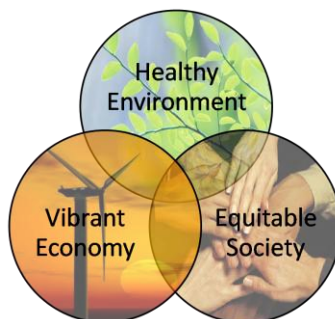




REVIEW DRAFT
**Report on Washington State K-12 Environmental Education and
Education for Sustainability 2008 Teacher Survey**



September, 2008

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Survey Background and Methodology

In 2008, the Office of Superintendent of Public Instruction (OSPI) in partnership with the Environmental Education Association of Washington (EEAW) conducted a survey of Washington State teachers on the use and practices of environmental education (EE) and education for sustainability (EfS) in K-12 schools.

The intent of the survey was to determine EE or EfS approaches and practices being implemented in Washington Schools, resources respondents use, student benefits through EE or EfS, and opportunities for program improvements. The survey also asked about school-wide practices involving campus “green” activities such as recycling and energy use, outdoor education, and environmental field trips. Demographic information from the survey respondents was collected, as well.

The online survey was sent to teachers via a variety of list-serves including EEAW, the Washington Science Teachers Association, and the Washington State Council of Social Studies. A notice was sent to Washington State district offices via the OSPI memos and bulletins email. Survey recipients were encouraged to forward the survey link to Washington State teachers.

The survey was open for approximately two months from April 8, 2008 to May 30, 2008. A total of 1,323 individuals from approximately 530 schools, representing approximately 170 school districts took the survey.

The survey tool was developed by OSPI (Gilda Wheeler, Education of Environment and Sustainability Program Coordinator) and EEAW (Abby Ruskey, Executive Director). Please see Appendix A for a complete text of the survey questions. Colleen Uuereb, MPA Candidate, The Evergreen State College analyzed the survey data.

OSPI and EEAW would to thank the 1,323 teachers who completed this survey. We are very aware of the pressures and demands facing teachers today and are extremely grateful for the time and thoughtfulness these teachers put into their responses.

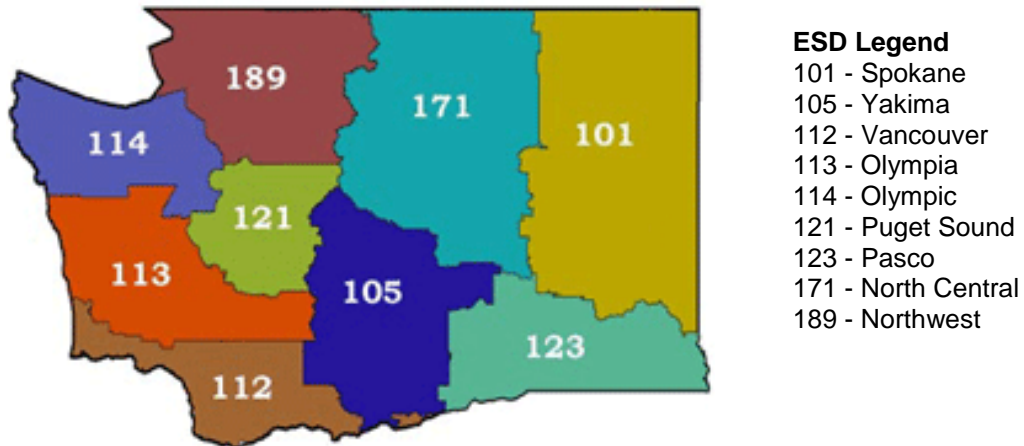
For questions about the survey and results please contact Gilda Wheeler, OSPI Program Coordinator, Education for Environment and Sustainability at gilda.wheeler@k12.wa.us or (360) 725-4976.

Teaching Environmental Education and/or Education for Sustainability

One purpose of the survey was to ascertain if teachers were teaching either Environmental Education (EE) and/or Education for Sustainability (EfS). The survey began by defining EE and EfS and then asked, based on those definitions, if the respondent taught either or both. Response options were “yes,” “no,” or “not sure.” Those responding “yes” to one or both of these questions were then asked a series of questions including where, what, and how they teach EE and/or EfS. Those responding “no” to both questions were directed to questions regarding obstacles to teaching EE and/or EfS and school-wide EE/EfS programs.

Washington State is divided into nine educational service districts (ESDs) which provide support to school districts (see figure 1). All survey respondents were asked to identify in which educational service districts (ESDs) their school is located. In the survey analysis, the data was correlated with this ESD information to determine and compare where EE and EfS is taking place.

Figure 1: Educational Service Districts within Washington State



Findings:

The ESDs with the highest representation were ESD 189 (270 respondents) and ESD 113 (258 respondents) representing 40% of the total respondents. One percent (19 respondents) indicated they were from ESD 123 (see figure 2 and table 1).

Figure 2

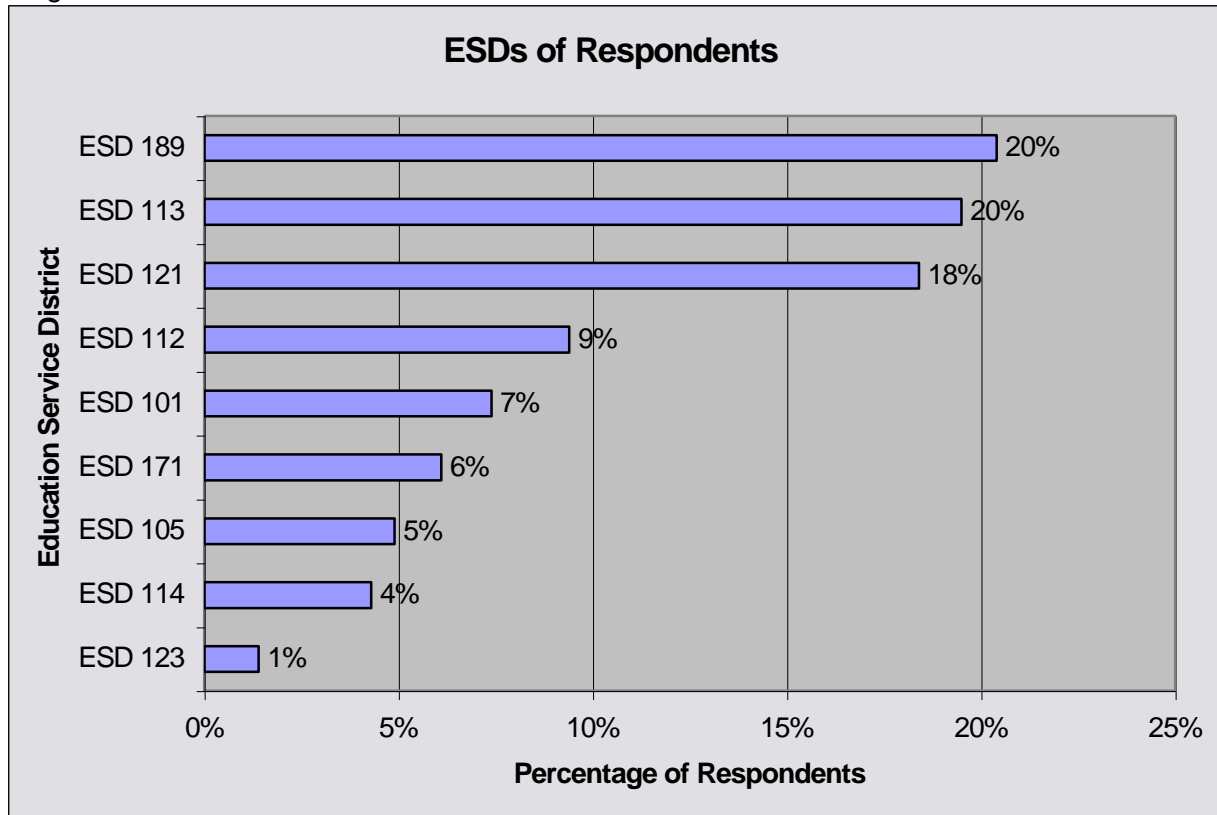
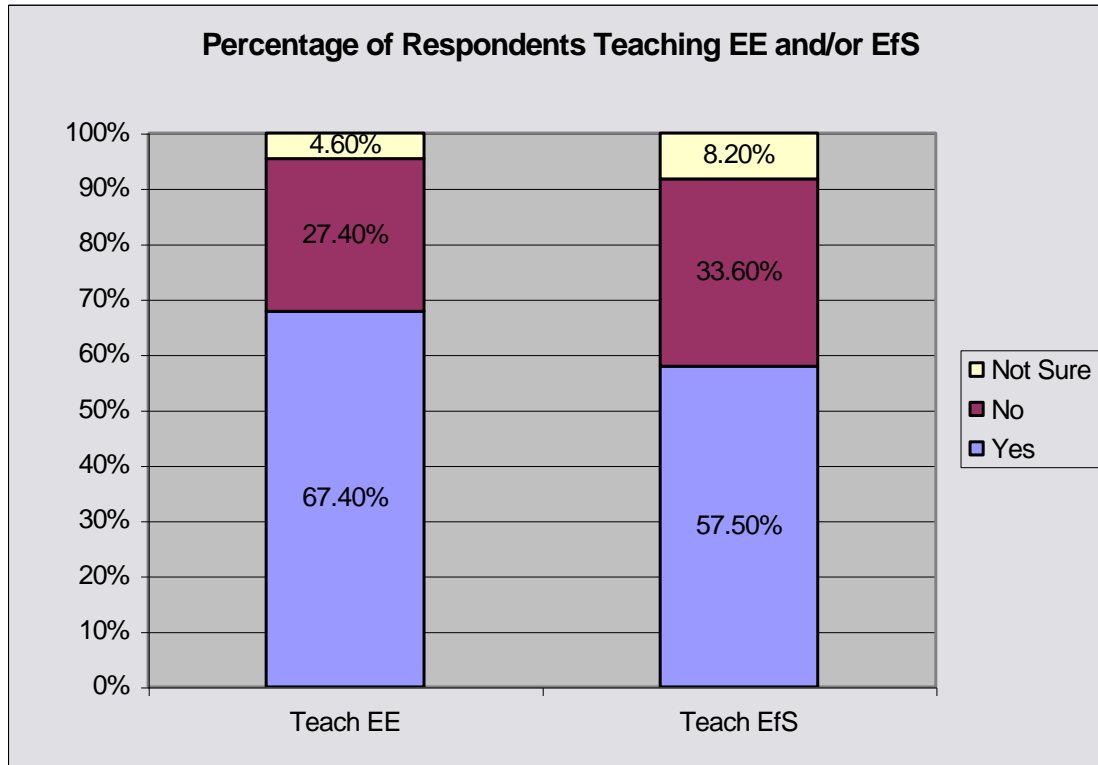


Table 1: Frequency of respondents from ESDs

ESD	Frequency	Percent
ESD 101	98	7.4
ESD 105	65	4.9
ESD 112	124	9.4
ESD 113	258	19.5
ESD 114	57	4.3
ESD 121	243	18.4
ESD 123	19	1.4
ESD 171	81	6.1
ESD 189	270	20.4
Total	1323	100.0

The majority of total respondents indicated they did teach EE and/or EfS, although more respondents indicated they taught EE (at almost 67%) versus EfS (at almost 58%). About 5% and 8% were not sure if they taught EE or EfS (see figure 3).

Figure 3



This data was then cross-referenced with respondents' ESDs to see if any pattern emerged. Of the total respondents, those within ESD 114 had the largest percentage of teachers indicating they taught EE (at 74%) and the respondents from ESD 105 had the lowest percentage of teachers indicating they taught EE (at 54%). The next lowest were respondents from ESD 171 at 62% (see figure 4 and table 2).

Figure 4

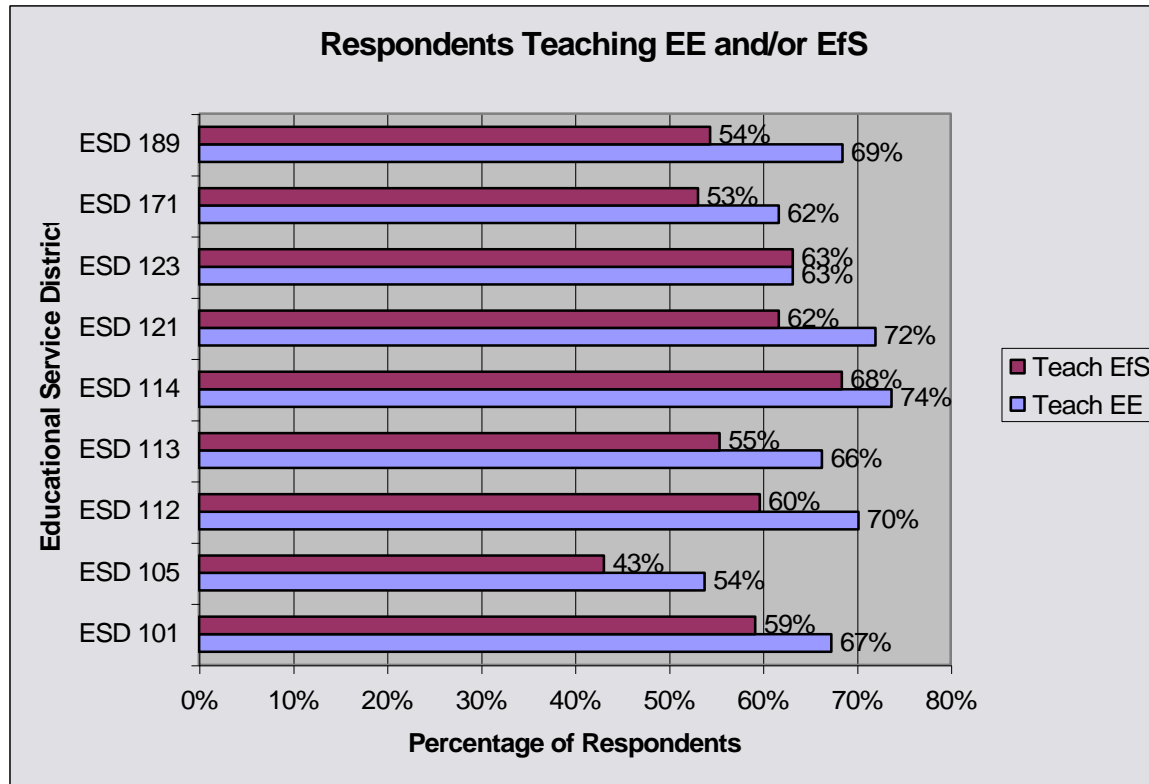


Table 2: Respondents by ESD teaching EE within schools

		Teach EE		
		No	Not Sure	Yes
ESD 101	Count	24	8	66
	% within ESD	24.5%	8.2%	67.3%
ESD 105	Count	26	4	35
	% within ESD	40.0%	6.2%	53.8%
ESD 112	Count	32	5	87
	% within ESD	25.8%	4.0%	70.2%
ESD 113	Count	73	13	171
	% within ESD	28.3%	5.0%	66.3%
ESD 114	Count	11	4	42
	% within ESD	19.3%	7.0%	73.7%
ESD 121	Count	60	8	175
	% within ESD	24.7%	3.3%	72.0%
ESD 123	Count	5	2	12
	% within ESD	26.3%	10.5%	63.2%
ESD 171	Count	27	4	50
	% within ESD	33.3%	4.9%	61.7%
ESD 189	Count	77	8	185
	% within ESD	28.5%	3.0%	68.5%
Total	Count	363	61	892
	% within ESD	27.4%	4.6%	67.4%

Within the total respondents, those within ESD 114 again had the largest percentage of teachers indicating they taught EfS (at 68%) and again, the respondents from ESD 105 had the lowest percentage of respondents (at 43%). The next lowest were respondents from ESD 171 at 53% (see table 3).

Table 3: Respondents by ESD teaching EfS within schools

		Teach EfS		
		No	Not Sure	Yes
ESD 101	Count	31	8	58
	% within ESD	31.6%	8.2%	59.2%
ESD 105	Count	30	7	28
	% within ESD	46.2%	10.8%	43.1%
ESD 112	Count	36	13	74
	% within ESD	29.0%	10.5%	59.7%
ESD 113	Count	91	24	143
	% within ESD	35.3%	9.3%	55.4%
ESD 114	Count	11	7	39
	% within ESD	19.3%	12.3%	68.4%
ESD 121	Count	75	18	150
	% within ESD	30.9%	7.4%	61.7%
ESD 123	Count	6	1	12
	% within ESD	31.6%	5.3%	63.2%
ESD 171	Count	32	6	43
	% within ESD	39.5%	7.4%	53.1%
ESD 189	Count	102	20	147
	% within ESD	37.8%	7.4%	54.4%
Total	Count	444	109	761
	% within ESD	33.6%	8.2%	57.5%

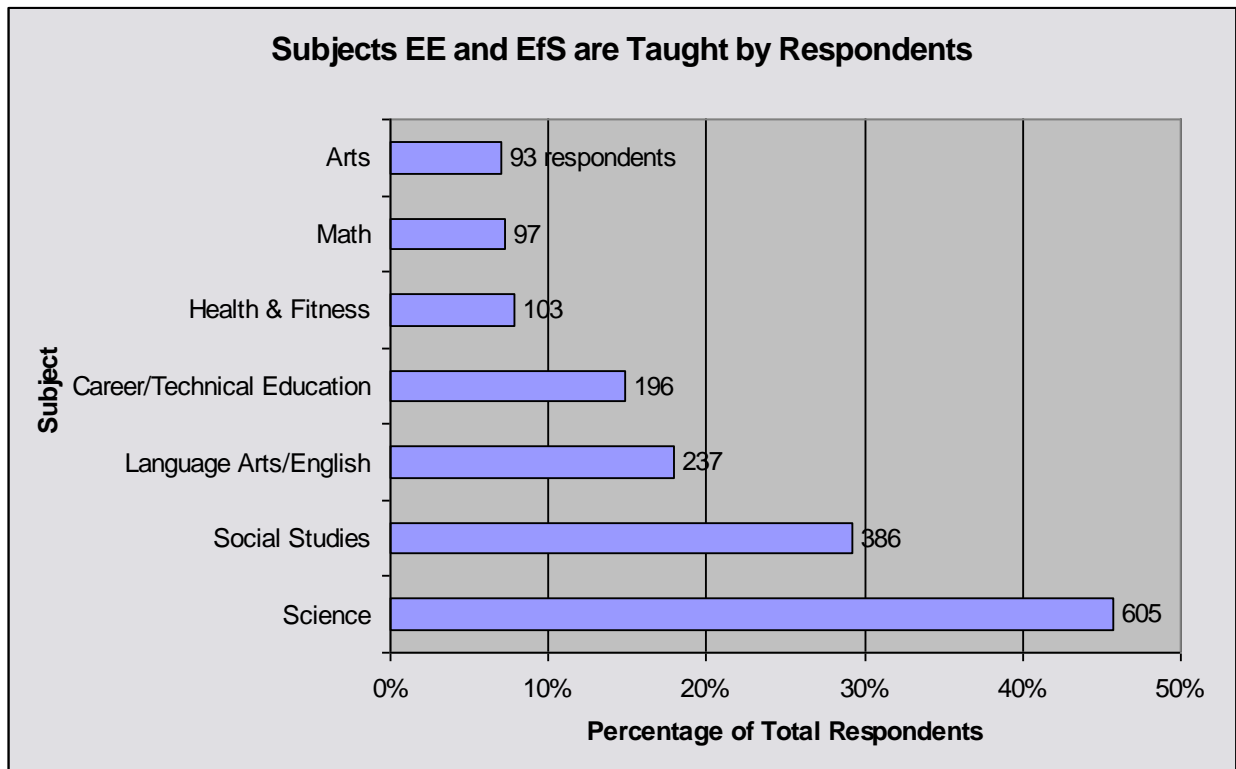
Respondent's School Demographics

The survey asked respondents several questions to determine the grade level, subject area, and type of school (e.g. elementary, middle, high, public, private, tribal) in which the survey respondents work.

Findings:

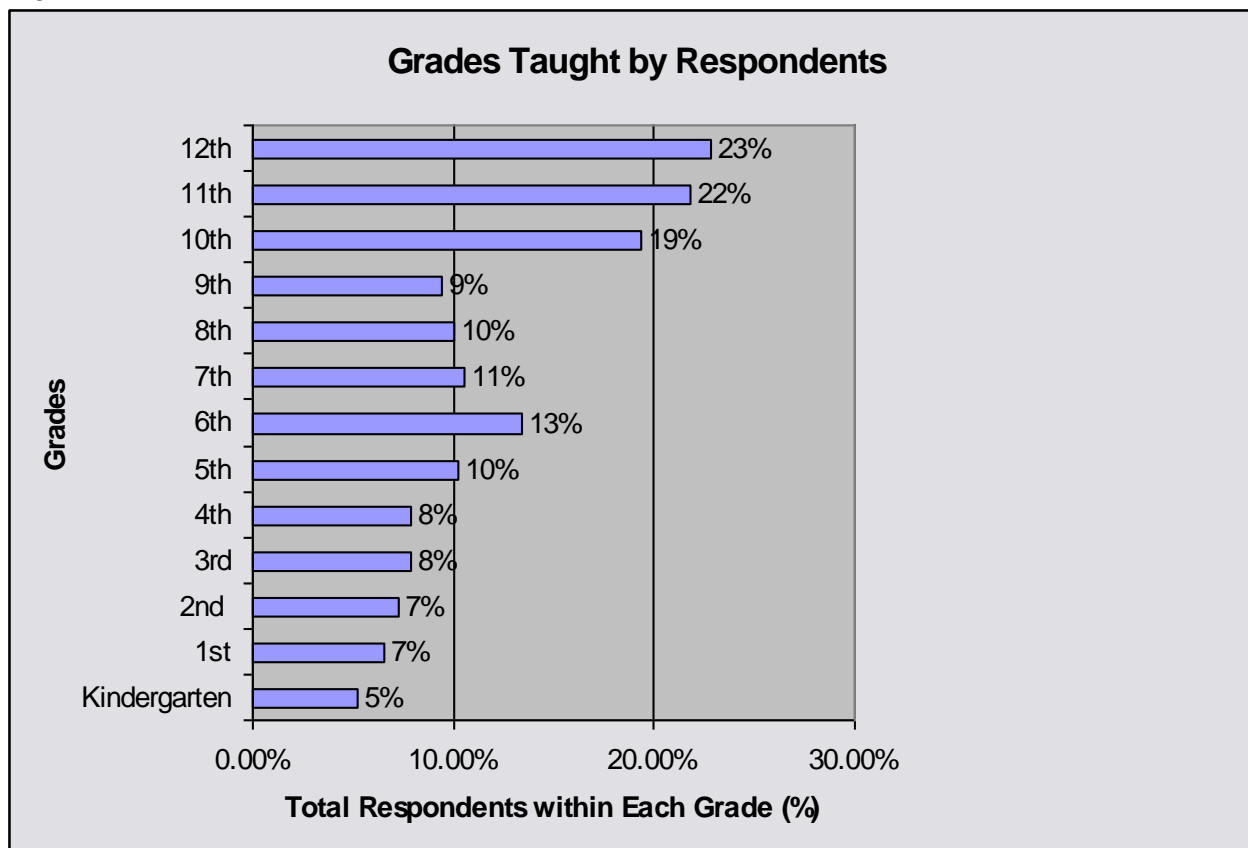
The subject in which EE or EfS was taught the most was “science” with 605 respondents indicating it as such. “Arts” was the subject taught the least with 93 respondents indicating it as such (see figure 5).

Figure 5



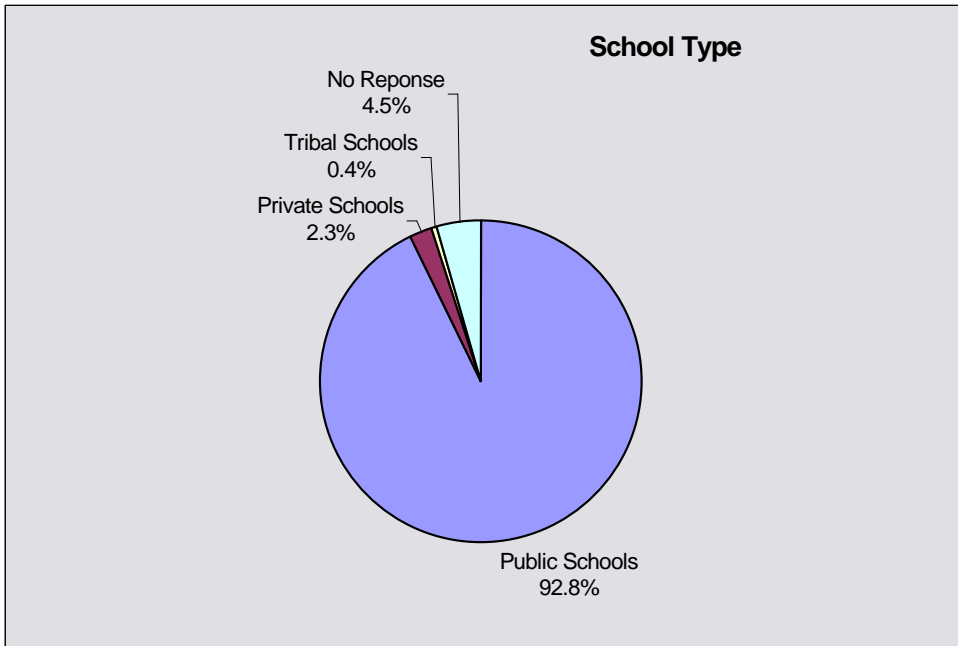
It was also of interest to note the background of the respondents by looking at the grade levels that the respondents represented. Twelfth grade had the highest number of respondents with 23% and Kindergarten had the lowest number of respondents with 5% (see figure 6).

Figure 6



In addition, the largest percentage of respondents taught within the public school system, at almost 93% (1228 respondents). The number of respondents not indicating which type of school they associated with were higher in number at 4.5% (59 respondents) than the ones indicating they were from private schools and tribal school combined. The extremely low percentage of respondents from tribal and private schools would not give a meaningful snapshot of the common practices from those school types. Because of this, the data analysis did not cross-reference by school type.

Figure 7



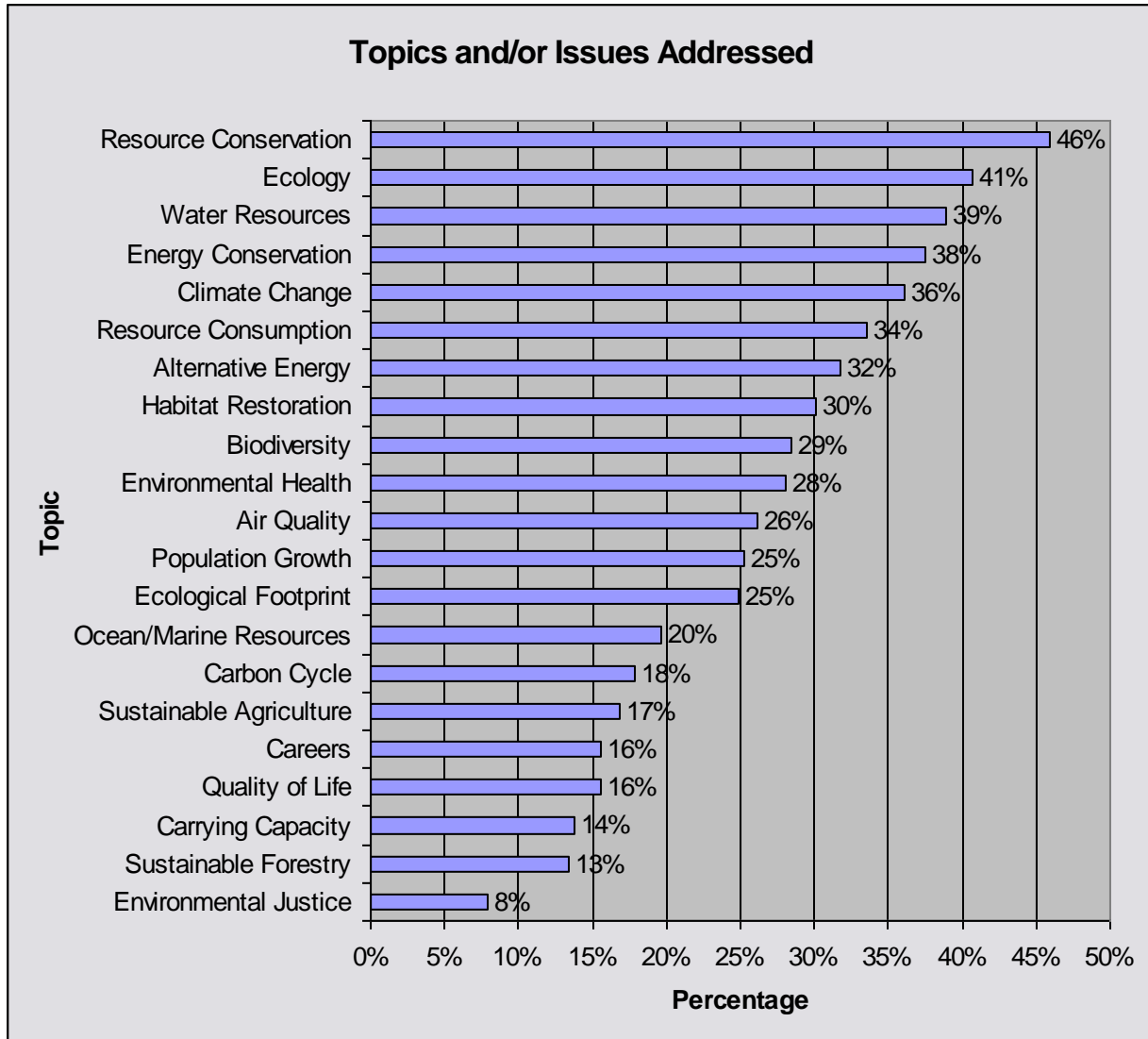
EE and EfS Topics and Issues Taught

Respondents were asked what specific EE or EfS topics or issues were addressed within the subjects they taught. They were given a list of 21 topics/issues and asked to check “all that apply”.

Findings:

Overall, resource conservation was taught most often, with 46% of the respondents indicating it as such, while environmental justice was taught the least often with 8% indicating it as such (see figure 8).

Figure 8



These topics and issues were then correlated with ESD information to see if any tendencies or patterns emerged. Respondents in ESD 123 had a higher percentage of respondents than other ESDs indicate they taught environmentally related careers, energy conservation, carrying capacity, alternative energy, habitat restoration, environmental justice, population growth, and sustainable agriculture.

Respondents in ESD 114 had a higher percentage indicating they taught water resources, ocean/marine resources, resource consumption, ecology, climate change, and biodiversity. ESD 101 had the largest percentage of respondents indicating they taught resource conservation. Those in ESD 105 had the largest percentage indicating they taught quality of life issues, and respondents in ESD 121 has the largest percentage indicating they taught ecological footprint (see figures 9a and 9b).

Figure 9a: Topics and Issues taught by ESDs

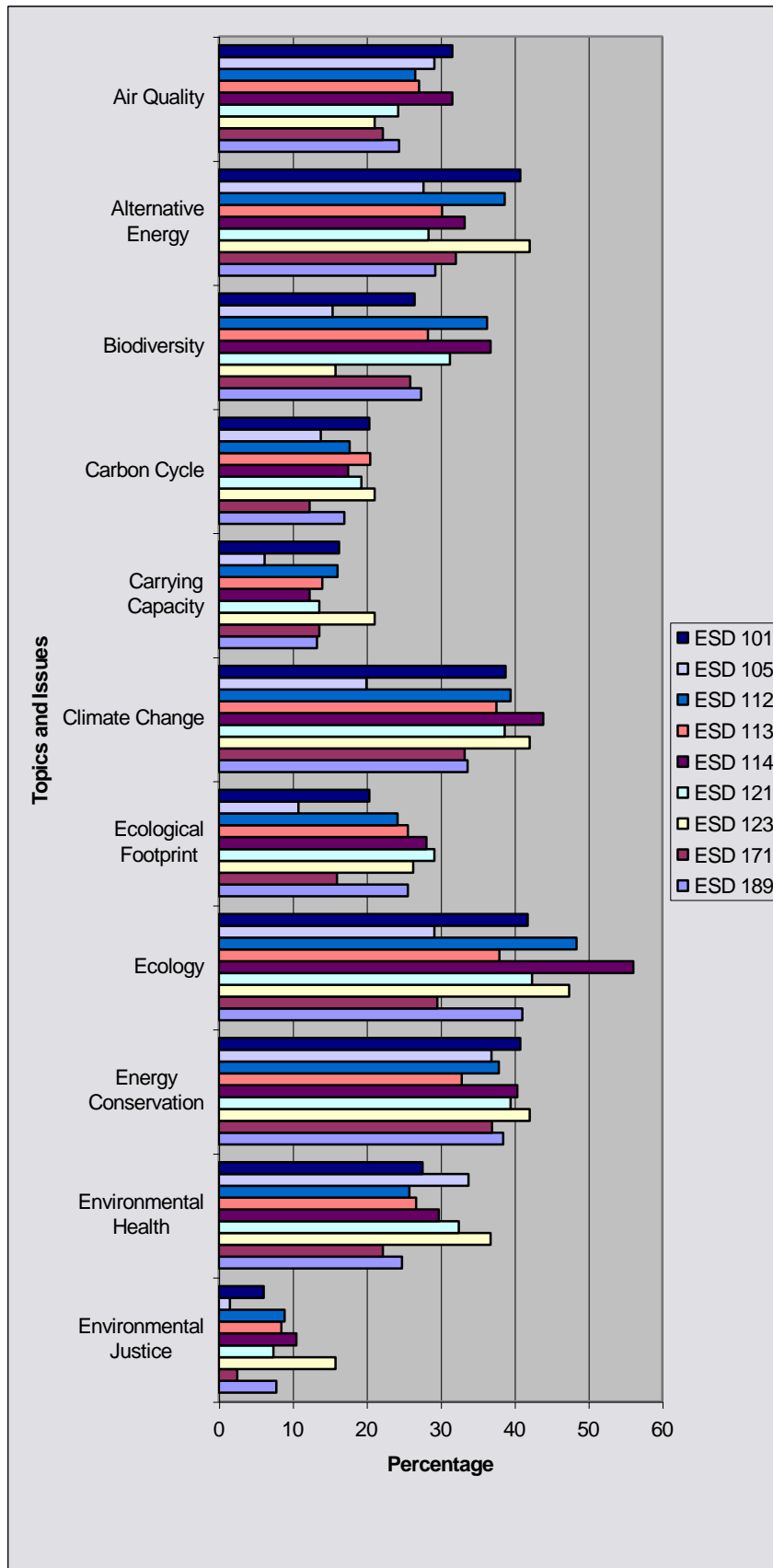
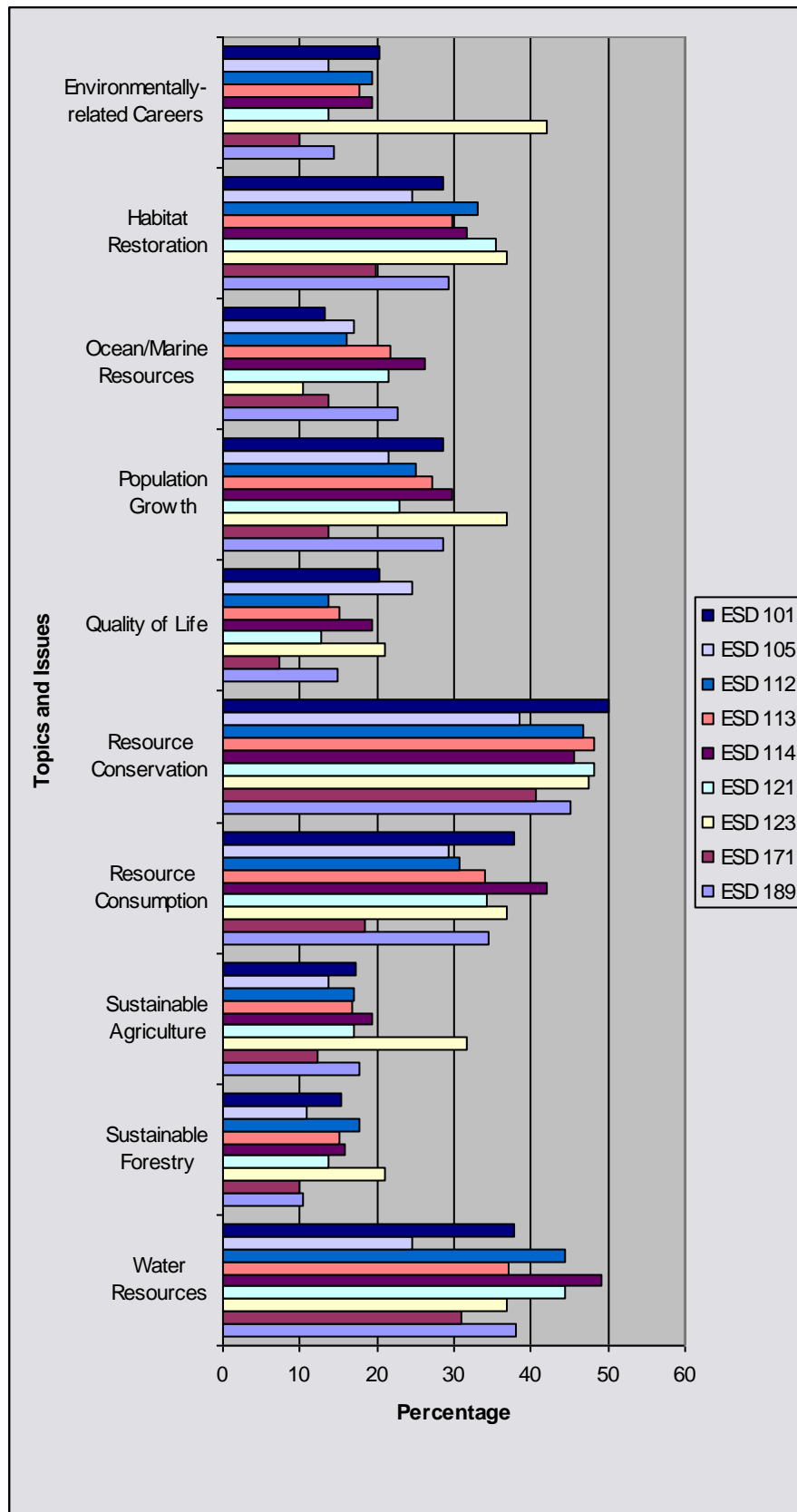


Figure 9b: Topics and Issues taught by ESDs



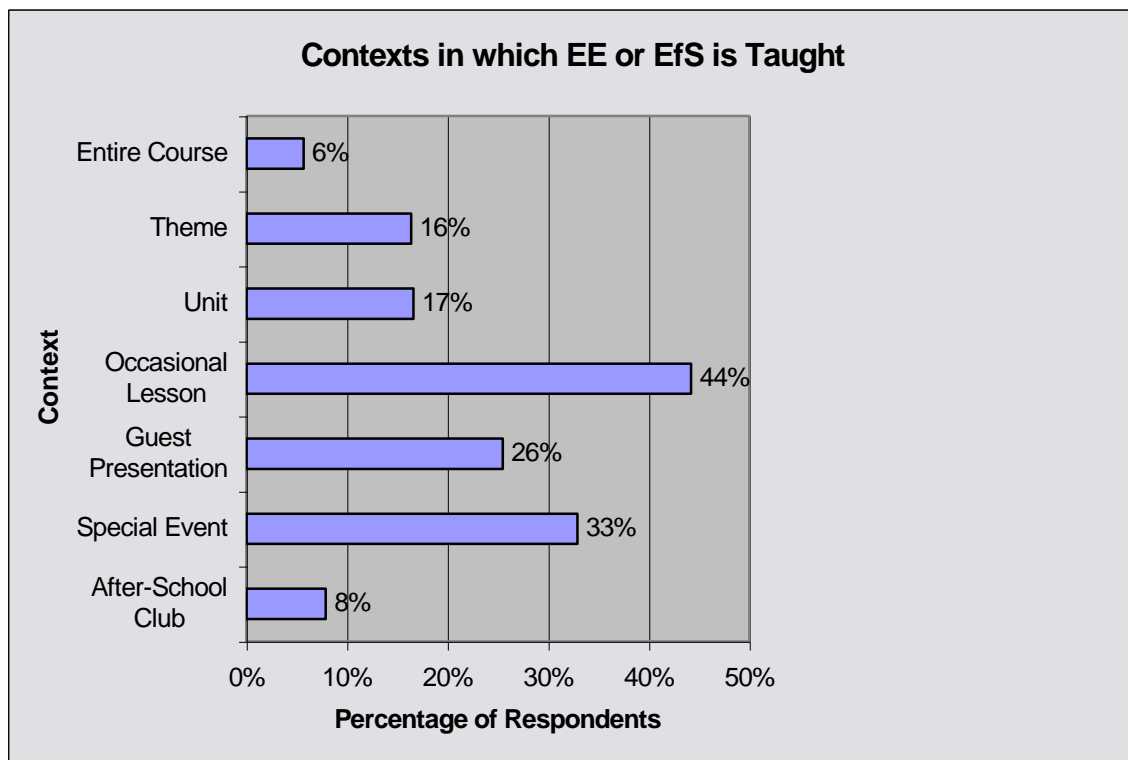
Context in Which EE and/or EfS is Taught

Respondents were asked within what context EE or EfS is taught to determine how these topics are integrated into K-12 classrooms. Respondents were given a choice of response options ranging from “entire course” to “after school club” to (see figure 10).

Findings:

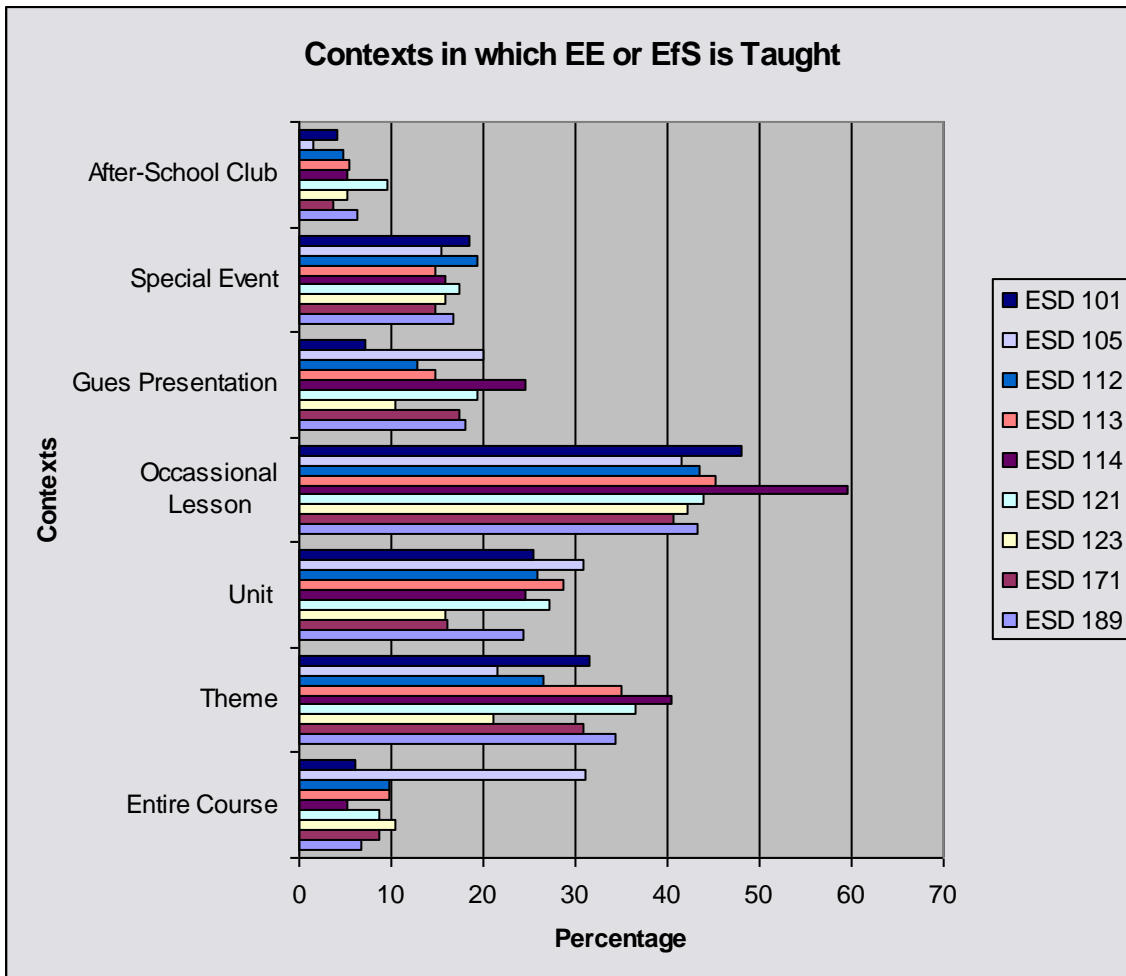
The majority of respondents (44%) indicated they taught EE or EfS through an occasional lesson within a related subject, while the least number of respondents (8%) indicated they taught EE or EfS through an After-School Club.

Figure 10



By correlating this question with ESDs, some interesting patterns emerged. Respondents within ESD 114 indicated they taught in the context of an occasional lesson more often (at 60%) than respondents within other ESDs. Also of interest, within the choices, the respondents from ESD 105 indicated they taught EE or EfS within an entire course devoted to one of these subjects (e.g. environmental science or global issues) three times more often than any other ESD (about 30%) (see figure 11).

Figure 11



Instructional Materials and Resources

The next section of the survey asked respondents to identify, in an open response format, EE or EfS instructional materials/resources that they find especially useful. The question asked them to identify those resources/materials in the following categories: textbooks; other print material (e.g.: supplemental texts, books, magazines); videos/films; websites; and community resources (e.g.: speakers, public agencies, non-profit organizations, businesses, individuals).

Findings:

Respondents identified over 130 textbook and print resources, over 100 videos/films and over 100 websites. Many of the resources were identify multiple times by different respondents. A listing of these identified materials and resources is found in Appendix 2.

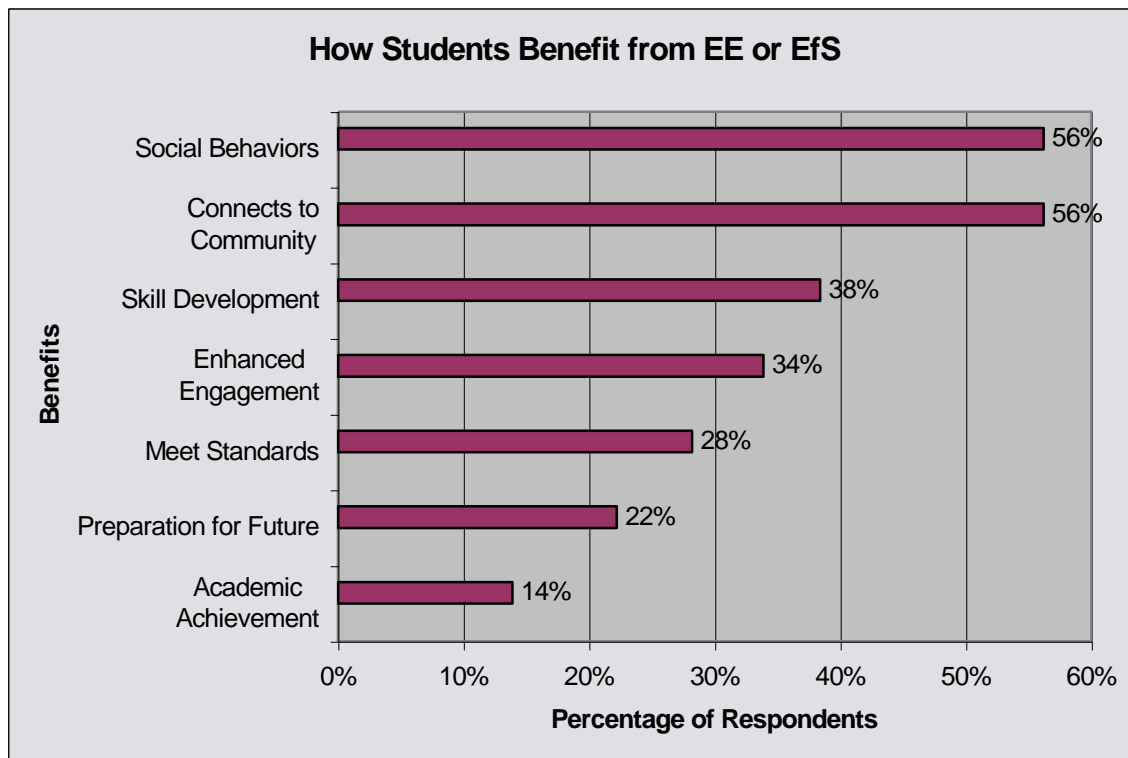
How Students Benefit From EE and EfS

Respondents were asked to indicate the top three benefits, from a choice of seven benefits, that they believe their students receive from EE or EfS (see figure 12).

Findings:

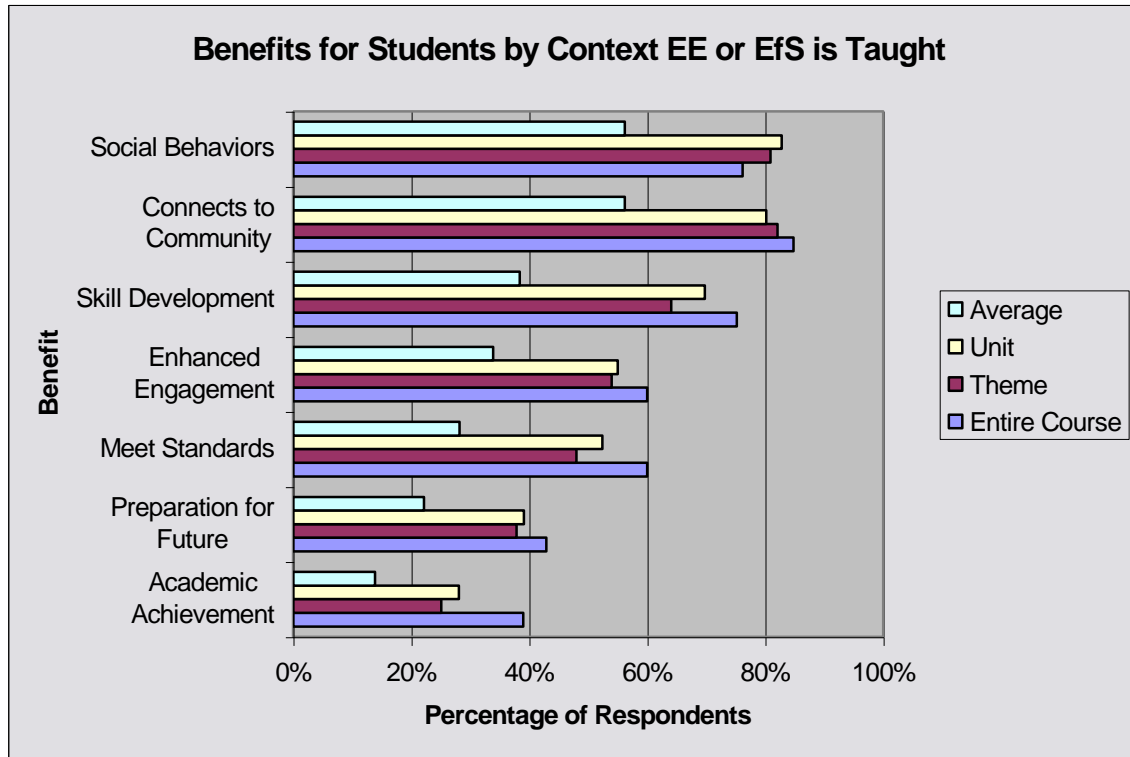
The benefits of “supports positive and productive social behaviors” and “connects them to their community and empowers them to participate” had the largest percentage of respondents indicating them as such, at 56% each. The benefit of “improves academic achievement (e.g. grade, test scores)” received the lowest percentage (14%) of respondents indicating it as such (see figure 12). It is important to note the lower scoring percentages do not necessarily indicate respondents not regarding it as a benefit, but that they did not consider it within their top three benefits.

Figure 12



In total, 39% of the respondents indicated they taught a unit, theme, or entire course relating to either EE or EfS. When comparing these respondents' beliefs of the benefits to students to what the total respondents' beliefs were, there were seemingly significant differences (see Figure 13).

Figure 13



Those that taught EE or EfS within a unit, theme, or entire course had a higher percentage of responses indicating benefits for students in all areas. It is interesting to note, however, that the general trends of most often chosen benefits to least chosen benefits still followed approximately the same order compared to choices chosen by the total respondents. In other words, social behaviors and connects to community were still the most often chosen benefit, while academic achievement was still the least chosen benefit.

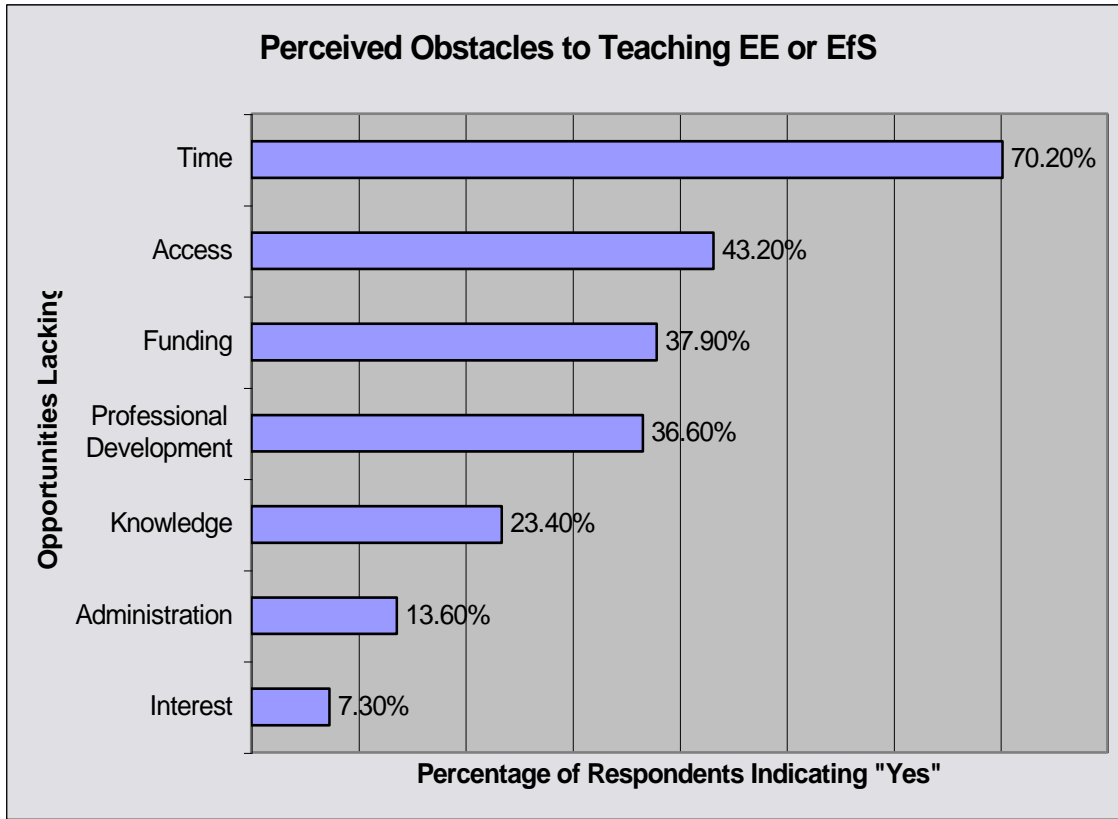
Perceived Obstacles to Teaching EE or EfS

Respondents were asked to indicate, from a list of choices, the perceived obstacles to teaching EE and EfS.

Findings:

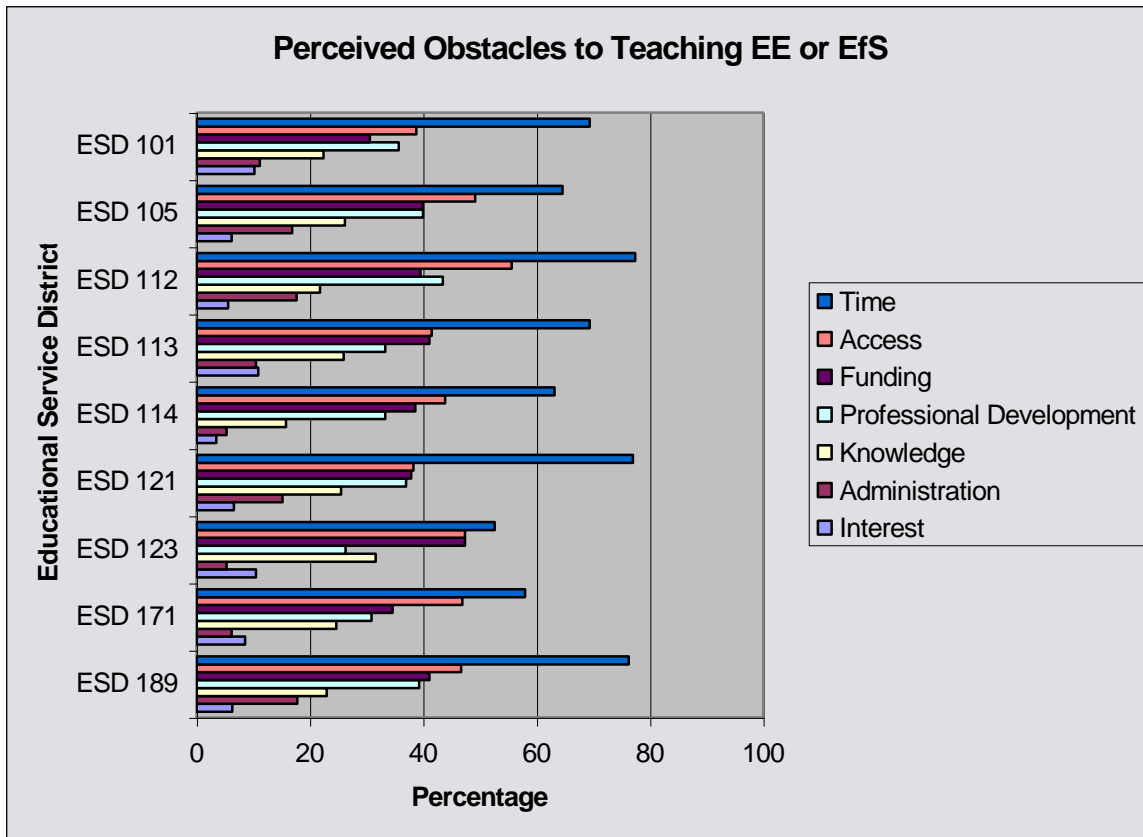
“Lack of time” was by far the largest perceived obstacle, with 70% of total respondents indicating it as such and “lack of interest” was the lowest perceived obstacle, with 7% of respondents indicating it as such (see figure 14).

Figure 14



The data of perceived obstacles was then compared with the ESDs of the respondents, with no notable outstanding results. All ESDs reported that the lack of time is the largest obstacle when it comes to teaching EE or EfS. And the second largest obstacle for each ESD was the lack of access (see figure 15).

Figure 15



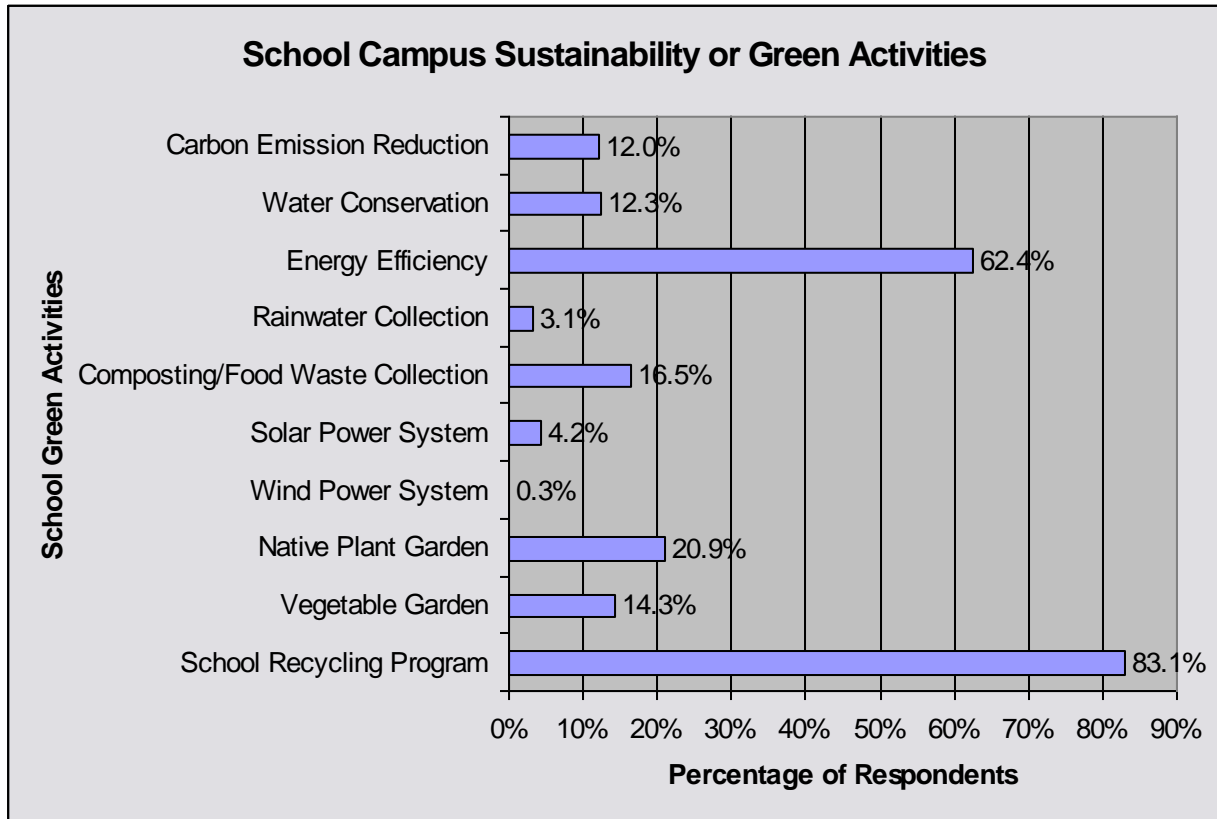
School Campus Sustainability “Green” Activities

The next section of the survey asked respondents if their school had any school campus sustainability/green activities in place. They were asked to check “all that apply” from a list of 10 campus green/sustainability activities or programs ranging from school recycling program to carbon reduction strategies.

Findings:

Of the total respondents, the majority indicated their school had a recycling program (at 83.1%) while the least indicated their school used a wind power system (at 0.3%) (see figure 16).

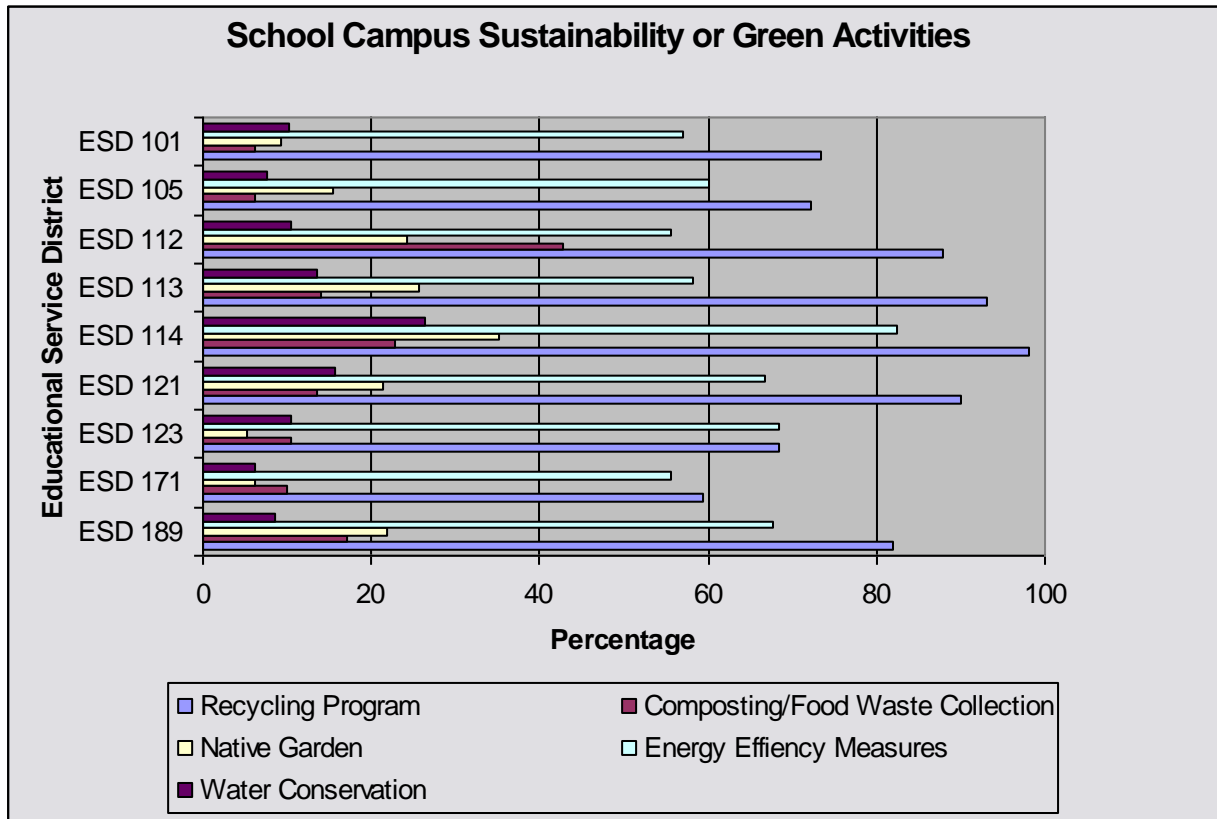
Figure 16



Campus green activities and programs were then compared across ESDs to see if any patterns emerged. (Figures 16a and 16b show activities divided in half for better ease of reading.)

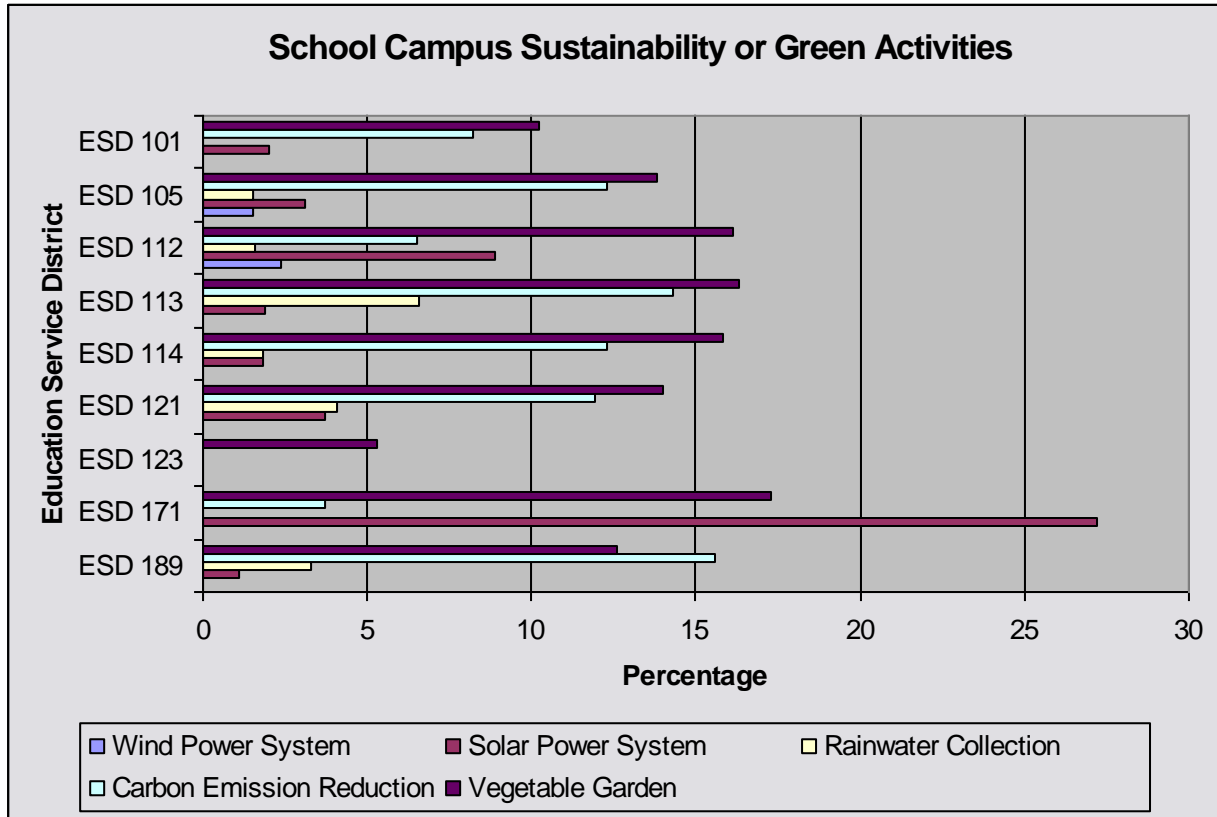
Figure 16a shows that the highest percentage of respondents indicated they had a school recycling program in place. This was true across all ESDs. The next most common activity was energy efficiency measures (e.g.: lights/computers off). ESD 112 had the highest percentage of respondents compared to other ESDs indicating their school participated in composting/food waste collection. ESD 114 had a higher percentage of respondents compared to other ESDs indicating their school participated in native gardens, energy efficiency measures, water conservation, and a recycling program.

Figure 16a



The campus green activities and programs shown in figure 16b are organized together because of the low percentage of respondents indicating their school had them in place. The exception is ESD 171 which had a much larger percentage compared to other ESDs indicating they used a solar power system. The activity with the lowest number of responses was a wind power system; in most cases it was 0%.

Figure 16b



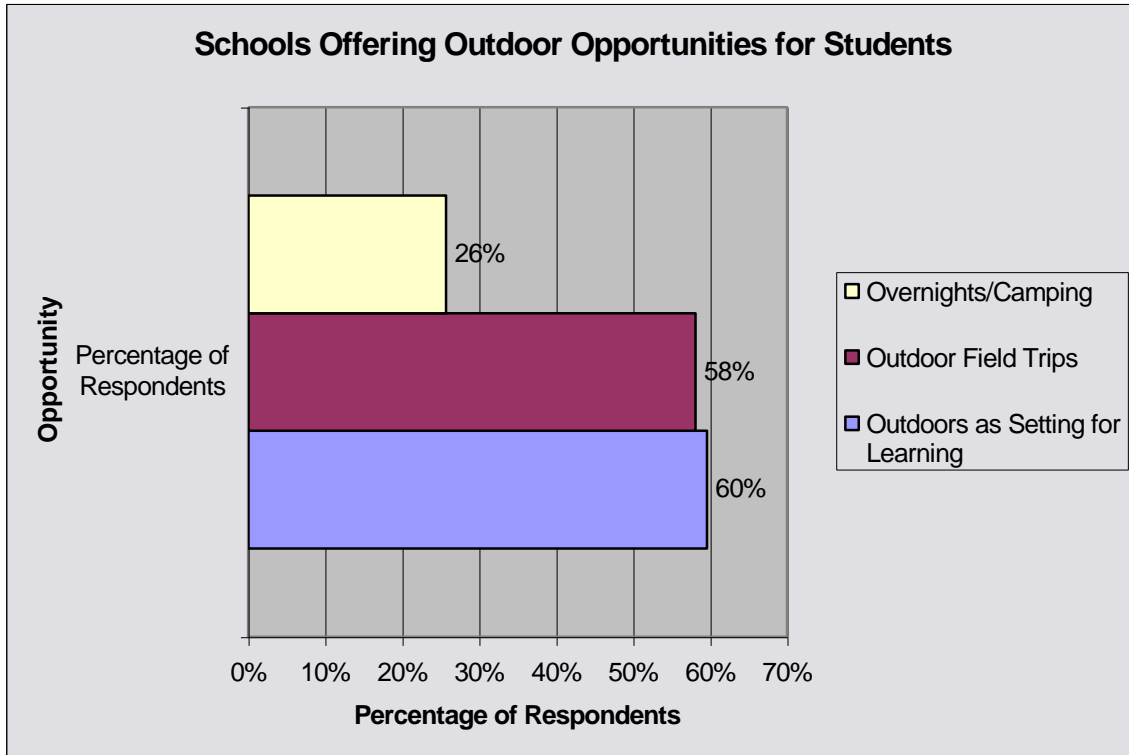
Outdoor Education Opportunities

The survey next asked respondents if they or their school used outdoor or experiential education as part of their teaching. Three options were given (overnight/camping, outdoor field trips, and outdoors as setting for learning) and respondents were asked to check all that apply.

Findings:

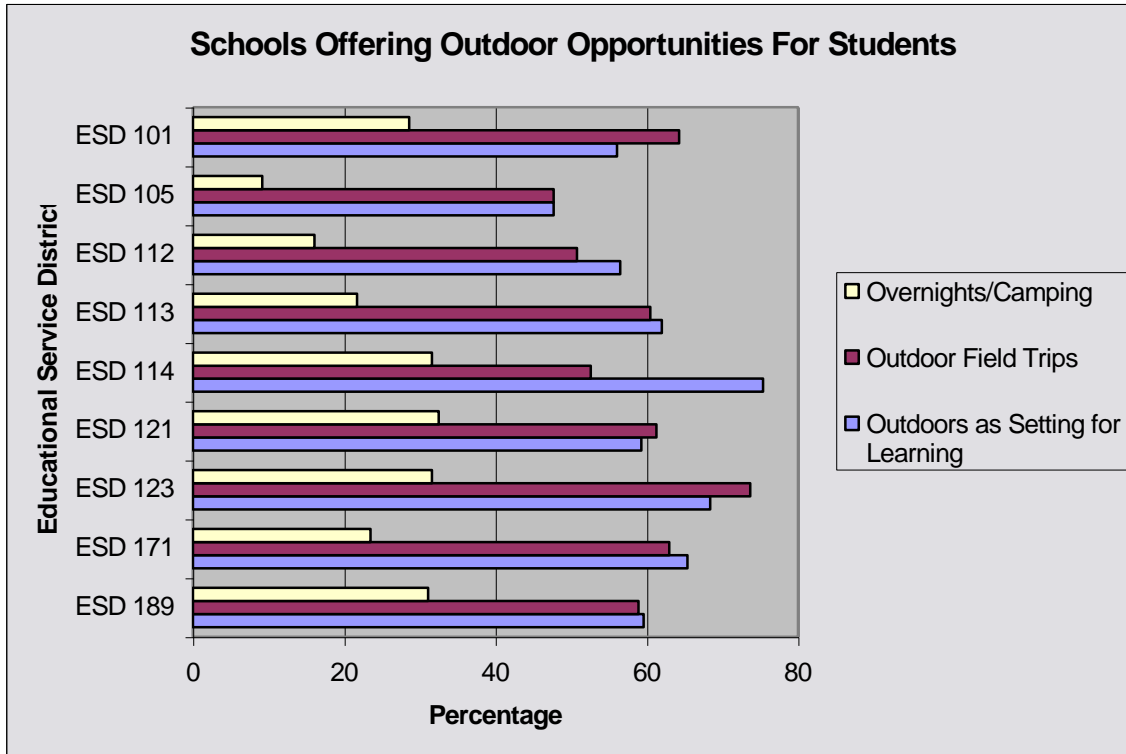
Most respondents indicated their schools offered opportunities to use the outdoors as a setting for learning (at 60%) and the least number of respondents indicated their schools offered students opportunities for overnights or camping (at 26%) (see figure 17).

Figure 17



The data was then compared across ESDs to see if a pattern emerged. ESD 123 had the largest percentage of respondents indicating they used outdoor/environmental field trips (e.g.: parks, EE centers, ropes courses, etc.), while ESD 105 had the smallest percentage. ESD 114 had the largest percentage indicating they used the outdoors as a setting or context for learning, while ESD 105 had the lowest percentage. As far as the opportunity for overnight camping, ESDs were fairly close in percentages, although ESD 105 had the lowest percentage compared to the others (see figure 18).

Figure 18



General Comments

The respondents were given an opportunity to offer general comments. These ranged from those voicing strong support for EE and EfS to those questioning its place in an already too full curriculum. The majority however either voiced strong support or asked for help in infusing this type of learning into their classroom and school. A sampling of general comments can be found in Appendix 3.

Recommendations and Next Steps

The survey provided a wealth of valuable information to inform the work of OSPI's Education for Environment and Sustainability program and EEA's E3 comprehensive planning process. What is encouraging is the total number of teachers who took the survey (1324) and the degree to which EE and/or EfS is being taught in Washington State schools. The following recommendations are based on the results of the survey.

Recommendations:

1. Random Sampling: Although the survey was sent out widely to every district, the respondents self-selected as there was no requirement to take the survey. Therefore, the survey does not represent a random sampling of teachers. In order to get a more accurate picture of the state of EE and EfS in Washington State it would be beneficial to send the survey to a random sampling of teachers and analyze their responses.

2. Private and Tribal Schools: Another limitation of the survey is the low percentage of teachers from private and tribal schools. In order to get a more accurate picture of these schools, the survey could be sent specifically to private and tribal schools and their associated education organizations. (e.g. the Pacific Northwest Association of Independent Schools) and include that data in the analysis.

3. Curriculum Integration: Based on the high perceived obstacle of teaching EE and EfS of lack of time, OSPI should continue to provide support to schools in integrating EE and EfS into the core curriculum so that rather than being seen as an add-on it would be an integral part of the science and social studies curriculum, as well as a meaningful context for math, reading, and writing. This would include providing for EE and EfS concepts in core content standards and testing.

4. Update EE Guidelines: Many of the general comments from the survey respondents asked for more support for EE and EfS in the form of GLE and WASL alignment. To meet this need and to better support districts and schools in integrating EE and EfS, OSPI should update the 2000 EE Guidelines to align with new national standards in EE and EfS and state grade level expectations.

5. EE and EfS Teaching Resources: Respondents asked for help identifying credible EE and EfS teaching resources, especially those that are free. To meet this need, EEA should provide an online database of accurate, credible, and free or low cost EE and EfS teaching resources.

6. Project-based Learning and Culminating Projects: Many respondents voiced concerns about having too much to do already and that EE and EfS is pushed out of their teaching to make more room for core content areas. EE and EfS can however be a highly effective way for students to meet core content standards in a meaningful real world context. To address this issue, OSPI and EEA should continue to develop and support the Sustainable Design Project a K-12 statewide program in which students design solutions to real world problems in the context of systems and sustainability. The

Sustainable Design Project is meant to be taught in the core content classes (e.g. science, social studies, and CTE).

7. EE Partnership Grant Program and No Child Left Inside Grant Program: Many survey respondents indicated that they lacked resources (money and expertise) to effectively teach EE and EfS. To meet this need the legislature could re-fund the EE partnership grant program which provides funding and expertise for community-based organization and schools to offer EE and continue funding the Department of Parks and Recreation NCLI grant program which provide outdoor learning opportunities.

8. Teacher Preparation: Some survey respondents mentioned the need for EE and EfS to be included in the preparation of new teachers. To meet this need, OSPI should support colleges of education in implementing Standard V.3.D which requires evidence that pre-service teachers have prepared students to be “responsible citizens for a globally interconnected, environmentally sustainable and diverse society”.

10. Teacher Endorsement: Some survey respondents suggested that there be an endorsement in EE/EfS. To meet this need, OSPI should support the development of the ESE Specialty Area Endorsement by developing competencies and providing support to colleges of education in offering this endorsement, if approved by the Professional Education Standards Board.

Appendix I – Survey Text

OSPI/EEAW Environmental and Sustainability Education Survey Questions [survey dates: April 8 –May 30, 2008]

The Office of Superintendent of Public Instruction (OSPI) is collecting data, via an online survey, on environmental and sustainability education (ESE) activities in Washington K-12 schools. The information provided by teachers will allow us to identify the status of ESE programs statewide, district and school needs, and opportunities for improvement.

Please answer any questions that are applicable to your situation.

1. Environment education (EE) is a learning process that increases knowledge and awareness about the environment and associated challenges; develops the necessary skills and expertise to address these challenges; and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action. It can include three dimensions: education about the environment, for the environment, and in the environment. Based on this definition do you teach anything related to the general topic of environmental education?

[Response option: Yes, No, Not Sure]

2. Education for sustainability (EfS) is a learning process that develops a responsible citizenry capable of applying knowledge of interconnected ecological, economic, and socio-cultural systems to meet current and future needs; and how personal and collective actions affect the sustainability of local and global systems. Based on this definition do you teach anything related to the general topic of education for sustainability?

[Response option: Yes, No, Not Sure]

If you answered no to both 1 and 2, skip to question 12.

If you answered yes or not sure to 1 or 2, go to question 3.

3. In what subject area(s) do you teach environment education (EE) or education for sustainability (EfS)?

Science

Social Studies

Math

Language Arts/English

Health and Fitness

Arts

Career and Technical Education

4. Are there any other subject area(s) in which you teach environment education (EE) or education for sustainability (EfS)?

[Open response]

5. If you checked Career and Technical Education what is/are the CTE course title(s)?

[Open response]

6. In what grade level(s) do you teach EE or EfS? (check all that apply)

K, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

7. Within the subjects you teach, what specific EE or EfS topics/issues do you address? (check all that apply)

Air quality

Alternative/renewable energy and fuels (hydro power, solar, wind, biodiesel, hybrid vehicles, etc.)

Biodiversity (e.g. terrestrial/aquatic plants and animals)

Carbon cycle

Carrying capacity

Climate change/global warming

Ecological footprint

Ecology/ecosystems

Energy conservation/efficiency

Environmental health

Environmental justice

Environmentally-related careers (e.g.: natural resource management, green building, solar/wind installation)

Habitat restoration (e.g.: streams, lakes, wetlands, salmon)

Ocean/marine resources

Population growth

Quality of life and/or economic indicators (e.g.: genuine progress indicator)

Resource conservation (e.g.: energy, water, recycling, soil)

Resource consumption/consumerism

Sustainable agriculture (e.g.: organic farming, biological pest/weed control)

Sustainable forestry

Water resources (e.g. quality, quantity, conservation)

Other

8. Do you have comments on the above, or other, EE or EfS topics/issues that you teach? [Open response]

9. In what context do you teach EE or EfS? (check all that apply)

Entire course devoted to one of these subjects (e.g. environmental science or global issues)

Theme running throughout a related subject (e.g. biology, social studies, math, art)

Particular unit set within a related subject

Occasional lesson within a related subject

Part of a special guest presentation

Part of a school or department special event (e.g. Earth Day)

Part of an after school club

10. What are EE or EfS instructional materials/resources you find especially useful?

Textbooks:

Other print material (e.g.: supplemental texts, books, magazines):

Videos/films:

Websites:

Community resources (e.g.: speakers, public agencies, non-profit organizations, businesses, individuals):

[Open response]

11. How do you think your students benefit from EE or EfS? (check the top three benefits)

Helps students meet standards in core content areas (e.g.: applied math, science, reading/writing)

Improves academic achievement (e.g. grades, test scores)

Supports positive and productive social behaviors

Increases skill development (e.g.: collaboration, communication, project-based learning, problem-solving)

Enhance engagement and motivation (e.g.: participation, leadership, reduction of drop-out potential)

Helps them prepare for their next steps into a higher grade or into the workforce

Connects them to their community and empowers them to participate

12. What are obstacles to your teaching EE or EfS? (check all that apply)

Lack of professional development

Lack of time

Lack of administrative support

Lack of interest

Lack of knowledge

Lack of funding

Lack of access to resources (e.g. people, materials, and/or tools)

13. Does your school have in place any of the following school campus sustainability/green activities?

School recycling program

Vegetable garden

Native plant garden

Wind power system

Solar power system

Composting/food waste collection

Rainwater collection/cistern

Energy efficiency measures (e.g.: lights/computers off)

Water conservation measures

Carbon emission reduction strategies (e.g.: biking or carpooling)

Other

[Response option: Yes, No, Not Sure]

14. Do you use outdoor/experiential education as part of your teaching and/or does your school offer these opportunities for students?

Use the outdoors as a setting/context for learning

Outdoor/environmental field trips (e.g.: parks, EE centers, ropes courses, etc.)

Overnights/camping/backpacking

Other

[Response option: Yes, No, Not Sure]

15. Now we'd like to gather some information about you and your school

Your name

Your email (optional)

School name

School district

School zip code

School grade levels

Elementary (K-5, K-6), K-8, Middle (6-8, 7-8), High, K-12

School type (public, private, tribal)

Public, private, tribal

Educational Service District (optional)

ESD 101, ESD 105, ESD 112, ESD 113, ESD 114, ESD 121, ESD 123, ESD 171, ESD 189

16. Please provide any additional comments or suggestions regarding the questions in this survey.

[Open response]

Thank you very much for your participation in this survey!

Appendix 2 – Materials and Resources

Textbooks

Note: Many of the textbooks listed below were mentioned by multiple respondents. Additionally, some of these entries may not be textbooks. Entries that clearly were not textbooks have been removed. The following are listed in alphabetical order.

ACSI Science
Active Chemistry
Active Physics
Agriscience, Turf Management
An Introduction to Human Geography,
Rubenstein
Aquaculture Science
Architectural Drafting and Design, Jefferis
and Madsen, Chapter 10: Conservation and
Environmental Design and Construction
Automotive Technology
Biology Textbook
BSCS Biology: A Human Approach (CD "The
Commons" comes with each textbook)
BSCS Green: An Ecological Approach
Builder's Field Guide to Energy Efficient
Construction, Oregon State University
Extension
California State EE Guide
Catastrophic Events - Weather, NSRC
Chemistry Textbook
Christian Schools International Science
textbook
Climate Change
Creative Living, Consumer Education and
Economics
Discovery Works, Silver Burdett Gill
Earth Science Systems
Earth Science, Holt
Earth Science, weather and climate, inside
the earth, Prentice Hall
Earth System Evolution, EarthComm
Ecology of Fish and Wildlife, DeVere Burton,
Delmar Publishers
Ecosystems Science Kit, STC
Ecosystems, Scot Foresman
En Español 2, McDougal Littell
Engaging Students Through Global Issues,
Facing the Future
Environment, 5th Edition, Raven, Peter H.
and Linda R. Berg
Environment, Withgott
Environmental Science: A Global Concern
Environment: The Science Behind the Stories
Environmental Chemistry
Environmental Ecosystems, Prentice Hall
Environmental Science 15th Ed, Miller
Environmental Science and Technology, Lee
& Jaspers
Environmental Science, "What on Earth"
Module, Holt
Environmental Science, Agiscience
Fundamentals & Application, Miller
Environmental Science, Arms, Holt, Rinehart,
Winston
Environmental Science, Botkin and Keller
Environmental Science, Cunningham
Environmental Science, Prentice Hall
Environmental Science, Scott Foresman,
Lapinski
Environmental Science-Earth as a Living
Planet
Exploring Our Country - Grade 2
Fitness for Life
Foods for Today
Forestry, Stoddard
FOSS Populations and Ecosystems
FOSS Weather and Water
Geography: The World and its People,
National Geographic
Global Issues and Sustainable Solutions,
Facing the Future
Global Science: Energy, Resources,
Environment
Harcourt Reading Book - Theme 3 -
Changing Planet
Harcourt Science, 3rd grade
Health - Skills for Wellness, Pr. Hall
Insights in Biology, Kendall Hunt
International Education and Resource
Network, iEARN
Introduction to Horticulture
Introduction to Laboratory Safety
Investigating and Evaluating Environmental
Issues & Actions, Hungerford
Iron and Steel Manufacturing Society
It's About Time: Coordinated Science for the
21st Century, EarthComm

It's All Connected, Facing the Future
Junior Great Books: Readings in Science
Life Science, Prentice Hall
Life, the Science of Biology, Purves
Living in the Environment, Miller 16th edition
Making Connections, World Geography, Holt
Managing Our Natural Resources, Ag.
Science
Merrill's Science, 1989
MESA Water Quality Kit and Training
Microbes and Society
Modern Biology, Holt and Winston
Modern Earth Science
NACE National Association of Corrosion
Engineers
National Science Resource Center-topic:
Soils
National Wildlife Federation
Native American stories
*Natural Resources and Environmental
Technology*
Naturalist, Durrell
NEED National Energy Education
*Nisqually River Education Project Field
Guides*
NOVA studies
NSEA Manuals
NSF Science Kits: "Ecosystems", "Land and
Water"
Nutrition and Wellness, Glencoe
Open Court Reading, Unit 8, By the Sea
Our Diversity of Life
*Pathways to Success Sustainable Resource
Harvest*
Physical Science, Glencoe
Population Connection
Project Aquatic
Project Learning Tree

Project Wet
Project Wild
Reading 4th Grade, Houghton-Mifflin
Rethinking Globalization, Rethinking Schools
Rigby Science Readers, Scholastic New Pilot
SALI Ecology and Evolution, SEPUP
Salmon Nation, Ecotrust
Science and Sustainability, SEPUP
Science and Technology Concepts, Chehalis
Basin Education Consortium
Science and Technology, Holt
*Science Explorer Inside the earth, weather
and climate, Earth's changing surface*
Environmental Science & Technology
Science Explorer: Life Science, Pearson
Prentice Hall
Science kits in Ecosystems, Electricity and
Food Chemistry
Science: Discovery Works, 5th Grade,
Houghton Mifflin
Sciencesaurus
Seattle City Light booklet on energy and
energy conservation
Seattle School District Science Kit,
Ecosystems
SECRETS program
Stapp Manual for Water Quality Testing
STC Science Kits
STC/M curriculum: Properties of Matter and
Energy, Machines, and Motion
Streamkeepers guide
Sustainable Forestry
TERC Investigations
We the People
What on Earth
*Wildlife Management Science and
Technology*
Wolfree Program

Appendix 3 – General Comments

The following represents a sample of general comments grouped by those in favor of EE and EfS, those against EE and EfS and those regarding obstacles to teaching EE and EfS. The majority of respondents (approximately 140) commented in favor of EE and EfS with less than 10 respondents voicing opposition to teaching EE and EfS. Several comments focused on obstacles such as the current focus on high-stakes testing.

Sample of comments in favor of EE and EfS

Environmental Ed is so important and vital to our future. It must be seen as part of BASIC education.

I am very interested in bringing more EE of EfS into my teaching. I think it has a lot of potential to bring a focus to all of our lessons and can provide the connections between subject areas.

I believe we need more of a focus and emphasis in this area. Only a small number of GLEs address this directly so I worry that it is one area that gets left out when in fact is one of the most important things for our citizens to understand.

I would like to see a renewed commitment to EE in the form of support at the middle school level with professional development and access to curriculum resources aligned with the standards.

I can't think of a topic and approach to education that is more important at this time than sustainability education. I am a strong advocate of it and would very much like to see more support for it in the schools funding, training, curriculum, etc.

Sample of comments against EE and EfS

Don't come up with a program that makes more work for the teachers. We already have enough on our plates as it is.

Environmental education sources are biased toward a liberal point of view. There should be resources that are based on solid, unbiased science without a political agenda [and] subliminal message attached.

Environmentalism has become a major obstacle to economic expansion and energy needs of the nation. We have enough oil reserves to meet our needs for hundreds of years in our own country, but we can't take it because of the environmentalists.

Comments regarding obstacles to teaching EE and EfS

Environmental Education?! That's not on the WASL! This, in my opinion, is the main obstacle to educating for sustainability- too much emphasis on the WASL

I am a horticulture teacher and have been well-supported by my administration, CTE director, and district, and am able to use CTE funds to get kids out into real-world situations. I realize this is not the case for all teachers.