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Memo

To Board of Education

From Kyla Johnson-Trammell, Superintendent
Wesley Jacques, Executive Director, Academics and Instructional Innovation Department
Herberta Zulueta, Coordinator, Secondary Science

Board Meeting Date December 12, 2018

Subject Amendment to Board Policy 6142.5 - Environmental and Climate Change Literacy Policy

Action Requested and Recommendation Approval by the Board of Education to amend Board Policy BP 6142.5, Environmental and Climate Change Literacy Policy to revise the regulations that will involve research, review, and recommendation of curriculum for adoption and best practices for instruction; ensure the articulation of science and history curricula; assign and schedule teachers to provide instruction; create a resource document for teachers to use in teaching climate literacy and develop integrated, action-based projects; provide ongoing professional development; and find/pursue/develop financial resources necessary to fully implement these goals.

Background In June of 2018, a resolution put forward by Director London was passed. The resolution called for the Board to join the We Are Still In Coalition, develop a Board policy on Living Schoolyards, and convene a climate literacy working group to update the existing Board policy 6142.5 on Environmental Education with accompanying administrative regulations. The working group has prepared the policy and AR for Board approval.

Fiscal Impact Resources will be required to implement the policy which will be covered by department grants and partnerships for all costs.

Attachment

- Board Policy 6142.5, Revision
- Administrative Regulations - Accountability and Oversight
- Project Outcomes and Budget

OAKLAND UNIFIED SCHOOL DISTRICT

Board Policy

BP 6142.5 - revised 11/14/2018

Instruction

Environmental and Climate Change Literacy

1. INTRODUCTION & BACKGROUND

The Governing Board recognizes that the schools play a crucial role in educating students on environmental issues and preparing them to be the stewards of their natural environment, upon which all life and all human endeavor depends. The Board further recognizes that climate change is the greatest challenge facing future generations and the critical role education can play in preparing future citizens to be actively engaged in working together to create solutions to this problem.

Current Science and History frameworks, state-adopted curricula and the California Environmental Education Policy - California Senate Bill No. 720¹ which includes the Environmental Principles and Concepts, create the foundation for bringing environmental education to the center of 21st century education. These principles and concepts outline a need for understanding ecosystems, people's dependence on and ability to influence natural systems, and the way decisions are made affecting resources and natural systems. The specific case of climate change literacy is clearly embedded in these principles & concepts.

The Board acknowledges the complexity of this problem, and the multi-disciplinary approach required to achieve the necessary changes to foster Environmental and Climate Change Literacy (ECCL) and avert or reduce the severe and irreversible harmful effects of climate change. A climate literate citizen understands their influence on the climate and the climate's influence on themselves and society. Components of Climate Change Literacy include:

- Understanding of the essential principles of Earth's climate system
- Knowing how to assess scientifically credible information about climate
- Communicating about climate and climate change in a meaningful way, and
- Making informed and responsible decisions with regard to actions that may affect the climate²

Therefore the Board is recommending an integrated, project based approach that deals not only with understanding the science involved in the causes and effects of climate change; but the economic, political, social, and cultural factors that have contributed to the creation of this problem and will be necessary to address in order to avoid climate destabilization and ensure a livable future for generations to come. The components of ECCL outlined above align seamlessly with Next Generation Science Standards (NGSS), the California Science Framework, and the California History and Social Science (HSS) Framework as well as provide enriching and relevant content to meet the demands of Common Core State Standards (CCSS) for English Language Arts and

¹ Senate Bill No. 720, California State Legislature; approved by the Governor on September 13, 2018.

² <https://www.climate.gov/teaching/essential-principles-climate-literacy/what-climate-science-literacy>

Mathematics. The Board sees this as an opportunity for students to engage in cross curricular learning that views each person as having agency to affect change in their own life, their community, and at a global scale.

OUSD is committed to full-service community schools that ensure that students graduate caring, competent, fully-informed, critical thinkers who are prepared for college, career, and community success. By incorporating ECCL, our students can learn about environmental issues in an appropriate framing and setting with engaging action oriented projects that also aligns with the school infrastructure setting.

Our students need to be prepared for the changing world in front of them on climate change, they need the tools and resources to adapt to the effects of global warming. New careers and jobs are expanding expediently that they have the opportunity to become involved in, they need the education and awareness during their k-12 education.

Social, Emotional Learning

As climate change issues increase and become more complicated and politically based, our children are being subjected to a wide variety of devastating information and images of climate change and environmental impacts on our planet such as rainforest destruction, plastic pollution in our oceans, loss of habitats, severe weather changes that includes our states issues on drought and catastrophic fires. Climate change issues are at a grand scale that can be overwhelming and bleak, this can have a negative impact on our youth and their mental well being and deep concern on their future. OUSD needs to address this and provide our students and community with action oriented climate literacy curriculum to have our schools become sustainability hubs that can radiate out to our community that will prepare our youth for their future to be informed, creative, hopeful, adaptable and resilient.

District Sustainability Projects

As part of OUSD Master Plan on providing a Full Service Community District, OUSD community and its vision is committed to greening Oakland Public Schools with many programs and policies that are directly related to enhancing sustainability and can readily be used as a starting point for environmental education. Such programs include:

- Living Schoolyards Initiative
- Green Gloves Program (waste reduction, waste sorting, food share, and food donation)
- Nutrition Services California Thursday Menu
- Nutrition Services Farm to School Program
- The Center - Central Kitchen, Instructional Farm and Education Center
- emPower Energy Program
- CHPS schools
- Solar Power Installations
- Wellness Program

Programs that the District has in place and are working on around sustainability are to be incorporated and highlighted in the climate literacy provided to our youth. This will allow transparency, awareness and support of the in place work happening at our schools so these projects can be further elevated with the student and school community involvement.

To fully align efforts on our District environmental sustainability focus, the District will review and apply as

able to the California Green Ribbon Award Program, <https://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp>. The Green Ribbon Award Program application reviews will be based on the applicant's demonstrated progress towards reaching the goals of each of the three ED-GRS Pillars, which are:

- Pillar I: Reduce environmental impact and costs
- Pillar II: Improve the health and wellness of schools, students, and staff
- Pillar III: Provide effective environmental education, which teaches many disciplines, and is especially good at effectively incorporating STEM, civic skills, and green career pathways

Community Organization Support

There are also many community organizations and field trip opportunities that can be used to launch or enrich a unit of study across disciplines. There are a wealth of partnerships available to support the District efforts in achieving ECCL for all students (Reference [ECCL Partner List](#)). To serve our teachers and students, OUSD Leadership believes the best approach to achieve ECCL is to align lessons, projects, and field trips to the adopted OUSD Science and History and Social Studies curriculum.

Board Recommendation

The Board further acknowledges the profound and complex work mandated of the District in meeting state environmental and educational laws, state standards, and the needs of our diverse student population. While the Board seeks to have all students learning about the environment and climate change, the Board respects teachers’ academic freedom, creativity, and professional judgement in delivering standard based instruction. The Board desires to support and affirm teachers in their efforts through professional learning opportunities and high quality instructional resources that promote project-based learning.

To this end, the Board recommends the following at each grade span:

Grade Span	Board Adopted Science Curriculum	Board Adopted HSS Curriculum	ECCL Integration
K-5	NGSS FOSS Curriculum	Harcourt Reflections & Big Books <i>TBA for 4th & 5th Grade</i>	Individual sites and teachers can refer to supplemental instructional materials and opportunities identified by the district’s OUSD ECCL Curricula Toolkit.
6-8	<i>TBD</i>	Pearson History 18-19	
9-12	<i>TBD</i>	<i>TBD</i>	
Graduate Capstone	<i>TBD</i>	<i>TBD</i>	

- Teachers in elementary grades are responsible for standards based instruction aligned to the NGSS and HSS Framework. The Board is responsible for, and has approved a multi-year plan to select, adopt, purchase and implement NGSS - aligned curriculum, beginning with selection of elementary materials in 2016-17, adoption of Next Generation FOSS for K-5 in May of 2018, and approved funding for materials to be in all elementary schools by January, 2019. The curriculum provides a foundation for understanding environmental sustainability and climate science.

- The current District adopted curriculum for History is Harcourt Reflections & Big Books. With available funds, grades 4th & 5th will adopt new curriculum. Individual sites and teachers can refer to supplemental instructional materials and opportunities identified by the district's OUSD ECCL Curricula Toolkit.
- Science and History teachers in middle and high school are responsible for standards based instruction aligned to the NGSS and HSS Framework. The District plans to adopt middle and high school NGSS-aligned curriculum, which provide a foundation for understanding environmental sustainability and climate science. Individual sites and teachers can refer to supplemental instructional materials and opportunities identified by the district's OUSD ECCL Curricula Toolkit.
- Teams of school teachers will also develop and implement an interdisciplinary action project focused on the environment and climate change for the grade spans: K-2, 3-5, 6-8, and 9-12. These projects will allow students to learn about ways in which people can work together to solve environmental problems related to climate change. These projects should be project-based and integrated with other curriculum areas, designed to meet standards. Projects could be a minimum of one week, or several weeks, and/or be the basis for inquiry and involvement that continues throughout the year. Projects can be adapted to be based on their school campuses and/or immediate community.
- As part of graduation requirements, each student shall demonstrate mastery of Climate Change Literacy through an action project completed during their high school education. This could be completed as part of the 9th-grade project, or as a Capstone project based on the school site structure and/or Pathway/Academy Scope & Sequence.

The Board directs the District to provide regulations that will involve research, review, and recommendation of curriculum for adoption and best practices for instruction; ensure the articulation of science and history curricula; assign and schedule teachers to provide instruction; create a resource document for teachers to use in teaching climate literacy and develop integrated, action-based projects; provide ongoing professional development; and find/pursue/develop financial resources necessary to fully implement these goals.

The Board Policy on Environmental and Climate Change Literacy is related to the following existing OUSD policies and resolutions:

BOARD POLICY:

- 1330- Use of School Facilities
- 3511 Environmental and Water Conservation
- 3511.1 Integrated Waste Management
- 5030 Wellness
- 6142.5 Environmental education (proposed policy will replace this and add AR)
- Resolution 0607-0159 Energy plan
- Resolution 0708-0133 Establishing the Oakland Schoolyards Initiative
- Resolution 1718-0203 Joining the We Are Still In Coalition and Developing Policies and Administrative Regulation on Living Schoolyards and Climate Literacy

Legal Reference: EDUCATION CODE:

- 37222 John Muir; recognition of his contributions
- 51210 Areas of study, grades 1-6
- 51220 Areas of study, grades 7-12
- 8700-8707 Environmental education
- 8720-8723 Conservation education service
- 8760 Authorization of outdoor science and conservation program

RELEVANT LEGISLATION;

Senate Bill No. 720, California State Legislature; approved by the Governor on September 13, 2018.

OAKLAND UNIFIED SCHOOL DISTRICT

Administrative Regulations

BP 6142.5 - revised 11/14/2018

Accountability & Oversight:

The Superintendent will assign oversight to the Director of Academics and Instructional Innovation and Chief Business Officer. The Director of Academics and Instructional Innovation will oversee the research, review, and recommend curriculum for adoption and best practices for instruction; ensure the articulation of science curriculum; assign and schedule teachers to provide instruction. The Chief Business Officer will...

The Sustainability Managers will convene an ongoing advisory group to oversee the implementation of the policy that includes instructional leaders, teachers, community partners, and others with related interests. This group will meet at least 4 times per year to

- Complete a yearly review of the most up-to-date climate change resources that supplement the adopted curriculum, revising the teacher resource document as needed to include climate change experiences for each grade, such as citizen science & outdoor learning opportunities.
- Work with Academics and Instructional Innovation Department Teams to provide Cadre Style professional learning opportunities 4 times a year through grade level or departmental professional learning communities that focus on content & pedagogy in teaching environmental & climate concepts and action projects.
- Collect data to monitor the effectiveness and implementation of the policy through teacher feedback during PD, including the types and frequency of projects.
- Evaluate the current teaching of climate literacy across all grades and schools and recommend actions to support and expand rigorous climate literacy instruction to all students.
- Visit school sites to see projects in action & gather data on progress of implementation
-

Communication: The Science department & Sustainability Managers will work together to create recommendations from the Climate Literacy Advisory Group to present to the board to provide additional support for the full implementation of this policy.

Partnerships: The implementation of this or any policy does not happen because a decree has been made. It requires the commitment and work of OUSD staff at every level and in every department. Therefore, staff is directed to expand the work of building partnerships within and between OUSD departments, and with community partners who are interested in supporting this work. Currently Living Schoolyards America, Trust for Public Land, Strategic Energy Innovations, Community Resources for Science, StopWaste, Sierra Club, OEA Environmental Justice Caucus,

- District
 - The following job descriptions will need to be reevaluated to include elements of this work:
 - [list jobs here with recommended changes]
- Community

Timeline

Staff will work for full implementation of this policy to be achieved by the end of the 2023-2024 school year.

In the spring of 2018-19: Climate Change Literacy Working group will:

- Create intradistrict model of how different district departments will be involved in carrying out the policy
- Identify and vet community organizations to act as Environmental and Climate Change Literacy Partners
- Increase membership of the Climate Change Literacy Working group to include:
 - Custodial and Nutrition Services Sustainability Manager
 - Facilities Sustainability and Energy Manager
 - NGSS Project Director
 - Science Coordinator
 - History Coordinator
 - Relevant Pathway or CTE Coach
 - *At least* 1 OEA Environmental Justice caucus member
 - *At least* 1 elementary teacher
 - *At least* 1 middle school teacher
 - *At least* 1 high school teacher
 - Representatives from identified Environmental and Climate Change Literacy Partners
- Reestablish District Green Team (Director of Sustainability acts as main liaison between the two groups)
- Conduct inventories:
 - Curriculum Scope & Sequence
 - How teachers are already doing environmental education
 - Environmental Assets for each school site
 - Environmental and Climate Change Literacy “Campion” Teachers

2019 - 2020: Elementary FOSS/climate science fundamentals & elementary action projects in 50% of classrooms; Middle schools & High schools - CCLW will work to support interested teachers.

2020 - 2021: Elementary FOSS/climate science fundamentals & elementary action projects in 75% of classrooms; Middle schools & High schools - CCLW will work to support interested teachers and identify interested partner teachers at each site.

2021 - 2022: Elementary FOSS/climate science fundamentals & elementary action projects in 100% of classrooms; Middle schools - adopt and implement core science curriculum. High schools - CCLW will work to support interested teachers and identify interested partner teachers at each site.

2022 - 2023: Elementary level -
Middle schools
High schools

2023 - 2024: Elementary level -
Middle schools
High schools

Funding

Related costs: Coordinator position
Professional Development

Teacher Stipends

Potential sources of funding:

Bechtel grant
Ocean Guardians grants
EPA

Resources for Action Projects - attach document

Related Board Policy, CA Ed Code, other legislative mandates & legal references:



Environmental and Climate Change Literacy Project Outcomes

Year	Program Area	Outcomes	Funding
2018-19	District Coordination	- Approve new School Board Environmental Education Policy	\$0
	Environmental Education Coordinator	- Seek Grant Funding	
	Environmental Education Working Group	- Establish Community Partnerships	
	Core Curriculum Environmental Education Connections	- Create K-5 Science Core Curriculum Environmental Educations Connections	
		- Determines Field Experiences (Grades 3, 6, and 9) with teacher input	
	Teacher Professional Learning	n/a	
	Summer Institute		
	Grade Level Professional Learning Communities		
	Teacher Field Trips		
	Student Career Technical Education (Field Experiences & Guest Speakers)	n/a	
	District Coordination	- Expand Membership of EE Working Group	
	Environmental Education Coordinator	- Pilot Field Experience Packages (Grades 3, 6, and 9)	
	Environmental Education Working Group	- Establish Environmentalists in the Classroom Program (EICP)	
2019-20	Core Curriculum Environmental Education Connections	- K-5 Environmental Education Professional Learning Communities	\$ 190,250.00
	Teacher Professional Learning	- K-12 Teacher Field Trips (2 Saturdays - Spring & Fall)	
	Summer Institute		
	Grade Level Professional Learning Communities		
	Teacher Field Trips		
	Student Career Technical Education (Field Experiences & Guest Speakers)	n/a	
	District Coordination	- Evaluate Environmental Education Implementation Effectiveness	
	Environmental Education Coordinator	- Support Environmental Education Field Experiences	
	Environmental Education Working Group	- Pilot Environmentalists in the Classroom Program (EICP)	
	Core Curriculum Environmental Education Connections	- Plan and Facilitator Saturday Teacher Field Trips	
	Teacher Professional Learning	- K-5 Environmental Education Summer Institute	
	Summer Institute	- 6-8 Environmental Education Professional Learning Communities	
	Grade Level Professional Learning Communities	- K-12 Teacher Field Trips (2 Saturdays - Spring & Fall)	
	Teacher Field Trips		
2020-21	Student Career Technical Education (Field Experiences & Guest Speakers)	- 3rd Grade Environmental Education Field Experience	\$ 429,750.00
		- 6th Grade Environmental Education Field Experience	
		- 9th Grade Environmental Education Field Experience	
		- K-5 Field Trip Grants	
	District Coordination	- Evaluate Environmental Education Implementation Effectiveness	
	Environmental Education Coordinator	- Support Environmental Education Field Experiences	
	Environmental Education Working Group	- Coordinate Environmentalists in the Classroom Program (EICP)	
	Core Curriculum Environmental Education Connections	- Plan and Facilitator Saturday Teacher Field Trips	
	Teacher Professional Learning	- 6-8 Environmental Education Summer Institute	
	Summer Institute	- 9-12 Environmental Education Professional Learning Communities	
	Grade Level Professional Learning Communities	- K-12 Teacher Field Trips (2 Saturdays - Spring & Fall)	
	Teacher Field Trips		
2021-22	Student Career Technical Education (Field Experiences & Guest Speakers)	- 3rd Grade Environmental Education Field Experience	\$ 472,350.00
		- 6th Grade Environmental Education Field Experience	
		- 9th Grade Environmental Education Field Experience	
		- K-8 Field Trip Grants	
		- Environmentalists in the Classroom Program (EICP)	
	District Coordination	- Evaluate Environmental Education Implementation Effectiveness	
	Environmental Education Coordinator	- Support Environmental Education Field Experiences	
	Environmental Education Working Group	- Coordinate Environmentalists in the Classroom Program (EICP)	
	Core Curriculum Environmental Education Connections	- Plan and Facilitator Saturday Teacher Field Trips	
	Teacher Professional Learning	- 6-8 Environmental Education Summer Institute	
	Summer Institute	- 9-12 Environmental Education Professional Learning Communities	
	Grade Level Professional Learning Communities	- K-12 Teacher Field Trips (2 Saturdays - Spring & Fall)	
	Teacher Field Trips		

District Coordination

- Environmental Education Coordinator*
- Environmental Education Working Group*
- Core Curriculum Environmental Education Connections*
- Teacher Professional Learning*
- Summer Institute*
- Grade Level Professional Learning Communities*
- Teacher Field Trips*

2022-23

Student Career Technical Education (Field Experiences & Guest Speakers)

- Evaluate Environmental Education Implementation Effectiveness
- Support Environmental Education Field Experiences
- Coordinate Environmentalists in the Classroom Program (EICP)
- Plan and Facilitator Saturday Teacher Field Trips
- 9-12 Environmental Education Summer Institute
- K-12 Teacher Field Trips (2 Saturdays - Spring & Fall)
- 3rd Grade Environmental Education Field Experience
- 6th Grade Environmental Education Field Experience
- 9th Grade Environmental Education Field Experience
- K-12 Field Trip Grants
- Environmentalists in the Classroom Program (EICP)

\$ 464,150.00

Funding Total (4 years)

\$1,556,500