

Ecological Intelligence and Sustainability Education in Special Education



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Before the detection of ozone depletion in the 1970s (Global Environment Facility, 2010), an environmental movement began throughout the nation based on an increasing awareness of air and water pollution, and “deaths as a result of work conditions” (Zinn, 2003, p. 574). Since then, movements for sustainable environmental practices and human rights continue to gain momentum (United Nations Department of Public Information, 1998; Worldwatch, 2012). All over the globe, educators are adopting pedagogies for sustainability

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and ecological intelligence as strategies for addressing environmental calamities (Goleman, Barlow, & Bennet, 2010; Ju & Kim, 2011; Lewis, Mansfield, & Baudain, 2008; Marouli, 2002; Riordan & Klein, 2010; Stone, 2010; Williams, 2008). The environmental challenges we are facing are serious, and require ecological thinking and sustainability education at every level of learning (Bowers, 2009; Capra, 2007; Cortese, 1999; Duhn, 2012; Marouli, 2002; Williams, 2008). With a drive toward developing ecological intelligence and sustainable living practices, educators are building dynamic relationships and establishing programs in educational institutions all over the world (Armstrong & Grant, 2004; Davis, 2005; Johnston, 2009; Ju & Kim, 2011; Stone, 2007).

The vast majority of these programs

have been primarily geared towards and utilized by general education teachers and students. Few programs target special populations, and minimal literature highlights special educators, those working with students with special needs, finding ways to help students in their classrooms blossom into ecologically knowledgeable, sustainably-living adults. Although little published information was found specifically addressing students with disabilities in regards to developing ecological intelligence, ample literature is available that speaks towards developing relationships within communities and establishing just social practices (Artiles, Trent, & Palmer, 2004; Edgar, Patton, & Day-Vines, 2002; Ford, 2004; Irvine, 2012; Ladson-Billings, 1995; Lamar-Dukes, 2010).

I anticipate some readers may ques-

tion the importance of focusing on special education classrooms as locations for building ecological intelligence and sustainable living practices. This article addresses such inquiry, as well as provides a foundation for why focus should be placed in all classrooms, at all levels of education. After reading this article, readers should walk away with a clear understanding of (1) how special education teachers are addressing environmental issues through the incorporation of ecological studies into the general curriculum, (2) how this can be accomplished through a multicultural lens, and (3) the importance of developing cultural competence.

In order to address these areas of discussion, we must first become familiar with specific terms and concepts emphasized throughout this article, and the reviewed literature. Fritjof Capra (2003) coined the term *ecoliteracy*, understanding “the principles of organization that ecosystems have developed to sustain the web of life” (p. 160). Capra also explains that a sustainable community or society, an idea introduced by Lester Brown in the 1980s, is one that is able to meet its needs while maintaining the possibility of future generations (p. 159). The terms *sustainability*, *ecological intelligence*, and *ecoliteracy* are used in this article as defined by Capra to address the kind of education and pedagogy this article underscores.

The focus of this article is to briefly discuss education in the following areas as they relate to the development of ecoliteracy: thinking patterns, sustainability, social justice, and cultural competence. I will examine current literature regarding ecoliteracy as well as how special education teachers are working to develop ecoliterate students, and the implications for teacher educators to take action in preparing classroom teachers to educate for sustainability and ecoliteracy.

Teachers in the field of special education are responsible for incorporating students’ individual education programs (IEPs) into the curriculum. Students with disabilities are required by law to have access to the general core curriculum, and are tested annually on their progress towards meeting academic standards, or modified academic achievement standards based on general education achievement standards (US Department of Education, 2002).

Core curriculum, taught with scripted lessons and pacing guides, does little to call attention to the ecological crises that surrounds us (Nelson, 2010). There are no

content standards for ecoliteracy (Bloom, 2009). We must adopt curricula that address the needs of our world, that is, “curricula emphasizing systems thinking and ecological literacy” (Nelson, 2010, p. 6).

Changing How We Think

Used in exploring interconnections and relationships within and between systems (Bronfenbrenner, 1976; Von Bertalanffy, 1969), systems theory and systems thinking can be used when exploring or analyzing complex problems, such as climate change, in order to develop novel approaches toward addressing critical issues (Aronson, 1998). Systems thinking requires looking at an entire system, as opposed to focusing on individual parts of the system (Aronson, 1998; Capra, 2003, 2007). It is imperative that we think about our environment as a system of subsystems with interdependent relationships in order to grapple with environmental problems (Bloom, 2009; Capra, 2003, 2007). One of the problems is that this approach to learning has not been adopted in our classrooms in an inclusive way (Bloom, 2009; Stone, 2007). We must provide opportunities for students to understand that one living species is dependent on another, and each function of one species affects another species’ function (Bowers, 2010). These concepts must be incorporated into the classroom in order for our students to begin their path towards ecoliteracy; therefore, our teachers must be erudite about these concepts.

Higher learning institutions are perfect places to transform thinking patterns,

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challenging those of the status quo. Preparing teacher educators and classroom teachers for fostering ecoliteracy in their students is key if we are to evolve into a society of systems thinkers. Future problem solvers will view our world as one immense system of subsystems with interconnected relationships in a web that sustains life. This cannot be accomplished by continuing down the same path that espouses an ethic rooted in an unlimited supply of natural resources.

Bowers (2009) describes the “double binds...public schools and universities continue to perpetuate...by what they designate as high-status knowledge, and by the silences and prejudices in the classroom” (p. 197). Undoing these binds requires new knowledge. With this new knowledge, we must be able to address specific needs of all students, and incorporate the development of cultural competence.

Hanley (1999) defines cultural competence as “the ability to work effectively across cultures in a way that acknowledges and respects the culture of the person or organization being served” (p. 1). Therefore, if we are to undo these “double binds” (Bowers, 2009, p. 197), we must do so in a way that honors the cultures of our students (Artiles et al., 2004). I will discuss this in further detail in the section that considers social justice and cultural competency.

Students need to understand the degree to which our environment and communities are threatened by continuing the current pattern of behavior exemplifying attitudes of bigger is better and consumerism at the cost of exploitation. If we are to change minds, we must begin with changing our own. Educators passing on knowledge through antiquated frameworks and the tired pedagogies that filled their own graduate studies before the ecological crises became apparent perpetuate ignorance and undermine the development of systems thinkers who can address these crises. To become a sustainable and ecoliterate society, teacher educators, professors, and classroom teachers must edify through new frameworks and

with new pedagogies. Teacher educators must be able to articulate the nature of educational reform that we are promoting, or change will be superficial, accomplishing little in the way of developing sustainable communities (Bowers, 2010).

The United Nation Educational, Scientific, and Cultural Organization’s (UNESCO) framework for the United Nations Decade of Education for Sustainable Development (UNDESD 2005-2014) specifies that higher education institutions and teacher educators must edu-

cate through curricula that emphasizes teaching for sustainability throughout the learning process, not as an added class or topic of study, but as pedagogy embedded throughout the breadth of the educational program (UNESCO, 2006). Within the myriad of quintessential components proposed by the UNDES framework, the fundamental necessity to learn through a systems framework, and to understand the interconnectedness of the web of life are excluded.

One might ask, what does this mean for teachers? What this means is that we must research and collaborate with others that share in a systems view of the world (Capra, 2003, 2007). We must seek out collectives whose mission is geared towards providing a forum for networking and exchanging instructional ideas, and for creating collaborative initiatives with the aim of transforming linear thinkers into systems thinkers (Nelson, 2010), such as the Creative Learning Exchange (CLE) (2013). This non-profit was developed with the aim of addressing “the interconnected challenges that face [systems citizens] at personal, community, and global levels” (CLE, 2013, para. 1). Using the term systems citizens to describe individuals addressing environmental and societal challenges, the CLE is working to meet their goals by providing educators, nationally and internationally, with tools to incorporate systems thinking pedagogies in K-12 learning institutions. Such tools include free curriculum and books, as well as conferences to encourage further development of systems citizens.

Teachers and administrators are responding to the need for systems thinking and the development of ecological intelligence in growing numbers (Armstrong & Grant, 2004; Davis, 2005; Haines & Kilpatrick, 2007; Langheim & Lucas, 1993; Lewis, Mansfield, & Baudains, 2008; Stunz, 1994; Williams, 2008). Deep connections can be made through many of the facets of core curriculum. Some schools have adopted a systems framework, and have implemented school-wide pedagogies to accommodate such holistic form of knowledge construction (Langheim & Lucas, 1993); although, the majority of examples of systems thinking used in pre-kindergarten through high school are in individual classrooms, grades, or subjects within general education. These classrooms are taught by teachers who are pioneers in the movement for environmental intelligence in their school or district (Stunz, 1994).

Many of these efforts occur with guid-

ance from organizations such as the Center for Ecoliteracy whose mission was based on Capra’s theory of systems thinking; the Creative Learning Exchange, as aforementioned; or specific programs such as the Sustainable Planet Project and Project Learning Tree (Davis, 2005; Haines & Kilpatrick, 2007; Lewis, Mansfield, & Baudains, 2008; Stone, 2007; Stunz, 1994).

Unfortunately, there is little evidence of systems thinking being implemented in special education classrooms and programs. What little documentation does exist refers to embedding curriculum through the use of school gardens (Haines & Kilpatrick, 2007). Learning with systems thinking through gardening is a method that allows all students, regardless of ability or developmental level, to experience life cycles and ultimately connect on a deeper level with the web of life first hand (Stone, 2010).

Sustainability

David Orr (2005a) states, “[It is an] ecological fact that we are bound together in the community of life, one and indivisible (p. xi).” It makes sense that in order for one species to survive, it must depend on others. When one species declines or becomes extinct, other species suffer, as binds are broken; when nature is gone, we are gone (Goekler, 2003). In order to sustain these bonds, we must also sustain the human species. As a special education teacher, these are concepts I am striving to teach my students, as are many other educators in the movement towards developing ecoliteracy and sustainability.

As aforementioned, ecoliteracy begins with sustainability, and sustainable practices that are happening everywhere! Teacher educators and professors must emphasize the detrimental necessity for shifting behavior, if we are to produce classroom teachers prepared to grapple with currently inescapable environmental crises. Establishing new habits, including recycling, composting, preserving natural habitats, building relationships within communities, developing cultural competence, and giving voices to those who have been marginalized are habits we need to adopt in order for humanity’s system to sustain itself well into the future.

The term sustainable is used often in the media, business, health, and just about all components of society. Many times it is used misleadingly, or in an attempt to gain popularity, as the term has become a pop-culture buzz word. In order for teachers to educate their students about sustainable

practices, they must understand the term beyond its superficial fame. Capra explains that, “a sustainable human community must be designed in such a way that its ways of life, its businesses, its economy, its physical structures, its social institutions do not interfere with this ability of nature to sustain life” (2003, p. 160).

It is evident that our current behavior shows we are anything but a sustainable species; however, archeological evidence shows people have been recycling since 400 BC, maybe earlier (*All Recycling Facts*, 2012). Here we are, 2400 years later in the 21st century with a growing awareness of the impending catastrophic results to which our consumer/consumption behaviors have contributed (Bowers, 2009; Cortese, 1999), and still there are many people, for example, who do not recycle their waste stream. So, how are educational professionals responding?

Affordable and increasingly popular, recycling is an activity in which an entire campus can participate. You can find a recycling center in just about every community (Capra, 2007). Many schools and communities across the nation participate in recycling programs for items such as beverage containers, cardboard, clothes, vehicles, electronics, tires, paper, water, food waste, etc. (Armstrong & Grant, 2004; Chesapeake Public Schools, 2012; National Recycling Coalition, 2012). Recycling is experiential, concrete, and direct, making it an accessible component of ecoliteracy for students with special needs.

Recycling is common practice in many special education classes (Board of Cooperative Educational Services, 2012; Boltz, Impola, Nyquist, & Torgerson, 2012; O’Conner, 2011). As students with special needs get closer to graduation or transition from public school, many are involved in job training. Programs and companies supporting transition from school to work, such as Ecommunity, Kibbutz Yas’ur, Israel; Goodwill, USA; Easter Seals & Poly Recovery, USA, are just a few of many across the world (Easter Seals New Hampshire, 2012; Goodwill, 2011; New Tang Dynasty Television, 2010; Scrap Autism, 2012).

For students with severe developmental challenges, recycling can be an integral part of the curriculum. By incorporating recycling efforts with life skills education, such as developing healthy living habits and community based instruction (CBI), sustainable practices become a part of everyday life. Recycling is a crucial part of the healing process, and maintenance of a healthy planet; however, becoming a

sustainable planet goes beyond recycling, as the challenge of healing our planet is immense.

Connecting with our local community and our place expands our reach far beyond the classroom to the world at large. Orr (2005b) states that:

A place has a human history and a geological past; it is part of an ecosystem with a variety of microsystems, it is a landscape with a particular flora and fauna. Its inhabitants are part of a social, economic, and political order: they import or export energy materials, water, and wastes, they are linked by innumerable bonds to other places. (p. 91)

When studying place, students gain experiences and further their knowledge by applying their academic intellect through observation, investigation, and experimentation (Orr, 2004). When helping our students learn about their place, their community, we must include educational activities that acknowledge and respect the histories and experiences unique to the different cultures of our students, as their places contribute greatly to their academic growth (Ford, 2004).

From their community, students learn to interact with others, what society deems valuable, etc. As our students grow, they become increasingly responsible for making their own decisions—decisions that affect many in addition to themselves: family members, neighbors, local community members, and people worldwide. Establishing relationships between different community members and learning their roles fosters an understanding of interconnectedness, supporting ecoliteracy development (Martusewicz, Edmundson, & Lupinacci, 2011).

From the museum curator to the sanitation worker, each has an integral role in the community. When students with disabilities get out into the neighborhood and see firsthand how others are living and working, it is more powerful than reading about “community helpers” in a book. Beyond going to the local bakery to see how bread is made, students must learn why the bread is made, where the ingredients come from, how those ingredients got to the bakery, how the processing and growing of ingredients affects the community and beyond. An example of how this integration takes place can be seen through the use of community based instruction (CBI). Used by many special education teachers working with students with severe developmental and cognitive delays, CBI provides opportunities for building functional skills (Steere & DiPipi-Hoy, 2012). Students explore their

community and learn skills such as protecting oneself, exchanging currency for goods/services, using transportation services (city bus, etc.), inquiring about employment, etc. (Akmanoglu & Tekin-Iftar, 2011; Steere & DiPipi-Hoy, 2012; Walker, Uphold, Richter,

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& Test, 2010).

Students with disabilities may be enrolled in classes which specifically focus on advancing these life skills. Before my students participate in a field trip or a CBI outing, we spend a few weeks learning about the person or place of study, locally and internationally. For example, before visiting a local bakery, students study who a baker is, what a baker does, what tools a baker uses, how a baker obtains ingredients for baking, who prepares the ingredients before the baker receives them, and where the raw materials come from. Moreover, we take turns sharing about which baked goods we eat at home and where we go to get them. Once we are at the bakery, students are able to locate and describe various ingredients and tools, as well as ask questions, and share statements about baking. Back in the classroom, students review what they have learned. Their learning continues by studying bakers from various cultures and countries through scaffolding and referencing CBI lessons in future activities.

In Patten Elementary School in Perth Amboy, New Jersey, special education teacher Theresa Santiago changed her instructional pedagogy and implemented new curriculum in her class, taking learning outside the classroom (Santiago, 1999). Amboy’s students who were mostly visual and tactile learners began studying their environment by looking for different habitats in the schoolyard. Using field guides, students studied birds, trees, insects, and the local salt marsh wetlands in an Audubon Society sanctuary. Before going on field trips, the students studied the places they were visiting. Once on the field trip, students applied what they learned in class. Learning did not stop there; they learned about recycling and cleaned up their schoolyard.

Santiago’s students learned to motivate

and support each other in learning, wrote song lyrics, and created a skit where Mother Earth explained how she could not give more than she had. Students performed their skit for their school on Earth Day live on a local television station. Santiago

believed her students to have higher scores, as well as increased self-esteem. According to Santiago, the students changed their perceptions of the world, and learned to ignore the labels society put on them.

Social Justice and Cultural Competence

Studying the components of communities and societal systems at large reveal the manner in which processes take place as determined by a society’s culture, i.e., how the baker’s ingredients are grown. These processes are established by the beliefs, values, and customs of its people. Bowers (2009) uses the term *cultural commons* to include, “activities, knowledge, skills, and patterns of mutual support that do not rely on a monetized economy” (p. 196).

The manner in which some societies treat living things, embrace and nurture, or marginalize and disregard, speaks to the behaviors we perpetuate, as well as how we are accustomed to continuing these traditions and patterns of behavior (Bowers, 2009). This continuity of practice preserves discrimination and biased actions that “have influenced the perpetuation of poverty and affected the quality of instruction in schools many culturally and linguistically diverse students attend” (Artiles et al., 2004, p. 716).

Students, whether differently abled or typically developing, are vulnerable to differential treatment and oppressive behaviors from others. African-American and non-English speakers are disproportionately represented in special day classes (Ahram, Fergus, & Noguera, 2011; Artiles et al., 2004; Sullivan, 2011), and historical underpinnings continue to disenfranchise culturally and linguistically diverse populations (Ford, 2004). It has become ingrained in our culture to label and divide

people from the majority. Students are identified as 'regular students' or 'special ed,' 'citizens' or 'illegals,' 'beautiful' or 'ugly,' and we have segregated our neighborhoods by socioeconomics.

These divisions may lead to weakened and severed bonds, stimulating polarization within a community. Edgar, Patton, and Day-Vines (2002) discuss their desire for students to become aware of unjust practices and behaviors that are prevalent in society. They support education that develops "citizens skilled and disposed to take responsibility" (p. 232) in establishing societal practices that support and respect all of its citizens regardless of socioeconomic status, ability, or cultural background (Edgar et al., 2002). This sentiment is also shared by Ladson-Billings (1995) who emphasizes the need for teachers to become aware of and understand the root causes of social injustices, in order to educate students to identify and deconstruct these concepts themselves. Students in special education are just as connected and intertwined with their cultural identities as any other student (Irvine, 2012).

I argue that they should not be exempt from these discussions of inequities and social justice. To do so would continue marginalizing students with disabilities, while moving away from establishing cultural competence. To understand societal injustices, which I would argue is exemplified in the overrepresentation of African-American and non-English speaking students in special education, we must develop cultural competence.

According to Hanley (1999), in order to achieve cultural competence, one must become knowledgeable about other cultures and apply what is learned. This knowledge of culture goes beyond what can simply be seen or heard (attire, music, language); this knowledge encompasses ideas and beliefs that are not overtly apparent or universally understood (relationship and family constructs, view of (dis)ability, gestures, body language, etc.) (Hanley, 1999). Additionally, Hanley (1999) says one must look inward and develop an understanding of their own culture. Hanley stresses that one must experience other cultures, and that cannot be accomplished through effortless consumption of pop culture media and schooling, but instead through immersion or direct experience with a particular culture. Lastly, he calls for changing one's behavior. This goes further than embracing differences and being culturally sensitive. It requires application of the knowledge gained while making fundamental changes in the

environment where teachers, students, and community interact (Hanley, 1999).

I contend that developing cultural competence is not only essential for educators and professionals working in institutions, but it is a fundamental necessity for students as they continue to make their place in the world. Furthermore, students should not only recognize and respect community members' diverse cultures and languages, they should also respect the differences that go beyond culture and language (Edgar et al., 2002).

In several schools here and abroad, field trips and community outings provide opportunities to experience *otherness*, that is, how we care for different members of society. Just as important as natural systems maintaining stability, balance in social systems is equally important (Stone, 2010); this is what I refer to as social justice. In communities across the world, diversity is not always appreciated, nor accepted. Groups of people have notoriously been attacked, mistreated, and disregarded. African Americans, immigrants, gays and lesbians, and people with disabilities are examples of those who have historically been marginalized.

Included in ecoliteracy is understanding that everyone is part of the web of life; not a select group. When minorities are undervalued, discounted, abused, or silenced, it is a detriment to the entire social system, and consequently the web of life we all belong to. If diversity of species is critical to the health of an ecosystem, it is also true that human diversity is directly related to the health of the socio-cultural world in which we live.

Classrooms need to be environments of social equality (Au, Bigelow, & Karp, 2007). While teacher preparation programs undoubtedly support training for diverse classrooms, this does not reach the needed scope and breadth of diversity, and environmental and sustainability education training is limited at best (Heimlich, Braus, Olivolo, McKeown-Ice, & Barringer-Smith, 2004). Classroom teachers should consistently orient students towards establishing a *sustainable citizenship*, a society comprised of members interdependent on one another who are working to meet societal needs for regenerative coexistence without degradation, as adapted from Capra's (2003) explanation of sustainable communities. This includes learning how to advocate for equity and justice for all. "[Education] is itself a basic human right but is also a vehicle for fulfilling other human rights and freedoms which must

be protected, promoted and respected (UNESCO, 2009)." The overarching aim of educational institutions and classroom teachers alike should be to support students in becoming responsible citizens who act democratically and for global stability (MacPherson, 2005).

Numerous classrooms across the world are cultivating ecoliterate and democratic citizens by implementing sustainability education through a multitude of interdisciplinary practices (Armstrong & Grant, 2004; Davis, 2005; Duhn, 2012; Haines & Kilpatrick, 2007; Johnston, 2009; Langheim & Lucas, 1993; Lewis, Mansfield & Baudains, 2008; Marouli, 2002; Stone, 2007; Williams, 2008). The goals of these programs and curricula include working collaboratively with community members and organizations. Often, students begin developing awareness of injustices in both local and global communities (Johnston, 2009), which provides a sound reason for giving students the skills they need to advocate for themselves and others.

In special education classrooms that incorporate life skill instruction, learning to advocate for oneself and others is a frequent and common aim (Cho, Wehmeyer, & Kingston, 2011; Fiedler & Danneker, 2007; Merlone & Moran, 2008; Weimer & Cappotelli, 1994). Being a historically marginalized population, students with special needs should be given support towards enhancing self-determination skills leading towards self-advocacy, as these skills are difficult for many students with disabilities to learn (Carter, Sisco, & Lane, 2011). As we shift towards a more sustainable vision for our planet, the participation in decision-making must include people with special needs.

Federal mandates state that, when appropriate, a student should participate in decision-making when creating their IEP (IDEA, 20 U.S.C. § 1414[d][1][B][vii], 2004). This is but one example of facilitating self-advocacy and determination. A program I use for developing my students' advocacy skills, is the Safe Life program developed in part by working special education teachers. This program seeks to teach students how to make good choices in class and in the community. Along with good decision-making, the program reinforces what actions students should take when bad things happen, and what steps to take in preventing abuse for oneself and others (Whaley, Hoffman, & Park, 2006). It is estimated by the Centers for Disease Control and Prevention (2012) that people with special needs are four to ten times more likely to be abused

(para. 11). Therefore self-advocacy skill building must be an essential component in curricula for students with special needs. Beyond that, advocacy on behalf of people with special needs must be an understood responsibility included in the establishment of ecoliterate societies. As part of our cultural commons, our beliefs and attitudes resulting in marginalization and unjust outcomes need to be recognized, deconstructed, and rebuilt to reflect multicultural communities bonded, interconnected, and dependent of one another.

When programs are targeted towards

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students in general education, finding how students in special education fit into the picture may be difficult; however, with several programs geared towards establishing sustainability thriving across the globe, there are numerous resources for educators to draw from. Opportunities to share in discourse and educate others about the importance of building ecoliteracy as well as creating opportunities for changing behavior patterns must be available to all. While literature about special education classrooms embracing ecoliteracy appears limited, it is likely there are classrooms where sustainable practices and ecological intelligence is being cultivated, even if unknowingly. Commonly practiced, community engagement and social skill building (Sartini, Knight, & Collins, 2013) appear to be a part of most special education classrooms.

Although many special education teachers frequently have had the challenge of integrating IEPs with the general curriculum (Benedict, Thomas, Kimerling, & Leko, 2013; Constable, Grossi, Moniz, & Ryan, 2013), in my experience students' IEPs can be maintained while also integrating environmental and sustainability education. Many special education teachers are accustomed to modifying curriculum, using supplemental materials, and specialized instructional strategies (Benedict et al., 2013). Through collaboration with other professionals in both general and special education, engagement in this challenge can be successful. We just need to do what we do best, teach!

Conclusion

Earth, our home, is being degraded at a rate which cannot be stopped by technological means alone. Planetary healing requires systems thinking to emphasize the interconnectedness of all living things, and we must work together as agents of change in this mission. The biggest challenge we face is getting everyone, or at least a majority, to commit to building a sustainable future.

We need teacher educators and classroom teachers with a systems thinking mindset, ready to educate for ecoliteracy.

Changing our thinking patterns will change our behavior, as our behavior is underlined by how we think (Goekler, 2003.) Working together, we can change our behavior, and encourage others to do the same. It is not enough to say we need to change behavior. We have to do it. We take care of those we love. We nurture and protect our families, our children, our pets, so why not our neighborhoods? Why not our country? Why not our planet?

When making fundamental changes in our behavior, it is crucial that we keep at the forefront of our minds how our behavior affects those around us. In working towards establishing a more culturally competent society, we must ensure that our students are able to explore and experience different cultures and ways of living. Simply exposing students to multicultural books, music, and foods is not enough. We need to take it many steps further.

Our students with disabilities come to school and carry with them, at all times, their culture and experiences they have shared with their family members. It is imperative that we as educators recognize and respect the diversity in our schools and communities, and foster that respect while teaching our students to advocate for themselves and others. It has been my experience as a special education teacher that we in the field of special education have many opportunities to nurture systems thinking, sustainable behavior, and cultural competence in their students.

With the availability of online resources, special education teachers have access to information that can help

guide them in their efforts in developing systems thinkers, social advocates, and Earth healers. I urge all special education teachers and general education teachers alike to embrace the movement towards ecoliteracy, ecological intelligence, cultural competence, and sustainable citizenship. Our current actions shape the future of our society. I believe that what we teach will have a profound impact on the lives of our students, and thus our society. I challenge all educators to teach for a sustainable future, and teach for the love of our place.

Suggestions and Recommendations

It is evident from the lack of literature surrounding ecoliteracy and sustainability integrated into special education classrooms that teacher educators and other educational professionals must: (1) incorporate teaching for sustainability and ecoliteracy throughout teacher preparation courses through a systems framework; (2) build upon their own ecoliteracy and cultural competence; (3) implement sustainability and ecoliteracy education at all levels of special education, regardless of students' skills and abilities, while respecting diverse cultures; (4) model sustainable practices in all schools, public and non-public; and (5) teach for cultural competence and monitor that growth.

Although more literature concerning sustainability and ecoliteracy within general education is available, these recommendations apply to both general and special education programs. In addition, further research is warranted to seek out sustainability and ecoliteracy education that is occurring in special education classrooms around the world. An absence of research does not necessarily equate a dearth of sustainable practices in special education altogether. It signifies a lack of record. Herein lies the obligation researchers have to delve deeper into the special education realm and discover what educators are doing to broaden sustainability and ecoliteracy education in their classrooms and learning institutions.

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