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2019

Cultivating Human Rights and Protecting Human Dignity by Nurturing Altruism and a Life of Service: Integrating U.N. Sustainable Development Goals into School Curricula

Decades of research and diplomacy designed to promote human rights, respect human dignity, and protect the environment have culminated in two monumental international accords—the 2030 Sustainable Development Agenda and the Paris Agreement for Climate Change. These documents establish a common framework for action that expresses concern for human rights and human dignity by involving the vast majority of countries and peoples in a common vision for social, economic and environmental development. Within this framework can be perceived the early signs of the emergence of a global moral identity[1] which represents the collective will of humanity to uphold respect for the natural world and the equality and dignity of all people.

However, if these sustainable development agreements are to achieve full fruition what will be required is a global approach to education from early childhood onwards which develops in young people the moral identity that will empower them to contribute to the framework for sustainable development in villages, neighborhoods, and cities around the globe. The mission of schooling itself will need to evolve so that the process of learning can provide regular opportunities for young people to contribute directly to advancement of human rights and protection of the environment in their own communities. Here we explore an educational framework focused on moral development for sustainability. We begin with a brief review of the context of sustainable development and the recent global agreements that seek to mobilize world endeavor around the peace and prosperity of both people and the planet.

We propose that the movement for sustainable development, and the principles it embodies, can only be realized universally if educators at all levels focus intentionally on every child shifting to a consciousness of cooperation and collaboration worldwide. Such a shift, which, as we envision it, would be reflected in a shift away from the competitive struggle for existence and toward a spirit of compassion and altruism that is global in its reach, will require the development of a much more mature form of moral agency than is currently achieved during schooling today. Indeed, we suggest that the cultivation of moral agency among children be measured as an essential feedback mechanism for curriculum reform. Absent the focus on moral development, which elevates consciousness beyond selfishness, dishonesty, and expediency motivation, the clash between competing interests, identities and ideologies within and among

[1] Peterson & Seligman (2004) note that *moral identity formation* requires internalizing a moral standard either as an act of will or an act of insight, which then reinforces our "focus and practice" around that standard. This is a "deep identify" which motivates the self towards fairness and caring behavior and is not simply a "claim" to such principles and behaviors [See: Peterson & Seligman (2004) Character Strengths and Virtues. New York, NY: Oxford, p. 402)].

cultures and countries will continue to retard achievement of sustainable development outcomes and arrest achievement of the values that are embodied in the effort to protect human rights. In short, if succeeding generations are not focused on altruistic service to humanity as a whole, we will continue to entangle ourselves in environment destroying competition for material resources and society destroying conflicts that embody gross violations of human rights. Our educational systems need urgently to inculcate both the desire and the capacity to mobilize the talents and capacities of the young toward promoting the collective prosperity of all humankind.

At present, educational reform plans rarely focus on children's moral development. Yet, a peaceful future depends upon the full character and intellectual development of each generation. Similarly, technology only becomes "good" to the extent that it is used in pursuit of morally desirable ends. Only by teaching children how to live an *altruistic life of service* can the world's educational systems serve as the moral bridge between a potentially sustainable and ethical society, on the one hand, and the children and youth who are needed to create such a society on the other.

What follows is a framework for shaping childhood and youth education around three interrelated processes: 1) processes designed to promote young people's capacity for moral engagement and other-oriented altruism; 2) school centered processes that empower children and youth to serve their communities in ways that advance U.N. sustainable development goals; and 3) academic and technical preparation of young people designed to assist them to contribute to processes of civilization building. In summary, then, the educational system envisioned here seeks to empower young people to devote their talents to advancing the millennial goals while also helping to create more peaceful and prosperous communities. Achieving this three-fold educational purpose will, we believe, contribute significantly to freeing humanity from the struggle for basic survival.

In the sections that follow we review the global agreements that bind humanity into a common framework for sustainable development and human rights. We then relate this set of agreements to the emergence of a world embracing sense of moral identity. We then briefly contextualize altruistic development historically and presently and describe the role of education in developing an altruistic life of service that begins with teaching children about their *service related purpose* and extends to using the UN Global Goals in the construction and delivery of curricula. We end with examples and recommendations for research and practice.

Global Agreements

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In September, 2015, the United Nations General Assembly affirmed:

> We are announcing today 17 Sustainable Development Goals with 169 associated targets which are integrated and indivisible. Never before have world leaders pledged common action and endeavour across such a broad and universal policy agenda. We are setting out together on the path towards sustainable development, devoting ourselves collectively to the pursuit of global development and of

> "win-win" cooperation which can bring huge gains to all countries and all parts of the world.[2]

This global development agenda was adopted by all U.N. member states and is part of a larger process of global development that is guided in sequential 15-year plans. The previous plan from 2000 – 2015 was organized to meet the Millennium Development Goals, while the current plan is more inclusive and broad, as evidenced by the 17 goals, 169 tasks and 304 indicators for compliance which inform thinking, policy, and accountability from 2015 – 2030. All people are meant to be included, in all locales from areas that are both urban and rural.

Following swiftly after the adoption of the Global Goals came the news of a global climate change agreement reached on December 12, 2015, which was designed to address the problem of global warming. The agreement went into effect on November 4, 2016, after sufficient country ratification. The breakthrough came after the convergence of several propitious conditions: a continuous message of optimism, recent technological advancements which rendered sustainable energy cheaper than fossil fuels for electric generation, provisions that allowed countries to submit personalized energy plans rather than hold each country to pre-determined goals, and, among other components, the creation of a global Fund to help propel energy transformation in developing countries.[3]

> The Paris Agreement…for the first time brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so.[4]

Emergence of a Global Moral Identity

Implicit in this human and ecological development agenda is the recognition that all people are inherently valuable and deserve to live in dignity and that all of life depends on a healthy environment. Human and ecological rights, and the principles they embody, are thus enshrined in the conception of the sustainable development agenda. Without the active presence of these values and principles, sustainable development for "people, planet, prosperity, peace and partnership" could not be consistently pursued. Thus a moral framework which has been steadily articulated over previous decades in such instruments as the Universal Declaration of Human Rights, the U.N. Charter, the Convention on the Rights of the Child and many other Conventions guides this universal policy agenda.

Most particularly, the Earth Charter, which was launched in 2000, serves as a universally acceptable ethical framework to guide sustainable development:

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[2] 2030 Sustainable Development Agenda. Retrieved from https://sustainabledevelopment.un.org/post2015/transformingourworld

[3] Christiana Figueres led the U.N.'s multi-year agreement process and describes these ingredients in her "inside story" TED Talk. Retrieved from https://www.youtube.com/watch?v=MIA_1xQc7x8

[4] United Nations Framework Convention on Climate Change, the Paris Agreement. Online: http://unfccc.int/essential_background/convention/items/6036.php

> *The Earth Charter is centrally concerned with the transition to sustainable ways of living and sustainable human development. Ecological integrity is one major theme. However, the Earth Charter recognizes that the goals of ecological protection, the eradication of poverty, equitable economic development, respect for human rights, democracy, and peace are interdependent and indivisible. It provides, therefore, a new, inclusive, integrated ethical framework to guide the transition to a sustainable future*.[5]

Upon this foundation of widely disseminated and accepted ethical principles (e.g. sanctity of knowledge; the imperative need for justice and equality of women and men; the right to universal education; freedom of conscience; the oneness of the human family; and the importance of the pursuit of peace[6]), the development agenda is organized around putting these ethical principles into action.

The application of this moral framework has become increasingly tangible as global development plans are established, renewed and expanded, such as occurred with the launching of Agenda 21[7] in 1992, the Millennium Development Goals framework for 2000 – 2015 and Agenda 2030 for 2015 – 2030. By pursuing the Millennium Development Goals, significant progress in reducing global poverty rates, increasing global vaccinations, expanding access to universal education, empowering women and girls, developing renewable technologies, and other progress was made between 2000 – 2015.[8] Although the Millennium Development Goals remained mostly focused on developing countries, the expanded development agenda for 2015 - 2030 is now inclusive of nations that are both rich and poor. Taken together, we can clearly observe a comprehensive and systematic plan for advancing human welfare beginning to embrace the whole planet.

Achieving sustainable development for all requires that each succeeding generation be educated in the underlying moral framework that is at the heart of the process. Having adopted the values that animate this moral framework, they must also become academically and technically prepared to do the work that would bring these values into the formation of sustainable economies that promote the prosperity of all humankind, rather than a privileged

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[5] From "What is the Earth Charter?" at http://earthcharter.org/discover/what-is-the-earth-charter/

[6] There are numerous statements of moral principle binding humanity into a framework for cooperation. These principles are codified in related Conventions ratified by member states. Other examples include protection of the environment; protection of children from harm; preservation of indigenous peoples; responsibility to protect through collective security, and so on.

[7] In 1992, the UN Conference on Environment and Development (the Earth Summit) produced a 40 chapter action plan for sustainable development called Agenda 21, for the 21st Century. The plan was reaffirmed in 2002 at the World Summit on Sustainable Development. See: https://sustainabledevelopment.un.org/outcomedocuments/agenda21

[8] See the Millennium Development Goals Report, 2015: https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf

few.[9] In the sections that follow, we articulate the questions and terms that are central to the development of the educational framework being articulated here.

Guiding Questions

Two questions are at the heart of the effort to achieve widespread, sustainable development:

1. How do we raise and educate each generation to meet the moral challenges framed by the United Nations Global Goals, knowing that trends point to a climax of economic, environmental and social problems in the coming decades?
2. How can we use school curricula to inspire young people to work, altruistically, in the interest of the sustainable development goals over significant periods of time?

Terms

Altruism. Altruism is characterized by the tendency to act in the service of others without a hidden motivation to benefit oneself. It thus implies selfless service, that is animated by the spirit of kindness and benevolence. Altruism is the highest form of social competence as it promotes the common good.

Life of Service. A life of service is manifested in a coherent and balanced approach to serving the well-being of people and the planet, and it is embodied in everyday efforts that transcend part-time civic engagement. Indeed, "solidarity" with others is implied, and not just "service to" them. Such a life requires a balanced approach to sustaining one's own emotional, psychological and physical health while promoting the health of others. It requires that all concerned strive to align personal goals with ethical principles. The allures of wealth, fame and power as motivating purposes for action are avoided and in exchange one is encouraged to pursue the highest forms of self-actualization and moral authenticity.

Global Citizenship Education. Global citizenship education, as defined by UNESCO as "nurturing respect for all, building a sense of belonging to a common humanity and helping learners become responsible and active global citizens,"[10] is integrated into every aspect of the educational enterprise.

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[9] In Bangladesh, the Grameen Bank and its related projects revolve around a conception of economics and capitalism for the social good. Muhammad Yunus, Nobel Peace Prize Laurette, founder of the Grameen Bank and the micro-credit revolution, describes how *social business* transforms capitalism (Yunus, 2007). For example, the Grameen-Danon company provides nutrient-rich yogurt to children and Grameen Shakti has installed 1.5 million solar power systems providing electricity to homes for the first time. Online: http://www.greeneconomycoalition.org/glimpses/grameen-shakti-bangladesh

[10] United Nations Educational, Scientific and Cultural Organization, Global Citizenship Education. Online: http://en.unesco.org/gced

Global Moral Identity. Invites adherence to the totality of virtues and principles across all international charters, conventions and agreements promoting international peace, human and ecological rights and sustainable development. Living an altruistic life of service is viewed as closely related to constructing a strong global moral identity.

Sustainable Development Goals. Seventeen goals, 169 tasks and 304 indicators for compliance to inform thinking, policy and accountability from 2015 – 2030. They address the following objectives:

- End poverty, reduce inequality, provide decent work for all
- Food security, nutrition, sustainable agriculture
- Health & well-being
- Education (inclusive, equitable)
- Gender equality and empowerment of women and girls
- Sustainable energy
- Resilient infrastructure, sustainable industrialization and innovation
- Inclusive, safe housing and cities
- Sustainable consumption
- Combatting climate change, conserving oceans and ecosystems
- Peaceful societies through access to justice and accountable institutions
- Global partnerships to meet these objectives

Altruistic Development: Context and Need

As young children express empathy in compassionate behaviors, the altruistic capabilities and inclinations of the human spirit develop.[11] Altruism implies the ability to serve the needs of others, rather than pursuing what we might want to do for them.[12] As noted earlier, altruism has been described as the "highest form of social competence" and is central to resilience.[13] Lacking an altruistic motivation, human beings struggle in competitive, winner-takes-all relationships that produce and reinforce inequality, conflict, and environmental destruction. In its most extreme forms, "lack of empathy is seen in criminal psychopaths, rapists, and child molesters."[14]

The human capacity for love and creative altruism can be developed when caregivers focus on the cultivation of children's innate capacity for moral development by developing loving and secure relationships with them, guiding them in the development of moral reasoning, and encouraging them to recognize the influence of conscience which counteracts tendencies toward selfish, hurtful, and divisive attitudes and behaviors.

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[11] "Empathy is the ability to understand another person's feelings by experiencing the same emotion oneself. Empathic behavior is demonstrated through caring, compassion, and altruism (Epstein, 2009, p. 35)."
[12] Vaillant, G. (2002). Aging well: surprising guideposts to a happier life from the landmark Harvard study of adult development. Boston: Little Brown.
[13] Benard, B. (2004). Resiliency: What we have learned. San Francisco, CA: WestEd, p.16.
[14] Goleman, D. (1995). Emotional Intelligence: Why It Can Matter More Than IQ. New York, NY: Bantam, p. 97.

The 20th Century witnessed the most horrific acts of genocide and bloodshed in human history. Preventing a repeat of these horrors requires that we help people develop and heal from hatred and trauma. The key value which is at the heart of the promise of peaceful coexistence, regardless of cultural heritage, is altruistic or creative love.[15] Transforming aggression or selfishness into loving and self-sacrificing behavior is possible; building humanity's capacity for good, rather than only preventing or coping with the bad can be consciously pursued. Indeed, since the 1990's this "strength-based" thinking has been applied in community and youth development work around the world.[16] It is also supported, most notably, by research in "positive psychology" which seeks to explore and develop universal "character strengths and virtues" (e.g. love, curiosity, humility, honesty, creativity, spirituality, among others).[17]

Scholarship that explores the development of positive attitudes and behaviors is now interdisciplinary and draws insight from neuroscience, anthropology, philosophy, psychology and related fields in order to understand and extend the reach of humanity's capacity for moral responsiveness.[18] Unfortunately, in the United States, conservative versus liberal ideological warfare has politicized and stunted character education efforts. However, as the scientific evidence related to its impact continues to emerge, we can expect that greater receptivity across the political spectrum can be anticipated.

The institutions historically responsible for moral development have been the major world religions. Families consciously implementing moral principles and virtues were usually informed by a religious tradition. Yet, at the individual and family level, several factors appear to be contributing to a loss of focus on human moral identity: 1) distrust of traditional sources of moral authority, 2) a tenuous and pernicious philosophy of *moral relativism*[19], and 3) overwhelming preoccupation with material development and economic gain, enshrined in ideologies related to consumerism and profit-maximization for shareholders[20]. The responsibility

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[15] Sorokin, P. (1954). The Ways and Power of Love. Boston: Beacon.

[16] Benard, B. (2004). Resiliency: What we have learned. San Francisco, CA: WestEd.

[17] See the handbook and classification, Character Strengths and Virtues, published by the American Psychological Association (Peterson & Seligman, 2004).

[18] Narvaez, D. & Schore, A. (2014). Neurobiology and the Development of Human Morality: Evolution, Culture, and Wisdom. New York, NY: W.W. Norton.

[19] *Moral relativism* states that moral judgements are determined by a particular perspective, whether historical, cultural, individual or otherwise and is "often associated" with "the denial that there are universal moral values." See the IEP. Retrieved from http://www.iep.utm.edu/moral-re/ . Moral relativism, of course, ignores the human capacity to identify, co-construct and/or agree upon a universal set of values and principles which is precisely the process that has been underway for at least 70 years as the *global moral identity,* described in this chapter, has emerged and is catalyzed into global actions through the sustainable development agenda, an agenda which progressively renews universally adopted and shared principles for moral judgement and action as it evolves.

[20] Many states in the U.S. have now passed laws allowing for the legal creation of "benefit corporations" as an alternative to the profit-maximizing corporation. When legally incorporated as a benefit corporation, the officers of the company are not legally limited in their decision-making to profit-maximization for shareholders as the sole purpose of the organization.

to ensure the moral development of each generation has thus not found a universal institutional home through which it can operate.

There are, of course, many volunteer-based organizations involving young people in altruistic acts, such as the Peace Corp in the United States. But unlike the National Institute of Health or the World Trade Organization which execute a health or economic mission, there is no similar Moral Development Organization to guide peoples and succeeding generations to the altruistic orientation to life that is necessary to sustain increasingly complex and interdependent human relationships.[21] In the absence of a responsible global institution created to guide and help execute moral development education worldwide, a tapestry of voices serve at various times to fill the void.[22]

Education for a Life of Service

We place education for sustainable development (ESD) in a wider context of preparing each child to live a coherent life of service. By doing so, we seek to balance the twin needs for altruistic development (inner change) and sustainable development (outer change). We doubt that altruism can fully develop without active engagement of children and youth in projects that serve others and the environment. Combining character strengths associated with altruism, such as compassion and empathy, with skills and knowledge needed for sustainability, can shape the broader framework of education for a life of service.

Indeed, scholars have advocated a paradigm shift in education from "transmissive" to transformative.[23] In 2002, the Ubuntu Declaration on Education called for "mainstreaming of sustainable development into school curricula at every level of education."[24] Toolkits for educators to promote sustainable development began emerging in the early 2000s.[25] From 2005 – 2014 the Decade of Education for Sustainable Development was promoted by the United Nations

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The movement to introduce legislation permitting the creation of benefit corporations began around 2010 in the U.S. and is accelerating.

[21] An international or national Moral Development Organization might be charged with promoting the widespread development of a *global moral identity,* and measuring change in terms of altruistic commitment and action. Such an identity would embrace universal principles and virtues necessary to sustain human-ecological well-being. The totality of international human rights instruments would guide identification and application of the global moral identity.

[22] Sources of moral authority range widely: street protesters, social activists, rare heads of state respected for morality, individual scholars and university institutes investigating moral development and character traits scientifically, traditional religious institutions, and their leaders, humanitarian-oriented organizations and institutions, including the United Nations.

[23] Sterling, S. (2001). Sustainable Education: Re-Visioning Learning and Change. Schumacher Briefings (Book 6).UIT Cambridge Ltd.

[24] Press conference on 'Ubuntu Declaration' on education. World Summit on Sustainable Development. Online: https://www.un.org/events/wssd/presscONF/020901conf1.htm

[25] McKeown, R., Hopkins, C.A., Rizi, R., & Chrystalbridge, M. (2002). Education for Sustainable Development Toolkit. University of Tennessee: Center for Geography and Environmental Education.

in order to advocate the concept.[26] In 2017 the Brookings Institution published a toolkit of practices for measuring global citizenship education, as it relates to the Sustainable Development Goals.[27]

The need to shift education towards student accomplishment in real-world projects that improve the community is central to educational reform.[28] Aligning student projects with the U.N. Global Goals creates a coherent and universal "curriculum" (or framework for action) so that all children can enjoy opportunities to participate in improving their community and world. Such a framework for action allows for infinite local adaptation and lowers the barrier between schooling and the needs of society. Schools themselves become agents for social change. As such, schooling becomes central to the development of both society and each child's *global moral identity*. The stronger a child's moral identity becomes, the more committed she becomes to living an altruistic life of service. This dynamic interplay between the cultivation of moral identity and altruistic action represents the heart of the concept of education for a life of service.

Teaching Children that the Purpose is Service

As noted above, a life of service requires internalization of universal principles and virtues which are applied in altruistic actions. In the context of loving and caring adult-child relationships, we recommend explicitly teaching children that each of us has a core purpose to live a life of service. Developing in children the understanding that service is an overarching life purpose requires concrete exploration of one's capacities in an altruistic context.

In early childhood, children are just learning about the many parts of their body and the various powers and capacities that exist within them. Educators can develop a child's emerging *service purpose* by mapping these principles and virtues onto the body, as "actions" to be taken by each part of the body. As children learn how each part of their body, or self, contributes to a service purpose these connections are integrated by the mind into a more coherent understanding of one's whole self and the service purpose of "life" as a whole. Teachers, therefore, can be taught to "map" for children the connection between body parts, corresponding capacities, and service. The goal is to ensure that children consciously integrate each part of themselves into the core purpose of altruistic service, and that they be given opportunities to practice expressing their multitude of capacities towards altruistic ends. Visual and exploratory activities (lesson plans) for young children can be designed to explicitly teach children about each part of the "whole self" as it relates to living an altruistic life of service. We call these lessons "purpose mapping" and recommend that all early childhood teachers (up to age 8) conduct regular purpose mapping lessons starting with concrete body-to-purpose activities, discussions and reflections. The table below provides a framework for early childhood teachers to begin purpose mapping with the children in their classes. For older grades just transitioning to an altruism-sustainability

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[26] Wals, A.E.J. (2012). Shaping the Education of Tomorrow: 2012 Full-Length Report on the UN Decade of Education for Sustainable Development. UNESCO Education Sector.
[27] Anderson, K., & Bhattacharya, J. (2017). Measuring Global Citizenship Education: A Collection of Practices and Tools. Washington, DC: Brookings.
[28] Prensky, M. (2016). Education to Better Their World: Unleashing the Power of 21st-Century Kids. Cheltenham, VIC: Hawker Brownlow Education, p. 15 & 38.

curriculum, purpose mapping may help "reset" for the learner the focus of schooling itself as practicing to live a life of meaningful contribution.

A Lesson Plan Framework for Purpose Mapping[29]

Body Part	Purpose	Service Connections
Body	Be healthy	Be alert, strong and clean. By extension, care for the environment which is the "outer" body that our physical body depends upon and is a part of.
Hands	To help	To serve, share and give.
Head	To learn	To plan, reflect, consult and understand. To solve a problem, to resolve a conflict.
Heart	To love	To care for, protect, forgive, empathize, befriend, console, encourage, sacrifice, persist, and so on. We relate virtue development to the core human relationship with authentic or unconditional love because children can understand that love expresses itself as all the other virtues, depending on the need. Justice is also taught to children as "in the heart" with a relationship to love. We do not wish to cheat or be dishonest to those we love. Without love, justice cannot be established. But also conversely, it is not fair to cheat one who loves you. Justice requires also loving the one who loves us. It becomes understandable to young children, and everyone, that all "good" comes from the "heart."
Whole self, life.	Service	With the purpose of life being to serve, the purpose of each body part also becomes clear, and service is understood comprehensively as including being healthy, helping, learning and loving.

The rest of the curriculum, and at all ages, must also be grounded in these purposes to ensure that schooling remains meaningful and coherent for each person. An altruistic purpose approach to teaching and learning will help avoid the dichotomies created by single subject-matter study (e.g. high school chemistry or calculous taught without connection to one's purpose to serve through application to solving problems related to the sustainable development goals).

[29] A visual map of a whole child would be placed in front of the classroom with labels for *body, hands, head, heart* and *whole self*. Teachers would then explore the main purpose of each part of the self in ongoing lessons, with activities and child discussion and reflection.

Integrating the UN Global Goals into Curricula

The goal of the educational framework described here is to form in the learner a complete *global moral identity* through study of universal virtues and principles that are codified in human rights instruments and international conventions, as well as study of the agreements themselves, while also beginning to explore their application through the sustainable development agenda. This is to be accomplished in the context of local academic standards. Connection between virtues and principles and the sustainable development goals must be made explicit to increase moral reasoning and prepare children to be active problem-solvers by engaging them in relevant projects. Below, we provide a table of the 17 sustainable development goals matched to actionable curricular examples to help prepare learners to live an altruistic life of service.

Goal*	Theme[30]	Curricular Examples
1	End all poverty	1. Involve students in advocacy campaigns for fair resource allocation. 2. Improve moral reasoning through justice education, beyond history and civics education, to include the concepts of taxation systems and government transparency. 3. Students study "societal protection programs." 4. More sustained introductions to career opportunities and requirements. 5. Introduce and investigate economic policy and consequences beyond introductory "government" lessons. Partner with college students to help facilitate these investigations. 6. Create a student-to-nonprofit partnership to learn about local needs, consequences and solutions related to poverty.
2	Nutritious food	1. Teach nutrition, including vitamin nutrients. 2. Change school lunch menus to healthy foods. 3. Student run fruit and vegetable distribution program. 4. Students participate in school menu and meal preparation.
3	Healthy lives and well-being	1. Students involved in monitoring their own and other's health at the classroom / school level. 2. Older children work as an assistant to the school nurse to establish an individual health monitoring program. 3. Rigorous exercise, sport and outdoor activities.

[30] Goals, targets and indicators can be explored in detail at the UN Sustainable Development Knowledge Platform. Retrieved from https://sustainabledevelopment.un.org/sdgs

		4. Knowledge of body science, strength training, healing and physical therapy 5. Teach relationship between physical and mental health
4	Quality education and lifelong learning	1. Opportunities for technical and project-based learning are regularly available. 2. Curriculum teaches all 17 of the sustainable development goals through projects and investigations. 3. The development of altruism is monitored along with meeting academic standards. 4. Highly qualified teachers maintain high academic standards and differentiate instruction as needed. 5. Holistic education (embracing complete human well-being) is emphasized.
5	Gender equality; empower all women and girls	1. Challenge gender stereotypes emerging in young children (e.g. types of play, color usage, friendship selection) 2. Teach for integrated personality traits (e.g. sensitive men) 3. Introduce practical expressions of gender equality: women's equal access to land and property ownership, financial services, inheritance, positions of leadership and freedom from sexual or gender harassment. 4. Is the culture of the school gender neutral or reflective of dominate social norms? (e.g. schools that are punishment-oriented and tolerate verbal bullying would be reflective of an overly aggressive U.S. culture and therefore not gender balanced)
6	Access to clean water and protection of water	1. Science lessons on water purification. 2. Create water purifiers at increasing levels of complexity depending on student capacity. 3. Investigate local water cleanliness, sources, treatment, distribution.
7	Clean energy for all	1. Explore wind and solar power generation. 2. Build energy generation systems. 3. Study of the local power grid and its inefficiencies. 4. Introduce energy and clean power policy
8	Decent work for all and economic growth	1. Classroom jobs. 2. Team member assignments. Understanding team dynamics and responsibilities, as they relate to social and emotional skill development. The ability to create teams, set common vision, goals, objectives and project management skills are all related.

		3. Students as active agents in classroom rule & procedure formation as introduction to policy-making and preparation for entrepreneurship. 4. See also examples in Goal 1.
9	Industry, innovation and infrastructure	1. Introduce younger children to diverse materials, building usages and types and scale of infrastructure 2. Teach concept of sustainable / responsible business practices (formation of "benefit corporation"). 3. Regularly review new and emerging technologies and innovations.
10	Reduce inequalities	1. Teach the concepts of equality, justice and human rights. 2. Children investigate inequalities related to disability, race, nationality, religion, income, political preference and social status. 3. Investigate trade agreements and duty-free market access. 4. Investigate financial inequalities between and within countries.
11	Safe habitations and cities	1. Positive classroom climate. 2. Beautify and organize the classroom, school and grounds. 3. Friendship-building project with neighboring residents.
12	Sustainable consumption	1. Teach sustainable consumption and economics with a focus on reducing material consumption. 2. Classroom reuse and recycling procedures. 3. Share common materials. 4. Analyze product life cycles including supply chains, disassembly and reuse.
13	Climate change	1. Adjust K – 2 weather explorations from the typical "what is the weather today?" to "how is the weather changing?" 2. Topical investigations: desertification, deforestation, land use, clean power innovation, related investment funds, climate policy and international agreements (COP21)
14 & 15	Marine and terrestrial ecosystems (preserve biodiversity)	1. Maintain a fish tank. 2. Maintain a class or school garden 3. Related investigations: local land use, mapping, local development projects, environmental assessment policies and procedures prior to development, conservation, advocacy for conservation
16	Peaceful societies sustained by justice	1. Introduce methods of active citizenship 2. Introduce procedures and mechanisms that sustain accountable institutions: appeal, public comment and

	and accountable institutions.	documentation, press access, financial transparency, recourse to courts, democratic organizations 3. Introduce rule of law through student-informed classroom rules and procedures; team participation rules, etc. 4. Create student-involved school courts (e.g. conduct committee) to teach wisdom and justice 5. Teach conflict-resolution 6. Focus on student relationship-building 7. Teach character strengths (compassion, honesty, etc.)
17	Partnerships for sustainable development	1. Community and civic engagement. 2. Traditional schools transition to "community-school" model. 3. Students serve as community mentors or ambassadors with related outreach campaigns to neighborhoods and organizations to build partnership skills.

*The 17 sustainable development goals from Agenda 2030 of the United Nations. Associated themes and curricular examples presented.

Education Examples

Immediately following the acceptance of the U.N. Global Goals in 2015, a campaign to raise awareness about them was initiated and remains ongoing. The campaign is called Project Everyone[31]. Likewise, lesson plans to teach children about the SDGs are continuously being written for teachers under the name World's Largest Lesson[32], along with accompanying videos for children[33]. Through this campaign, lessons, videos and resources are emerging steadily to inspire children and youth to innovate for change.

There are many examples of schools organizing aspects of their mission and curricula to teach the values associated with human rights and problem-solving for sustainable development. A catalog of global citizenship education programs, practices and assessment tools has been published in a toolkit by the Center for Universal Education at the Brookings Institution (Brookings Institution, 2017). Examples can also be found through the Global Citizenship Education hub organized under the auspices of UNESCO.[34] We introduce a few salient examples below that represent primary, secondary, and higher education, as well as research centers.

Avonwood Primary, first U.K. Earth Charter school

[31] Project Everyone. Online: www.globalgoals.org
[32] Worlds Largest Lesson. Online: http://worldslargestlesson.globalgoals.org/
[33] The Road to the SDGs: A Discussion with Students. Online: https://www.youtube.com/watch?v=ZZzBbO6Y0uc
[34] United Nations Educational, Scientific and Cultural Organization (UNESCO). Global Citizenship Education. Retrieved from https://unu.edu/about/unu-system

A 2002 U.N. press statement called for sustainable development to be widely adopted in education, with additional advocacy for the Earth Charter[35] as providing "the principles and guidelines that should permeate all education."[36] In 2014, the U.K. opened its first Earth Charter school, the Avonwood Primary School,[37] currently serving approximately 130 children ages 4 – 6. By 2020 the school will serve children up to age 11. Avonwood Primary adopted the Earth Charter as the "moral compass for all that it does" by teaching children the principles it contains. Children learn to "care for all living creatures," go on a "daily journey around the world," to learn about religions and festivals, are rewarded for practicing "acts of peace," and participate in "school council" to learn about decision-making and democracy. [38]

> The children are learning that to make the world a better place it must all start with them. We begin by making them responsible for the tidiness of their own classroom, and then we broaden that to the whole school and eventually get them thinking about what they can do to make things better for their street, their town, their country and even the globe.[39]

Avonwood Primary seeks to "convey the universal principles of the Earth Charter to our children" by following 8 principles related to caring for life and the human family, practicing peace and love, understanding the wisdom of the past and promoting a healthy and harmonious future.[40]

The World Course, interdisciplinary K – 12 Curriculum

Scholar Fernando Reimers of the Harvard Graduate School of Education writes: "…as an institution of the Enlightenment, public education is, at its core, an institution created to advance the cosmopolitan idea of humanity as one and human rights as a shared responsibility."[41] Towards this end, Reimers and colleagues have written a full K – 12 curriculum: "We demonstrate what these principles look like in practice in an integrated, interdisciplinary, problem and project based curriculum aligned with Human Rights, the Sustainable Development Goals and the Global Risk Assessment Framework developed by the World Economic Forum."[42]

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[35] Earth Charter Initiative. Retrieved from http://earthcharter.org/
[36] Press conference on 'Ubuntu Declaration' on education. World Summit on Sustainable Development. Retrieved from https://www.un.org/events/wssd/pressconf/020901conf1.htm
[37] Avonwood Primary School. Retrieved from http://www.avonbournetrust.org/Avonwood-Primary-School
[38] Godfrey-Phaure, D. (2016, July 5). UK's First Earth Charter School. *Earth Charter Initiative*. Retrieved from http://earthcharter.org/news-post/uks-first-earth-charter-school/
[39] Ibid.
[40] Avonwood Primary School, Earth Charter. Retrieved from http://www.avonbournetrust.org/Avonwood-Earth-Charter
[41] Reimers, F., Chopra, V., Chung, C.K., Higdon, J., & O'Donnell, E.B. (2016). Empowering Global Citizens: A World Course. CreateSpace Independent Publishing, p. xxix.
[42] Reimers, F. (2016, July 21). Empowering Global Citizens to Improve the World. *Huff Post Blog*. Retrieved from http://www.huffingtonpost.com/fernando-reimers/empowering-global-citizen_b_11099352.html

The curriculum draws on the Sustainable Development Goals providing "unit-based sample lessons that teachers can customize."[43] The World Course curriculum emphasizes various themes as children grow. For example, by 4th grade children explore the *evolution of civilization*, and then learn about *the power of ordinary citizens to improve society and the world.*

> "Each year ends with a capstone project; students might make a book, create a documentary, or create a social enterprise."[44]

The World Course high school themes emphasize student agency with courses on the environment, society and public health, global conflicts and resolutions, development economics, innovation and globalization. Across the four years of high school, students conduct an independent research project on a challenge of their choice, which includes an "internship with a mentor organization, development and implementation of a plan to address the issue and a senior-year presentation." Peer coaching to help younger students is also included.[45]

The World Course K-12 curriculum has been published as a book: *Empowering Global Citizens: A World Course*, under a Creative Commons license so that educators can customize the lessons and expand the curriculum.[46] The World Course curriculum has been adopted by Avenues: The World School, described as an "innovative elite school" in New York City with global expansion plans.[47] For educators interested in adopting the World Course in their schools, and exploring global citizenship education, a program called the Think Tank on Global Education was created at Harvard in 2011 and convenes annually.[48]

United Nations University: Institute for the Advanced Study of Sustainability

Based in Tokyo, the United Nations University: Institute for the Advanced Study of Sustainability (UNU-IAS) pursues "policy-oriented research and capacity development focused on sustainability and its social, economic and environmental dimensions" in "three thematic areas: sustainable societies, natural capital and biodiversity, and global change and resilience." Students can earn masters and doctoral degrees in sustainability and postdoctoral fellowships. The United Nations University, operating as a research think tank and graduate school, has 13 affiliated institutes in 12 countries exploring subjects related to sustainable development, such as

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[43] Doyle, H. (2017, May 8). A Curriculum for Changing the World: Preparing students for an interconnected, global society – starting in Kindergarten. *Harvard Graduate School of Education Usable Knowledge*. Retrieved from http://www.gse.harvard.edu/news/uk/17/05/curriculum-changing-world

[44] Ibid.

[45] Ibid.

[46] Ibid.

[47] Avenues: The World School. Retrieved from http://www.avenues.org/en/ . A video about the Avenues World Course is available at http://www.avenues.org/en/the-world-course/

[48] Think Tank on Global Education: Empowering Global Citizens. Harvard Graduate School of Education. Retrieved from: http://www.gse.harvard.edu/ppe/program/think-tank-global-education

the UNU Institute for Environment and Human Security (Germany), the UNU Institute on Globalization, Culture and Mobility (Spain), the UNU Institute for Global Health (Malaysia), the UNU Institute for Water, Environment and Health (Canada), among others.[49]

Learning System Tutorial in Latin America - Sistema De Aprendizaje Tutorial (SAT)

We will review the salient features of a case study conducted by the Brookings Institute summarizing the SAT program.[50] SAT provides secondary education to 300,000 rural youth in Columbia, Honduras, Guatemala, Nicaragua, Ecuador and Brazil. SAT education is holistic in nature, emphasizing knowledge integration that embraces economic and community development.[51] The program deployed trained tutors to use a "learning-by-doing" methodology. For example, learning mathematics and science in the context of agricultural innovation with the goal of promoting rural education and community development in marginalized communities. SAT is grounded in Baha'i principles, and, in addition to academic skills, emphasizes civic engagement, social justice, and female empowerment.

While SAT measures literacy and numeracy growth in learners, it also uses qualitative studies to measure women's empowerment and civic responsibility. "A central tenant of SAT is to prepare rural youth to participate effectively in the sustainable development of their communities." Therefore, the eighty textbooks organically created for the program over the past 30 years emphasize capacity development needed for rural life by teaching "mathematics, science, language and communication, technology, and community service" from the standpoint of *capabilities* needed for application, rather than just academic proficiency (e.g. the capability to make thoughtful life decisions, or the capability to use mathematics in managing and expanding an entrepreneurial enterprise such as a chicken farm). Paid tutors are co-learners, working with groups of 15 – 25 students and remaining with the group for 6 years. These groups progress together as a cohort meeting for about 20 hours a week. During this time, students are involved in numerous applied learning projects sustaining rural life (e.g. poultry, fish and agricultural farming, providing childhood education, public health and sanitation campaigns, and creating income-generating initiatives). The program is implemented through a network of partner institutions who all adhere to a common vision.

By seeking to educate a generation of young leaders who are committed to serving their communities, SAT is a powerful example of organizing education for community empowerment that develops in the learner an altruistic life of service and meets challenges of sustainable development.

School Lunch in Japan

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[49] United Nations University: UNU System. Retrieved from https://unu.edu/about/unu-system
[50] Kwauk, C., & Robinson, J.P., & Varma, P. (2016). Getting Millions to Learn: An In-Depth Look at 12 Case Studies. Washington, DC: Brookings Institution.
[51] To read more about the SAT program, see the work of the Foundation for the Application and Teaching of the Sciences. Retrieved from http://www.fundaec.org/en/.

Japanese children are healthy with one of the lowest child obesity rates and longest life expectancies. For forty years, schools across Japan have taken a unique service learning approach to organizing school lunch. Children help prepare and serve the meals to one another, and clean up. Children also learn about nutrition as healthy meals are made from scratch. Food is locally grown, sometimes by the children in a school garden, and each meal is balanced. Nutritionists work with children in the schools.[52] Lunchtime and nutrition is fully integrated into the educational system, teaching cooperation, self-sufficiency and service. The 45-minute lunch period is seen as an educational period like math or science.[53]

Examining Japan's service-learning approach to lunch provides a good illustration of meeting the sustainable development goals (Goal 2, nutritious food; Goal 3, healthy lives and well-being) in the context of altruistic service as the children themselves do the cleaning and serving. This is highly significant because the entire country follows this system, not just a school or two. No other country has yet adopted such a holistic approach to combining nutrition education, character building and serving balanced, healthy meals from locally grown produce. Meals cost just $3.00 per day, with free and reduced prices for low-income families. Other countries could certainly benefit from following such an example.

Center for Compassion and Altruism Research and Education (CCARE), Stanford University School of Medicine

CCARE is conducting neurological and medical research on the effect of practicing compassion and altruism in various contexts.[54] This research explores the transition to service-minded virtues and action as opposed to self-interested determinism. CCARE has piloted Compassion Cultivation Training, an 8 week course "designed to develop the qualities of compassion, empathy, and kindness."[55] In a related study, compassion meditation twice a day was shown to reduce mind wandering and increase pleasant thoughts "associated with increased caring behavior for oneself and others."[56] Another study found that 10 minutes of *loving kindness*

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[52] Harlan, C. (2013, January 26). On Japan's school lunch menu: A healthy meal, made from scratch. The Washington Post. Retrieved from https://www.washingtonpost.com/world/on-japans-school-lunch-menu-a-healthy-meal-made-from-scratch/2013/01/26/5f31d208-63a2-11e2-85f5-a8a9228e55e7_story.html?utm_term=.cd8eae495cf7

[53] CafCu Media (2015, April 19*). School lunch in Japan – its not just about eating* [Video File]. Retrieved from https://www.youtube.com/watch?v=hL5mKE4e4uU

[54] Stanford Medicine, Center for Compassion and Altruism Research and Education. Retrieved from http://ccare.stanford.edu/

[55] About Compassion Cultivation Training. Retrieved from http://ccare.stanford.edu/education/about-compassion-cultivation-training-cct/

[56] Jazaieri, H., Lee, I.A., McGonigal, K., Jinpa, T., Doty, J.R., Gross, J.J., & Goldin, P.R. (2015). A wandering mind is a less caring mind: Daily experience sampling during compassion meditation training. The Journal of Positive Psychology, 11, No. 1.

meditation led to increases in both explicit and implicit levels of well-being and feelings of social connection to others and decreased focus on the self.[57]

As scientific research increasingly reveals how compassion, altruism and related positive psychological traits facilitate biological and psychological health, educators can increasingly invent or adopt related methods (e.g. classroom meditation breaks) into educational programing. Such research is essential to support the wider mission described here: developing an altruistic life of service in the context of meeting the United Nations Sustainable Development Goals.

Recommendations

In summary, we advocate the creation of curricula and experiences from early childhood through the college years that revolve around the cultivation of moral agency for global sustainable development.[58] Such an approach begins with loving relationships and teaching children about their core purpose to love, learn and serve. We have suggested that all people can live an altruistic life of service. As children become adults they should be guided to use their talents and skills in choosing career paths that contribute to human and ecological well-being. Such consciousness, and preparation to meaningfully contribute to society, requires an educational system that has made a significant shift away from placing academics at the center of discourse. Educators must learn how to measure altruistic development across the school years, guard children against the development of egotism and selfishness, and engage them in community-based projects where academic skills are learned in the context of contributing to Sustainable Development Goals. Altruistic education would ensure that academic endeavors are meaningful and relevant to the learner, thereby increasing motivation for schooling. Practices, such as loving-kindness mediation, would regularly refocus the mind on caring feelings and behaviors. As children and youth learn to connect the Sustainable Development Goals with their future career and consumer choices they express an emerging global moral identity.

To achieve this vision, we recommend:

1. Scholarship into the hypothesized interdependent linkages between developing altruism in the individual and promoting and achieving sustainable development across society. An integrated scientific framework capable of carrying on the mission of altruism for sustainable development should gradually emerge. This may be best situated within the interdisciplinary field of human ecology.[59]

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[57] Seppala, E.M., Hutcherson, C.A., Nguyen, D.T.H., Doty, J.R., & Gross, J.J. (2014). Loving-kindness meditation: a tool to improve healthcare provider compassion, resilience, and patient care. Journal of Compassionate Health Care, 1, No. 5.

[58] Examples include the World Course K – 12 curriculum and the Learning System Tutorial (SAT) for rural secondary students, described in the Education Examples section.

[59] The Cornell University College of Human Ecology is a good example of pursuing a multidisciplinary approach to human development aligned with sustainability. Retrieved from https://www.human.cornell.edu/

2. Research into the development and assessment of altruism across all childhood ages.[60]
3. Creation of a project-based learning curriculum which involves children working on all 17 of the U.N. Sustainable Development Goals through 2030. Such projects would emphasize local adaptation and student contribution.
4. The principles and values contained in the Earth Charter and various human rights instruments would be explicitly connected to all sustainable development / global citizenship education curricula. Schools at all levels will increasingly align their mission statements with these principles and values contained in these documents and related global agreements, and transition from traditional educational institutions into agents of social change and centers for community well-being.

Conclusion

A profound change in thinking about education is underway as the imperatives for global sustainable development are increasingly recognized as inseparable from the ethical principles sustaining integration and human rights. The human being embodies altruistic and cooperative capabilities which are collectively sufficient to solve existing and future problems, whether environmental, economic or social. While subject-specific academic training remains essential, this can be accomplished by revitalizing education within a wider framework for human-ecological development.

The educational systems of the future need to be designed from within a human-ecological development framework that conveys universal principles and virtues to all learners while deeply involving children and youth in working towards the sustainable development goals. Such an approach would not only be holistic for the individual, but also holistic for the species, the planet, and an emerging global civilization. In such a context, educators create and sustain deep commitment to learning that is grounded in moral purpose.

Such a vision can begin to be achieved by pursuing the creation of educational systems and curricula that measure altruistic development alongside the implementation of projects for sustainable development. More than academic or technical knowledge, we need each generation to develop a *global moral identity* rooted in the shared principles and virtues contained in the Earth Charter and human rights documents, and exemplified in related global compacts, such as Agenda 2030 and the Paris Agreement.

The 17 Sustainable Development Goals provide an extensive framework of activities, when considering the hundreds of related tasks and indicators, ready-made for exploration by children and youth if educational systems can be so designed. Conceptualizing all schools as agents for social change and community development will inspire experimentation needed to guide each generation to live out its core purpose of altruism for a life of service.

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[60] For an example, see the Center for Compassion and Altruism Research and Education, School of Medicine, Stanford University, investigating the "neuroscience of compassion." http://ccare.stanford.edu/