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Assessing the Efficiency of Sustainability Education Programs in Schools

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Abstract

One of the most important issues in modern society is probably how to protect the Earth's resources while also promoting economic growth and social well-being for the world's growing population. Sustainable development (SD) is a term that has been used to describe this important project. In the last few decades, people all over the world have agreed that international laws are the best way to deal with sustainable development (SD). Education for Sustainable Development (ESD) has been used as a way to solve the problems of sustainability in a planned way. But the current conversation about Education for Sustainable Development (ESD) lacks empirical data. This means that decisions and strategies for implementation are mostly based on policy ideas and the intuition of practitioners. Students who are currently enrolled in government schools are the main focus of this study. A group of 1,000 kids from different schools was chosen because it was easy to do so. Students were given surveys to fill out so that their thoughts could be used to evaluate the effectiveness of sustainability education programs in schools. The poll was given to about 1,000 students as a sample to find out how well Education for Sustainable Development (ESD) works. In line with the ongoing discussion about how Education for Sustainable Development (ESD) should be thought of, this study wants to find out how much teaching methods can be described as holistic and/or pluralistic. Our research shows that implementing ESD can have a big effect on how students turn out, especially in terms of how aware they are of environmental issues. This result comes from a thorough look at descriptive analyses and how structural equation models are used. The results of this study show that Education for Sustainable Development (ESD) is one of the most important ways to deal with Sustainable Development (SD) and help move toward a more sustainable future.

***Keywords*:** Education for Sustainable Development, educational effectiveness, holism, pluralism, sustainability consciousness

1. Introduction

Sustainability Education is often referred to as Education for Sustainable Development (ESD), which has been defined as: "Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. Education for Sustainable Development means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It also requires participatory teaching and learning methods that motivate and empower learners to change their behavior and take action for sustainable development. Education for Sustainable Development consequently promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way. Education for Sustainable Development requires far-reaching changes in the way education is often practiced today." UNESCO, 2014

Since it is up to universities to make people care about the environment, it makes sense that sustainable education should be a big part of university courses (Cortese, 2003). In the area of sustainability education, there needs to be "collaboration across disciplinary and institutional boundaries" (Remington, S.M., & Owens, K.S., 2009). But in higher education, the use of an interdisciplinary method and integrated pedagogy has been slowed down. Because universities are so set in their ways of doing things, it is hard to start truly diverse programs. Even though team teaching and cross-listing are options, it is not clear how course material will be made to suit students with different academic backgrounds and keep the course from becoming too specialized (Warburton, 2003). There is also the question of where a school like this should be set up. This final project could give students the academic background they need to solve cross-disciplinary issues. It could also be used as a foundational piece if the idea that real, contextualized, and often interdisciplinary STEM education early on helps study later on is true. If sustainability goals are added to a number of current courses, Warburton (2003) says there is a chance that interdisciplinary perspectives will get lost in the focus, methods, and areas of knowledge of the departments where the courses are taught.

1.1. Assessing sustainability education

It might be hard to figure out how much of an effect sustainable schooling has. Do we only want students to learn facts and skills, or do we also want them to change how they think and act in ways that are better for the environment? Because environmental education involves many different fields, it is hard to measure how far students have come toward their learning goals, even if those goals are only intermediate ones. Even the most experienced teachers are nervous about judging their students' work in different fields (Boix Mansilla & Duraising,

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2007). In the past few years, there have been some improvements in how we evaluate schooling for sustainability. Remington-Doucette et al. (2013) recently used a scale to test how well students can think about the whole and solve problems. The only thing that was tested was the ability to look at situations from a systems point of view. Remington-Doucette and Musgrove's (2015) study shows that women improved their "sustainability competence" more than men after taking a course on sustainability.

1.2. Significance of the Study

The significance of assessing the effectiveness of sustainability education programs in schools cannot be overstated. In a world grappling with pressing environmental challenges, the role of education in fostering a sustainable future is pivotal. First and foremost, this study holds significance as it directly addresses the critical need to equip the younger generation with the knowledge, skills, and values necessary to address sustainability issues. As global concerns such as climate change, biodiversity loss, and resource depletion intensify, the ability of schools to effectively impart sustainability education becomes increasingly important. Furthermore, understanding the effectiveness of sustainability education programs can inform educational policies and practices. Schools serve as influential institutions that shape students' attitudes and behaviors. If these programs prove successful, they can serve as models for other institutions, contributing to the mainstreaming of sustainability education.

Moreover, the study's findings can guide the allocation of resources, ensuring that educational initiatives receive adequate support and funding. It can help identify areas of improvement, leading to the refinement of curriculum and teaching methods to enhance the impact of sustainability education. Additionally, by assessing the effectiveness of sustainability education programs, this study can contribute to the broader discourse on education for sustainable development. It can shed light on best practices, highlight challenges, and provide insights into the role of schools in fostering a more sustainable and resilient society.

1.3. Objectives of the Study

- To assess the awareness of the importance of implementing Education for Sustainable Development (ESD) in the classroom among educators.
- To examine the existence and extent of a collaborative partnership culture for sustainability within the institute.
- To investigate the specific actions and measures taken by the institute to establish and maintain a sustainable environment.
- To identify and analyze the various programs initiated by the institute that contribute to the promotion and support of sustainability.
- To evaluate the ethical and sustainability aspects of the current policies implemented by the organization

1.4. Research question

- Are you aware of the importance of implementing ESD in the classroom?
- Does your institute have a collaborative partnership culture for sustainability?
- What steps are taken by your institute to create a sustainable environment?
- What programs are conducted by your institute that support sustainability?
- Are the current policies of your organization ethical and sustainable?

2. Literature Review

"Sustainable development" seems to be a common phrase these days. It means giving growth the highest priority in a way that meets the needs of the current generation without making it harder for the next generation to meet its needs. We must all work toward sustainable development because our world is always in danger from natural disasters, changes in climate, fast technology progress, and running out of natural resources. Sustainable growth is based on four main pillars: society (or social), economics, the environment, and culture. Each of the four points brings attention to a different part of sustainable growth. UNESCO says that they are linked and that both are necessary for long-term growth. Sustainable development is a worldwide attempt to make our planet better for the people who will live here after us. Sustainability can help people and groups improve their 'environmental,' 'economic,' and'social performance. In 2017, Chandran wrote about what he had found. Sustainability education is now a normal part of every country's curriculum. In the area of education, sustainability means doing things that are good for the environment, as well as for the economy and society. These are the kinds of things that a healthy company's training programs, studies, and new ideas focus on. It also teaches young people how to make the world a better place and build a bright future for themselves and their communities. In the education business, the most important things are cultural management, teaching and learning, research, student growth, societal sustainability, and environmental protection and sustainability. Education for sustainable development (ESD) is the most important thing that people need to do to solve the world's issues. Changes to 'earth's ecosystems' caused by human actions over time are lasting and threaten human life. UNESCO says that to solve the problem of global warming, we need to pay attention to natural, economic, and social factors. ESD is used by the "2030 education program" to help people and society change. UNESCO says that educational institutions should make and follow policies and procedures that put sustainability at the top of their list of goals for improving education. Mohanty (2018a) and Dash (2018b) looked into the way environmental education is thought of in India. Profit, People, and the Environment are the three main points of this study. The study shows that sustainable education development must be used to make the education system strong and forward-looking. Education for Sustainable Development (ESD) is a hard topic, and Madsen (2013) found that teachers had trouble explaining it to their students without using

hypotheticals. Branden (2012) looked into what makes education and learning work well so that he could come up with basic principles and strategy suggestions. Based on what he learned from the study, he thinks that schools should include "focusing on intrinsic motivation," "instructional improvements," "teamwork," and "focusing on overall social, economic, and environmental factors" in their plans for long-term growth and development. A new report from UNESCO (2018) says that "Education for Sustainable Development" (ESD) should be used in every country around the world to improve education while also helping the environment and the economy grow. Teachers should use methods like "Innovative Pedagogy" and "Learning by Doing." Lotz-Sisitka, H. et al. (2015), who looked at "transgressive social learning" in the midst of "systemic global dysfunction," say that educational institutions should use new pedagogical methods based on ESD strategies to help their students and staff learn how to work together. Kelley, C., and Dikkers, S., looked into "feedback for school improvement around distributed leadership" in 2016, and they pointed out that the education system as a whole needs to change in order to strengthen its most important part. This forward-thinking attitude will help students, teachers, and the school as a whole.

2.1. Sustainability in the curriculum

Plymouth University thinks that any program about sustainability or sustainable development doesn't have to cover a single body of information. In its place, we follow Tilbury and Wortman (2004) by pointing to illustrative curriculum themes that may or may not be applicable across fields and that could be used and changed as "entry points" to teach more about sustainability.

Table 1

Environmental sustainability	Economic sustainability	Social sustainability
Natural resources management	Alternative futures	Sustainable communities
Food and farming	Leadership and change	Cultural diversity
Ecological systems	Learning organizations	Intercultural understanding
Waste / water / energy	Corporate Social Responsibility	Sustainability in the Built Environment
Biodiversity	Consumerism and trade	Travel, transport and mobility
Climate change	Globalization of economy	Health and wellbeing
	Accountability and ethics	Peace, security and conflict
	International development	Citizenship, government, democracy
	Sustainable and ethical tourism	Human rights and needs
	Population	

2.2. Pedagogical approaches in ESD

Even though there isn't one "right" way to teach about sustainability, most people agree that lectures need to be replaced with more interactive, collaborative, and hands-on activities if students are to get the knowledge and skills they need to make a difference. We've picked out five educational topics that can be taught in many different ways. Teachers at Plymouth could use any of these methods to teach these topics.

2.2.1. Critical reflection

This includes the traditional lecture as well as newer ideas like writing reflections, keeping learning diaries, and having classroom arguments.

2.2.2. Systemic thinking and analysis

using things like important events and real-world case studies as teaching tools, as well as project-based learning, stimulating activities, and the school itself.

2.2.3. Participatory learning

With a focus on learning together or in groups, better communication, hands-on experience, research that leads to action, and case studies that involve companies and organizations in the neighborhood.

2.2.4. Thinking creatively for future scenarios

Using methods like problem-based learning, role playing, thinking about the future, and letting things happen on their own.

2.2.5. Collaborative learning

such as lectures from outside experts, internships, cross-departmental projects, and group study and research.

2.3. Teachers' Knowledge, Values, and Skills in Support of Sustainable Development

SD and ESD have been talked about a lot in many places around the world. In 2015, the United Nations General Assembly set 17 Sustainable Development Goals (SDGs) to help people make good use of chances now and in the future (OECD, 2017). All 17 SDGs recognize the importance of education in bridging the gap between environmental protection and responsible progress, but SDG 4.7 tries to "ensure that all learners acquire the knowledge and skills needed to promote sustainable development" (Leicht et al., 2018, p. 25). ESD tries to link education with SD to show how the natural, social, and economic parts of sustainable development are all linked (OECD, 2008). Education is a key part of meeting the SDGs, which has implications for how teachers are trained.

The kids with whom teachers work are the future voters, leaders, and decision-makers. Since teachers and those who train teachers have such a big impact on how well their students will be able to solve problems and make decisions in the future, it is important to work on improving their SD and ESD awareness, knowledge, understanding, values, and skills.

3. Methodology

There are three types of research: descriptive, historical, and experimental. This study under reference is descriptive research and survey in nature "assessing the effectiveness of sustainability education programs in schools". The target population of this study is the students enrolled Govt schools. 1000 students from schools were taken as a convenient sample. Students were provided with questionnaires for responding about assessing the effectiveness of sustainability education programs in schools. About a thousand students were selected as the target population for the survey. The sample size was determined using the following parameters: 95% confidence, 50% expected proportion, and 2% error. A total of 572 high school pupils responded, for an impressively high response rate of around 80%. 304 (53.1%) were female, while 268 (46.7%) were male. They were between the ages of 15 and 18, with 55.2% being 17 and 31.5% being 16. There were a total of 30 questions in the poll, divided into three sections. In the first section, participants were asked to describe their current understanding of sustainable development and the ideas they most closely associated with it. The second section focused on the mindset they recommend adopting to make the world a better place for future generations. The third section revealed their true habits when confronted with environmental concerns. Each item used a five-point Likert scale, from "strongly disagree" (respondents strongly disagreed) to "totally agree" (respondents strongly agreed).

4. Data Analysis

Table 2: Demographic variables

	Frequency	Percentage
Boys	500	50%
Girls	500	50%
Elementary	500	50%
High School	500	50%

Table 2 illustrates the demographic composition of a sample or population, presenting data on gender and education levels. It reveals an equal distribution between boys and girls, with each group comprising 50% of the total. Moreover, when examining education levels, an equal distribution is again evident, with 50% of individuals having completed elementary education and the remaining 50% having attained a high school education. These findings highlight a balanced representation of both gender and education levels within the studied group, indicating a well-diversified sample or population in terms of these demographic variables.

Table 3: Mean and standard deviation (SD) of items on knowledge of sustainable development

	Total		Man		Woman		t-Student	Effect
	Mean	SD	Mean	SD	Mean	SD	*p*-Value	Size
K1	3.96	1.04	3.87	1.12	4.04	0.96	0.046	0.06
K2	4.55	0.80	4.52	0.85	4.57	0.77	0.459	-
K3	3.94	1.05	3.90	1.11	3.98	1.00	0.382	-
K4	4.08	1.02	3.98	1.06	4.17	0.97	0.023	0.07
K5	3.64	1.25	3.50	1.22	3.77	1.27	0.010	0.07
K6	3.87	1.16	3.73	1.19	3.99	1.12	0.007	0.08
K7	3.68	1.04	3.63	0.95	3.73	1.11	0.235	-
K8	3.59	1.18	3.49	1.20	3.68	1.15	0.044	0.06
K9	3.94	1.05	4.01	0.99	3.88	1.10	0.131	-
K10	3.99	1.07	3.99	1.08	3.98	1.06	0.891	-
K11	3.90	0.98	4.00	0.94	3.80	1.02	0.017	0.07

Students know that the world is getting less sustainable and that something needs to be done about it, but they think that sustainability is mostly about the environment.

But when we asked them what people should think and do to make the world more sustainable, a lot of them weren't happy with the answers we got. For example, many people gave us low scores when we asked if the government should base all of its decisions on sustainable development (A5) or if government economic policies should improve sustainable production (A1), even if that means spending more money. People agreed with the second statement

37% of the time, but only 27% of the time with the first. This shows that economics students, even though they are aware of a global problem, think that choices shouldn't be made based on how they might affect the environment and whether or not they are sustainable.

Table 4: Mean and standard deviation (SD) of the items on behavior by gender.

	Total		Man		Woman		t-Student	Effect
	Mean	SD	Mean	SD	Mean	SD	*p*-Value	Size
B1	3.31	1.00	3.29	0.96	3.32	1.03	0.709	-
B2	3.55	1.02	3.46	0.95	3.63	1.07	0.047	0.06
B3	3.62	1.10	3.57	1.08	3.66	1.11	0.329	-
B4	3.24	0.93	3.25	0.89	3.24	0.96	0.971	-
B5	3.69	0.80	3.61	0.75	3.75	0.83	0.039	0.06
B6	4.13	0.89	3.93	0.87	4.30	0.88	0.000	0.15
B7	4.43	0.89	4.25	0.89	4.60	0.86	0.000	0.14
B8	4.49	0.87	4.29	0.91	4.66	0.80	0.000	0.14
B9	4.07	0.66	4.12	0.68	4.02	0.64	0.073	0.02
B10	2.80	1.31	2.91	1.18	2.71	1.41	0.069	0.06

All of the means for the factors in this group (B6, B7, B8, and B9) were more than 4. "I encourage people to buy things that aren't made by children or cheap labor" (B10) had a very low mean, which suggests that this idea didn't connect with the respondents. If we look at the data by gender, we see that women once again have a higher mean, with a significance level of 95% or higher for items B2, B5, B6, and B7, and 90% or higher for items B8 and C. factors B6, B7, and B8 all talked about different parts of respecting other people, and eta square showed that all of these factors had big effects. But the sex factor didn't have much of an effect on variable B9, which had a smaller significance statistic than the others.

4.1. Exploratory Factor Analysis

Factorial analysis was performed on the data for each of the blocks in an effort to reduce the large amount of data into a manageable collection of variables that might be used to explain the phenomenon under study. The global indicator was also calculated using the variation explained by these components, providing further insight into their relative importance within the set of variables.

After applying a varimax rotation to the questions about the students' prior knowledge of SD, a new three-factor structure was created; this structure explained 62.7% of the variance and had a KMO coeficient of 0.831, indicating that the analysis had been performed correctly.

Table 5: Factorial analysis of knowledge items on sustainable development.

Dimension	Variables	F1	F2	F3
Environmental	K3	0.813		
	K1	0.779		
	K4	0.750		
	K2	0.688		
Social	K5		0.855	
	K6		0.751	
	K8		0.731	
	K7		0.616	
Economic	K11			0.873
	K10			0.751
	K9			0.617
	Weight (w_i)	22.71%	22.40%	17.56%

The first factor, which had to do with the environmental side of sustainability, linked the following statements: "Reducing water consumption is necessary for SD" (K1), "Conserving nature is necessary for SD" (K2), "SD requires that we humans reduce all types of waste" (K3), and "SD requires a change toward renewable natural resources" (K4). As a four-point scale (KF1), it was very accurate (0.792), and it explained 22.71% of the difference in the knowledge block. The second factor was shown by the statements "Promoting equality between men and women is fundamental to SD" (K5), "Respect for human rights is necessary for SD" (K6), "Improving people's chances of living a long and healthy life contributes to SD" (K7), and "Respect for other cultures is necessary for SD" (K8). All of these claims are about how sustainability affects people. KF2, which had a score of 0.772 and described 22.4% of the total variation, was the most reliable subscale.

The third element was made by putting together the variables "SD requires companies to act responsibly toward their employees, customers, and suppliers" (K10), "SD requires the end of global poverty" (K11), and "To achieve SD, everyone needs access to a good education" (K9). The part of sustainability that has to do with money has its own subscale (KF3). It was pretty accurate (0.723) and could explain 17.56 percent of the differences that were recorded.

A factorial analysis of the questions that showed how students think the world should be run to make it more sustainable led to two factors with a high KMO of 0.921.

Table 6: Factorial analysis of attitude items towards sustainable development

Dimension	Variables	F1	F2
Social Economic	A5	0.797	
	A10	0.777	
	A2	0.761	
	A7	0.721	
	A4	0.688	
	A1	0.686	
	A6	0.662	
	A8	0.638	
Environmental	A3		0.826
	A11 A9		0.825
			0.677
	Weight (w_i)	39.63%	21.26%

The first factor included the eight variables related to the social and economic dimensions of sustainability, corresponding to the items from A1 to A8 (Table 2). This factor had, as a subscale of eight variables (A_{F1}), a very good reliability of 0.9, and explained 39.63% of the variance.

The second factor obtained in the factor analysis included three variables all related to the environmental dimension of sustainability. These were: "I believe we need stricter laws and regulations to protect the environment " (A4), "I believe that those of us living now must ensure that people in the future enjoy the same quality of life as we do today" (A10), and "I believe that it is important to take action against the problems associated with climate change" (A11). The reliability of the scale created, A_{F2}, was acceptable, 0.762, and explained 21.26% of the variance.

The particular behavior of students towards sustainability was the basis of the third block of our survey. Through factor analysis, we extracted three differentiated factors (Table8) that told us about the three dimensions of sustainability. The variance explained, in this case, was 66.27 % with a KMO index of 0.83.

Table 7: Factorial analysis of behavior items on sustainable development

Dimension	Variables	F1	F2	F3
Environmental	B3	0.858		
	B4	0.832		
	B1	0.822		
	B2	0.804		
Social	B7		0.856	
	B8		0.818	
	B6		0.798	
	B5		0.666	
Economic	B9			0.791
	B10			0.650
	Weight (w_i)	28.97%	25.87%	11.49%

The first factor, related to the environmental dimension, explained 28.97% of the variability of the variance. It was formed by the variables: "I never waste water" (B1), "I recycle as much as I can" (B2), "I have changed my personal lifestyle to reduce waste" (B3), and "I pick up trash when I see it in the field or in public places" (B4). The reliability achieved with this subscale, B_{F1}, was good at 0.8.

The social dimension appeared in the second factor. It was made up of the variables: "I do things that help the neediest people" (B5), "When I chat, send text messages, etc., I always treat others with the same respect as when I do it in person" (B6), "I treat everyone with the same respect, even if they have a different cultural background from mine" (B7), "I show the same respect to men and women, boys and girls" (B8). The reliability of this three-question subscale, B_{F2}, was 0.772 and the variance explained by the factor was 25.87%.

In the last factor, the variables related to the economic sphere appeared: "I encourage the purchase of fair trade products" (B9) and "I encourage the consumption of products that are not made by children, cheap labour" (B10).

The variance explained by this component was 11.44% and the reliability of the subscale, B_{F3}, was 0.72.

5. Discussions and Conclusions

Many people today are aware of environmental problems like climate change and the deterioration of the environment, but they may not know how bad things really are. These problems need to be fixed, and steps should be taken to support sustainable growth. So, the value of education and what it teaches is very important.Students in high school economics classes were asked what they thought about SD, and their attitudes, beliefs, and behaviors were looked at. Most of the people who answered said that their school's teaching center was the main place where they learned about the problems with sustainability.The younger generation as a whole knew how important it was to protect the environment for the future of the planet, and women gave water conservation and using renewable resources a higher priority than their male peers. Students knew that SD had problems, but they thought it was only a natural issue. Even though the social and economic areas were important for girls and boys, they were not as important as the environment.In discussions about SD, economic success was given more weight than social and environmental results. Most people also thought that SD shouldn't be used to make economic policy or government decisions, and that sustainable output levels shouldn't be the top priority.When asked about how they treated SD, they said that they respected everyone, no matter where they came from or what gender they were. They talked a good game about saving the planet, but their actions, like recycling or picking up trash in public places, didn't always match their words. It was surprising how badly they did on questions about whether or not the things we buy are made by children or people who work for low wages.A factorial analysis of the three different parts of the poll led to the creation of different subscales. This made it possible to figure out the partial indexes of sustainability for the students' information, attitude, and behavior about sustainability. Attitude was not broken up into social and economic subscales, but knowledge and behavior subscales were tied to the three pillars of sustainability (environmental, social, and economic). It was interesting that people had a positive view of SD, which was in line with the finding of having a high level of knowledge about it and a low value in behavior when it came to the economic dimension. From these partial indicators, all of the world indicators for the different things that were looked at were made. One of the best things about the review was how it looked at sustainability. There were clear differences between men and women, and girls always did better than boys. Based on what this study found, it's clear that teachers need to stress how important it is for students to understand sustainability in its widest sense, outside of the environment. It is also important to look at how different economic acts affect the world and to see how economic content relates to sustainable development. It's important for sustainability education to connect with other fields so that students can see how their work in different fields helps make the world more sustainable. It is important to stress how important it is to make economic decisions that are good for the earth. Even though profit and economic success are important, the student must also know that chasing these goals at the expense of society and future generations can have terrible long-term effects. The student is given instructions and asked to do something, but it should be stressed just as much how important it is to make smart, financially smart choices that don't hurt the long-term future. Many students want to work in business, where they will have to make important decisions and judge the effectiveness of possible courses of action. They need to understand that the money they could make from their actions shouldn't be more important than the damage they could do to the environment. To make economics lessons and textbooks more sustainable, they need to be updated. To bring it to the attention of educators, you need to do more than just add some of the related ideas to the curriculum. After learning about economic theory, it's possible that students would put making the most effective choice ahead of worrying about how it might hurt society and the environment. Students sometimes help to SD without realizing it because, to them, sustainability just means taking care of and protecting the environment and wildlife. This is why it is important to teach students more about sustainability. To be successful, environmental education can't just teach about climate change, the ecological crisis, and the fact that there aren't enough resources. Instead, it needs to include active learning and deep, critical inquiry. Again, teachers are very important because how much they care about and use sustainable methods has a direct effect on how much their students learn.The results of this study show that young people have a positive outlook and know a lot about sustainability, but their actions are driven more by worries about their own welfare than by a commitment to SD. For the sake of the future of our world, it is up to educators to shape this trait.

Other groups of kids from the same schools are being looked at right now, but they aren't taking economics classes. This will let us see how different groups of people react to SD and how they think about it. The parents' level of schooling is another thing to think about.

References

Boix Mansilla, V., & Duraising, E. D. (2007). Targeted assessment of students' interdisciplinary work: An empirically grounded framework proposed. *The Journal of Higher Education*, 78, 215–237.

Chandran, N. R., (2017). Sustainability Awareness in Singapore's Higher Education Sector. In Sustainability, Green IT and Education Strategies in the Twenty-first Century, *Springer, Cham,* 283-305.

Cortese, A.D. (2003). The critical role of higher education in creating a sustainable future. *Planning for Higher Education*, 31(3), 15 – 22.

Fisher, P. B., & McAdams, E. (2015). Gaps in sustainability education: The impact of higher education coursework on perceptions of sustainability. *International Journal of Sustainability in Higher Education*, 16, 407–423.

Leicht, A., Combes, B., Byun, W. J., & Agbedahin, A. V. (2018). From Agenda 21 to Target 4.7: The development of education for sustainable development. In A. Leicht, J. Heiss, & W. J. Byun (Eds.), Issues and trends in education for sustainable development (pp. 25-38). UNESCO.

Lotz-Sisitka, H., Wals, A. E., Kronlid, D., & McGarry, D., (2015). Transformative, transgressive social learning: Rethinking higher education pedagogy in times of systemic global dysfunction, *Current Opinion in Environmental Sustainability,* 16, 73-80.

Madsen, K. D. (2013). Unfolding education for sustainable development as didactic thinking and practice, *sustainabilit*y, 5(9), 3771-3782.

McKeown, R. (2006). Education for sustainable development toolkit. United Nations Educational, Scientific, and Cultural Organization, Paris, France.

Mohanty, A., & Dash, D., (2018). Education for sustainable development: A conceptual model of sustainable education for India, *International Journal of development and sustainability*, 7(9), 2242-2255

OECD. (2008). Background and issues paper: OECD workshop on education for sustainable development.

OECD. (2017). The education sustainable development goal. Education at a Glance 2017: OECD Indicators. OECD Publishing.

Remington, S.M. and Owens, K.S. (2009). Researching ocean acidification in general chemistry. Curriculum for the Bioregion Classroom Activities for Sustainability.

Remington-Doucette, S., Hiller Connell, K. Y., Armstrong, C. M., & Musgrove, S. L. (2013). Assessing sustainability education in a transdisciplinary undergraduate course focused on real-world problem solving: A case for disciplinary grounding. *International Journal of Sustainability*

Remington-Doucette, S., & Musgrove, S. L. (2015). Variation in sustainability competency development according to age, gender, and disciplinary affiliation. *International Journal of Sustainability in Higher Education*, 16, 537–575

Tilbury, D., (2004). Rising to the challenge: Education for Sustainability in Australia, Australian *Journal of environmental education,* 20(2) 103-114.

Van den Branden, K., (2012). Sustainable education: basic principles and strategic recommendations, *school effectiveness and improvement*, 23(3), 285-304.

Warburton, K. (2003). Deep learning and education for sustainability. *International Journal of Sustainability in Higher Education*, 4(1),44.