, R., & Gee, J. P. (2005). Video games and the future of learning. *Phi Delta Kappan, 87*(2), 105-111.

Tilbury, D. (2011). Education for sustainable development: An expert review of processes and learning. Paris, France: UNESCO. http://unesdoc. UNESCO. org/images/0019/001914/191442e. pdf. Accessed May 20, 2014.

UNESCO, U. (2005). Decade of Education for Sustainable Development: 2005-2014. Draft International Implementation Scheme.

Wals, A. E. (2013). Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes. *Journal of Cleaner Production, 30,* 1-8.

Wals, A. E. (2014). Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes. *Journal of Cleaner Production, 62,* 8-15.

Weigel, D. J., Martin, S. S., & Bennett, K. K. (2005). Ecological influences of the home and the child-care centre on preschool-age children's literacy development. *Reading Research Quarterly, 40*(2), 204-233.