FOOD FOR THOUGHT

“We can make health and the food system part of the learning experience. Through our students’ work in the garden, wonderful socialization is occurring. Students are coming together in groups to do group activities in wonderfully cooperative ways. On the academic side, the life cycle is being taught to children in the gardens, and there’s a much greater awareness of ecology. Now we need to make certain that the job we’ve done in the gardens is extended to the lunch hour. We need to continue to make connections between the cafeteria, the garden, local farms, physical activity, and the academic classroom. . . . The lunch hour and the delivery of food to kids is an opportunity for learning that we have almost completely ignored and need to include.”

— Michele Lawrence, superintendent of the Berkeley (California) Unified School District
RETHINKING CURRICULUM INTEGRATION

The Goal  To make the food system and health part of the academic curriculum and the learning experience.

The Challenge  Making the shift from teaching single subjects to a thematic approach that helps students see relationships and find meaning in what they are learning.

The learning mind is constantly searching for patterns and connections, yet academic instruction is traditionally separated into disciplines. Many teachers do try to connect learning in a variety of subject areas, and many children are excited when they make these leaps of understanding. Too often, however, the combination of scheduling issues, short class periods, and teachers with insufficient time to plan can result in learners who have difficulty making connections and finding meaning in the subjects they study in school.

Binet Payne, author of The Worm Café, says, “Today’s students are hungry for work that is real, for learning that is meaningful. Project-based learning (PBL) is a teaching strategy that allows students to take more responsibility for their learning as they make decisions and create solutions to problems that interest them. All subjects can be integrated as students apply their academic, social, and life skills to their work.”

Using a theme to connect disciplines makes the curriculum more coherent and helps students see relationships. With the local food system as a theme, for example, students might learn about the carbon cycle through classroom lessons connected to the activity of managing a compost pile of lunch scraps. Lessons in nutrition might become part of a science curriculum that is integrated with visits to local family farms, work in the school garden, and the practice of harvesting and preparing a healthy lunch.

Some schools are actively attempting to integrate classroom lessons and experiential learning right now — for example, educational programs that use school gardens and kitchen classrooms as learning environments with project-based learning as the teaching strategy — with some exciting results. Encouraged by these successes, many administrators, educators, and parent groups have become interested in using project-based learning as a teaching strategy that integrates all subjects as students apply knowledge acquired in the classroom to real-life situations. They recognize the ultimate success of these curriculum innovations will depend on the strong support of an official commitment to student learning that truly incorporates classroom lessons in math, science, health, cultural studies, and other disciplines into an experiential context.
KEY POINTS

Healthy School Environments Support Learning
Children learn from everything they experience while they are at school. Healthy school environments reflect understandings about how learning occurs, support student well-being, and lead to improved student performance.

The Food System Can Be a Theme for Organizing the Curriculum
Recently, groups of educators have begun to focus on the local food system as a theme around which to organize their curriculum, and they have included lunchtime as a powerful context for learning. Marilyn Briggs, former director of the Nutrition Services Division and former assistant superintendent of Public Instruction for public instruction at the California Department of Education, feels that it’s important “to connect health, through nutrition education, to the whole curriculum — not merely as one of the components in the curriculum, but as something that’s embedded in all aspects of it. It means making school meals part of the nutrition education program.”

Instructional materials have already been developed that use the food system as a theme. They integrate classroom lessons and the learning environments of the lunchroom, garden, kitchen, farm, home, and natural world — a real-world context that supports brain/mind learning.

District Food Policies Can Support Healthy Connections
Lunch is not separate from the rest of school. Schools have an impact — positive or negative — on children’s health every day. Lunch is part of the learning experience of the student, whether schools are managing it or not. The question is, Who is controlling the learning experience in the lunchroom?

District food policies can support connecting health to the curriculum by pointing out the connections between nutrition and cognition. When they announce the district’s intention to assume educational responsibility for the whole child — from the time the student arrives at school until the school day is over — they can reinforce the idea of a healthy school environment.

In this vein, district food policies can declare the lunch period to be part of the learning day, and they can encourage educational staff and food service personnel to work together to integrate learning with the dining experience. Some district food policies choose to exclude all external and commercial messaging from campus and to allow only those messages (initiated by the district) that are consistent with district goals for student health and learning.

It makes sense to give that responsibility back to educators. Schools already assume responsibility for teaching such skills
as discipline, honesty, civility, and conflict management. Increasing student aptitude for developing and maintaining personal health is consistent with that suite of skills.

**Organizing Curriculum Around Food Systems Means More Complexity, Not More Hours** If the school day is already filled with required subjects, — how can we incorporate food systems as a theme for instruction? It’s important to recognize that using a thematic approach to instruction adds complexity and learning opportunities — not necessarily time — to the school day. When the curriculum is thoroughly integrated with the larger goals of the district, such as improved student health and ecological understanding, those goals become part of the culture of the entire learning community.

**Achieving Change Takes a Shared Vision** Making nutrition education and the local food system part of the school curriculum requires educators to rethink how they approach teaching and learning. Attempting to institute changes on a voluntary basis in classes scattered throughout the district rarely meets with lasting success. Before beginning the curriculum integration process, it helps to build a shared language and vision for the work. Change that is held in place solely by the will of a superintendent or principal lasts only as long as that person is managing the change process.

That’s why assessing district readiness, communicating the reasoning behind a district-wide curriculum integration process linked to nutrition education and the local food system, and seeing the process through should be the responsibility of a committed coalition of all the stakeholders.

A mutually supportive group will generate the energy needed to see such a change to the curriculum take hold: Plan on several years from initiation of the process to last phase of rollout.

**How to Begin the Process** Even the most thoughtfully developed curriculum will gather dust without a process that allows a critical mass of teachers and administrators to take ownership of it. The process of changing to a district-wide food systems curriculum can take several years to complete. Michele Lawrence, superintendent of the Berkeley (California) Unified School District, has these suggestions for getting started:

1. **Develop a shared language and vision.** Define what it is you want children to know about diet, health, agriculture, and the environment.

2. **Identify a pilot group** of interested principals and teachers. If possible, include the food service director and staff from the beginning so that they regard themselves as full partners within the new curriculum design.

3. **Study the state standards** to determine how much of what you want to teach is already required by the state. Then follow through with curriculum shifts that integrate the state- required learning outcomes with what supports the district’s goals for student health and learning.

4. **For elements of your proposed food systems curriculum** that are not required by the state, but that you feel are important, ask whether they are important enough to replace something else you’re now teaching. If you can’t
replace anything in the current curriculum, how else might you begin embedding these elements in the school day? Can these elements be integrated with the lunch period and student assemblies, essay and reading assignments, field trips, and information sent to parents?

5 **Share the proposal** with a larger group of principals and teachers. Modify it in response to their feedback.

6 **Present the proposed curriculum** and a plan for implementing it to the district board of education. If the district food policy does not already support the curriculum integration process, recommend that this process be adopted. This can help create the expectation that all schools and teachers will honor it.

7 **Identify ways to measure your effectiveness** in meeting the intentions you’ve set through district goals and objectives. Assess what and how children are learning about diet, health, and the environment from the integrated curriculum.

8 **Include assessment of changed attitudes and behaviors**, as well as quantifiable tests of knowledge. Add assessment of students’ ability to apply their learning in different settings.

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**RETHINKING SCHOOL LUNCH**

**Web of Connections**

This document is part of a comprehensive **Center for Ecoliteracy** project that provides helpful information on topics related to redesigning school lunch programs.

The diagram illustrates our systems approach to integrating school lunch programs with curriculum, improving student health and behavior, and creating sustainable communities.

School administrators, food service directors, teachers, and parents will each approach this project from their unique perspective. Readers can begin with the topic that interests them most, then explore the other related topics.

The entire Rethinking School Lunch project is available at: [www.ecoliteracy.org/rethinking/rsl.html](http://www.ecoliteracy.org/rethinking/rsl.html)
Interview with Michele Lawrence, Superintendent of the Berkeley (California) Unified School District

by Janet Brown, program officer for food systems at the Center for Ecoliteracy

Center for Ecoliteracy: Can you see a way that the food system and health can become a part of the learning experience of students?

Michele Lawrence: In my own mind, I’m formulating and evolving these concepts. I’m trying, as an educator, to come to grips with some things that I have believed in and now see all the more clearly in my work with Berkeley School District.

Today, our classroom teachers have assumed so much responsibility for so many aspects of the child’s life. As an example, while it is not mandated to teach honesty or courtesy, we teach these things to kids as a matter of professional culture. We teach students conflict management, consensus building, and being neat and tidy with their work. There are no prescribed curricular documents that mandate those important lessons but it has become more and more apparent how critical it is to teach those to our students. It is part of recognizing that in order to exist as a community of learners we need some rules and conventions that govern our lives while working together. The teaching of these skills has evolved over time through conversations among teachers and through staff development. I’m beginning to think the idea of food, dining and health can come about in the same way.

I’m coming to realize that the lunch hour and the delivery of food to kids is an opportunity for learning that we have almost completely ignored and need to include, in the same way we have included those other necessary skills. We have taken very few deliberate steps to tie food and nutrition into the framework of the child’s schooling from the time they come to us in the morning, during the lunch hour, until the time they leave us. I am recognizing that we have an educational obligation that I have ignored in that time every day called “the lunch period” to consider what’s happening to our learner.

This is a part of the day that educators traditionally think of as outside the formal educational process. During that time, we have generally invested in supervision of kids or monitoring them play. So, I’m thinking we can take this period of time, and in the way that a classroom teacher folds in the teaching of honesty or listening, we can fold in a consciousness about a child’s health and well-being. I’m also thinking that this idea of the whole child’s well being can be worked into our social studies, our science, and our math as practical units that might replace or enhance other concepts we teach. I’m not talking about duplicating efforts, or adding things on, but rather incorporating the concepts that we want to deliver around food, nutrition, physical activity, and a child’s well being, through existing content areas.
Our Berkeley teachers can testify to the fact that through our student's work in the garden, for example, wonderful socialization is occurring. Students are coming together in groups to do group activities in wonderfully cooperative ways. On the academic side, the life cycle is being taught to children in the gardens, and there's a much greater awareness of ecology. Now, we need to make certain that the job we've done in the gardens is extended to the lunch hour. We need to continue to make connections between the cafeteria, the garden, local farms, physical activity, and the academic classroom.

I think we need to change basic notions about what it means to send the students to the cafeteria. As an educational community, we're fairly conscious about the importance of children's nutrition and we understand that nutrition is linked to academic performance. The district's support system for nutrition education is generally through food services. That department is also beginning to recognize its responsibility to ensure that meals served at school are a reflection of that consciousness for a child's well being, because it can be a learning for the students not just a lunch meal. It should not be a business, or a delivery of services and goods, rather teaching and learning.

**CEL:** And is there a way that the meal itself is part of that learning?

**ML:** I think so. Generally we teach the food groups or the life cycle of plants etc., in the relative isolation of the classroom. The teacher might hold up examples of pears and apples and ask kids to identify which group they fall in. But since there might not be the practical application of what goes into their body as fuel, these examples amount to little more than a conversation. Lunch is a much more exciting context in which to teach nutrition or physiology, because the kids are fully engaged in eating and enjoying the food. I think we can use the midday meal to teach math, for example. “Let’s look at your serving today, and let's do some estimation of the number of carbohydrates on your plate. Do you think it's going to be a high or low number? How does it compare to your breakfast? What item is more likely to cause you to gain weight? How many calories would you have to burn to offset the impact?” It’s that kind of thing. “What were the steps that led to that cookie or apple being on your plate?” The integration of these kinds of ideas and concepts into core curriculum allows students to begin to consider the diet/health connections of what they take into their bodies every lunch hour and keeping a goal in mind to reduce obesity and create healthier students.

In addition, the lunch period provides an important time for the enjoyment of food, socializing, and building camaraderie. It is a time when the whole learning community can sit down together as a family. We can gently extend the nuclei of what we’ve come to believe is a traditional family to include classmates and the classroom teacher. So, the community of learners becomes an extended family. I just see so much potential for good healthy school culture in the development of this notion. Perhaps these understandings and lessons around food and culture will be the key to combat the horrible rise in diet related diseases and obesity of school age children.

**CEL:** How do you imagine a curriculum integration project would rollout across an entire district. What would that look like?

**ML:** Because of the pressure to meet state requirements and to make certain that what we are teaching is in fact tested, it is important to first bring people together to identify the elements that we want to teach, and that we think are important to teach. From a practical standpoint, it would probably take more than two or three full days of working together with teachers to have them come to these agreements, but it could be done. We would identify the various things that are important for kids to learn relative to nutrition, health, eating, food, the garden, agriculture, etc., and chart those things out. Once we've brainstormed what we think would be important to teach, then we would take the practical step of
looking at the things that the State already requires us to teach and integrate the two. We would look for intersections of those things that the teachers thought were important to teach relative to the topics that we want to get across, and how much is already required by the state. With that information, we can begin to shift what is required by the state into a format that contains the things that we know are important.

There will also be elements that are not required by the state, but which teachers still feel are important to teach. So, now you begin to say, “How can we embed those things in the day? What are the things that might happen in a child’s life that we can turn into instructional lessons without lengthening the day?” And through that examination, a whole new set of ideas will surface, like this idea of using the lunch hour for education. It is also possible to embed these lessons in other activities such as student assemblies, or we can encourage kids to write particular essays or plays through which concepts about health and nutrition can be delivered. We would look for those things that are routine in a teacher’s day, such as reading periods, information that goes home to parents, and field trips, that teachers recognize bring excitement to a student’s life and that encourage interest and engaged learning. We would try to connect the message of health and good nutrition to those learning opportunities. At the high school level are several opportunities, particularly in chemistry, physics and other sciences. But, I can also see that we could make Silent Spring or Fast Food Nation, required reading in English.

Because of our larger responsibility to tend to the health of the whole child, there are many natural opportunities throughout the day to begin making these connections that will influence student attitudes and behavior for a lifetime, and the lunch period can be part of this. I’m not just talking about physical health. I’m also talking about mental well being and a personal recognition of responsibility for one’s own body. We need to teach children to see their “connection” and responsibility which extends to the whole school, the community and to the universe of which they are a part. So I guess that’s how it might roll out.

When you’ve reached that stage with the small group of teachers, you begin to meet with a larger number of teachers, move it through the system, and then analyze the results. After you incorporate that feedback, you can begin to disseminate this to other districts. Usually this stage involves teachers working with teachers, administrators with administrators, and then a combination thereof. You would also present your framework to the policy makers and ask them adopt it as one of those policies which becomes universal truth or theorem. Then it can be formally disseminated with some kind of expectation that all classroom teachers are responsible to do it. I really think it has to be through these larger combined efforts that we’ll be able to address health and dietary issues in this Country.

**CEL:** What about training and professional development?

**ML:** The training comes as you begin to roll this out. As you develop activities that are good for students you need to provide teachers with collaboration time to do it. It’s not difficult to change curriculum but it is greatly time consuming. From the initiation, to the rollout, to the training, it is a good three years of hard work. You will also need to measure your effectiveness in order to assess what it is you’re teaching, and whether it’s being effective and successful. So, you begin to develop measurements and benchmarks for kids. You might want to start with the attitudinal changes kids have about food, their knowledge of food groups, or their understanding of the environment or the life cycle, as examples.

**CEL:** In order to succeed, how much of a “critical mass” of teachers do you need to have on board to begin?

**ML:** If it is all coming from a superintendent, it can only be sustained as long as that superintendent is in place. So, that’s not the best way. It has to come through the ownership and understanding of
the entire staff and community. The superintendent can light the fires, but they have to burn on their own. The fuel is ignited when classroom teachers begin to get excited about this because they see it as important for students.

Begin by identifying people who have similar kinds of passions and concerns for students’ health. Usually, in order to roll out this kind of curriculum, the initial critical mass is about a third of the people who will finally be engaged in the process. Find a core group of people with complimentary philosophical outlooks. They need to share recognition of the need to act. It starts with the philosophical buy-in and the commitment. Once you get the teachers to say, “Yes, there’s a need”, then a smaller group can get involved in the actual mechanics. Then, the smaller group rolls it back out to a larger, critical group. It builds momentum this way.

**CEL:** As a superintendent, how would you find those teachers to begin with?

**ML:** First, I might go out and talk to those teachers I respect and know well, to float the idea. That’s kind of a dipstick test. Most often a superintendent communicates with teaching staff through their principals. In that case, I would talk to the principals, get their sense of the issues, and ask them, in turn, to work with their staff. I would go personally to meet with those schools that have expressed interest to see if our concepts match, in order to improve the communication. The principal in this case is the middleman communicator, and I would check to make sure that the system can accommodate the ideas of the school groups. Then I would identify what group to begin with, either as a pilot, or as the initial model group. Sometimes this stage becomes a very enthusiastic contest in that various groups vie to become the pilot group. That’s a great situation to be in when you want to try something new.

**CEL:** Do you need a whole school in order to do a pilot?

**ML:** I don’t think you do. It’s cleaner if you approach it from a consistent grade level across the district. Let’s say we want to roll this curriculum integration process out across the entire district. So, it might be all third grade classrooms, or, it might be all fourth or fifth grade classrooms, because the exchange and the bringing together are much easier when it’s done in concentrated numbers. Then you can fill in, and build up and down through the system, based on the learning experiences that one grade level has had. A couple of our schools had grade levels of teachers who were the first to invest in the garden curriculum. It was through those efforts that the other schools and grade levels got involved. One might also approach it as a whole school experiment. When a whole school buys in, the whole school becomes the disseminator of their experience to the next school.

What I think is least successful is having something that is voluntary, where people participate on a voluntary basis, because then it’s absolutely hit and miss. It is not embedded, and there’s no guarantee of a sustained effort. It’s too expensive to do teacher training when it is only volunteer, and so there is no inherent commitment to sustainability. I think this issue is too important to come at it accidentally. That approach will only allow already limited resources to dwindle down, and so it’s not an effective model to work through. If the idea has merit for kids, then all kids need to experience the results of the curriculum change. In this instance, the importance of good nutrition and a child’s well being should apply to all children throughout the system.

**CEL:** As a superintendent, do you need to be careful in terms of how many new ideas you’re bringing to people?

**ML:** Oh, sure. And this becomes specific to an individual district. In some places, innovation and creativity are pretty easily adopted. What is often missing though, is the means to sustain the creativity. What is most important in my view is a recognition that a teacher’s
day is filled, so if we want to take on new initiatives, we’ve got to be able, in a practical sense, to show how this will substitute for something else that is currently being done. If that is not possible, and more and more time and resources have to be provided, the innovation will be hampered because of dwindling resources.

**CEL:** Is it possible to incorporate food service people as partners and educators in rethinking school lunch?

**ML:** The inertia we need to overcome is the “public ed” atmosphere. We have been conditioned that we have 30 minutes to get the students in and get them out of the lunchroom. We tend not to pay very much attention to the cafeteria line worker. The line worker’s responsibility has not been to assess whether the food being served is healthy, but just that kids get the right portions in a timely way. If the line workers were offered professional development about nutrition and they were more attuned to health themselves, then they will look and say, “Oh, gosh, this kid’s chosen nothing but chocolate milk and chocolate cookies.” Current training focuses more on efficiency of service, as opposed to the nutritional value of the food and the need to be a teacher of better nutrition. This is where that “community” of learners needs to expand.

That’s another exciting piece about this idea. In the nutrition services department, if we can all think about how food service employees can become more like instructional aides who have a link to an educational piece, I think it brings a richer idea of how all this fits together. I would think that when a group of teachers comes together about curriculum, it would be really important for the typical food service worker who’s at the tray line, and doesn’t have curriculum knowledge, to be a part of the evolution of the curriculum change from the beginning. The attitude people have when they’re serving the food affects children’s experience and teaches the kids something about what all the employees in the school think is important for them and their health. You can’t tell them in the classroom, “Food is important,” and then serve them something for lunch that is inconsistent with that message in an environment that is rushed and unpleasant.

**CEL:** Is there time in the school’s schedule for somebody in food service to come into classrooms and make those educational connections?

**ML:** There hasn’t been that time. It would require us to do some modification of work hours and to do some shifting. It would require us to get the unions on board first so that they embrace it as a great idea for kids. You’re really facing the same problem with the teachers. If you’re going to deliver it as curriculum, it’s got to take the place of something they currently do or else you’ve got to add more time, and adding time costs money.

**CEL:** Using the food system as an integrator of curriculum, what larger themes can you imagine linking school lunch to?

**ML:** We would need to ask, what is it that we want kids to know relative to agriculture and a sustainable food system? What is it that we want kids to know about recycling and conservation of resources? What is it that we want them to know relative to the foundations of civilization? That’s where the classroom teacher would step forward and say, “Here are the things that I think they ought to know,” and then relate that to the standards.

My experience with many educators and superintendents is that the demands on them are so incredibly great for what is required in a day that it forces some to think there’s no room for innovation. But I know I’m not in this alone. I’ve got other people who have invested in this idea that school can become a much healthier place for students long before I arrived. It gives me the fortitude to sit down and invest the time to figure out how we’re going to do it because of the commitment I have seen. And, if I’m going to invest the time for Berkeley, I might as well invest the time to figure out how we can do this for the greater good. Because in fact, I do think it is part of the greater good for public education and kids.
I think it’s through those questions that I would begin to introduce the idea of what we’ve been talking about. There are a lot of ways that the right questions can lead you to the epiphany that I’ve had, that “We do have a responsibility here.” Getting others to recognize this fact may be our biggest hurdle. But I believe we do in fact have a responsibility at the lunch hour to make certain we are educating, as well as nourishing, the whole child.

Michele Lawrence is superintendent of the Berkeley (California) Unified School District. Lawrence has been a public educator in California schools for more than 30 years, serving in many roles including classroom teacher, counselor, high school principal, curriculum director, and superintendent.

All along we’ve said, “Please bring your child to school with a good breakfast.” Up till now it’s been someone else’s responsibility, and now it’s becoming ours, and perhaps it should be ours. Our staff recognizes that we have an impact on children’s health, positively or negatively, everyday. What we’ve got to do is reduce the number of unintended negatives. For example, there is learning going on in the cafeteria that we are not controlling at all. I think kids can learn, simply from the way food is served to them, to become a fast food consumer. It’s as though the school is saying, “The way to eat a meal is as fast as you can.” It’s an obstacle in the way to where we really want to go. If that lunch time attitude changes, and it becomes an event in itself, with the camaraderie, with time to eat and enjoy lunch, with food that people are proud to serve, and with links to why this food is ultimately good for you as the learner, then it’s a different lesson.

CEL: Say someone in your field—a superintendent—is thinking about initiating a district-wide curriculum integration process like this. What kinds of questions should they be asking?

ML: Well, I guess one question is: “How do you define your educational responsibility to teach the whole child?” I would ask that question of the board of education as well as the teachers. And, I can predict pretty much the kinds of things that they will say. Many are committed to the “whole child.” And then I would then ask, “Is nutrition an important feature of teaching the whole child? And physical activity, is that an important piece?” I believe there will be agreements on this. We also need to recognize the things in the organization that interfere with or detract from our teaching responsibility for the whole child. I’m willing to bet that school lunch won’t be mentioned. I would pose the question, “What about the 30 minutes or 40 minutes when the student is having lunch? What are the elements connected to that period of time that we would expect kids to learn and to know?”
Curriculum Integration Resources

The Center for Ecoliteracy provides the following resources through Rethinking School Lunch:

Year One Introductory lessons of the Linking Food, and the Environment Program (LiFE), An Inquiry-based Science and Nutrition Program, developed through Programs of Nutrition Education and Science Education at Columbia Teacher’s College, New York City

www.ecoliteracy.org/pages/rethinking/downloads/LIFEyr1IntroLessons.pdf

Questions in the LiFE Curriculum, Year One Module
www.ecoliteracy.org/pages/rethinking/downloads/LIFEyr1IntroLesWS.pdf

Other Resources

Curriculum Integration Resources

ASCD Education Topics page
Expert Heidi Hayes Jacobs answers questions on curriculum integration.

www.ascd.org/cms/index.cfm?TheViewID=996

Practitioners share their views on curriculum integration.

www.ascd.org/cms/index.cfm?TheViewID=996

Curriculum Integration Professional Inquiry Kit
This multimedia kit from ASCD shows how to make an integrated curriculum work at your school. (ASCD Professional Inquiry Kit, 1998)

http://shop.ascd.org/ProductDisplay.cfm?ProductID=998214

Brain-based Learning
For more about how people learn and ways to create non-threatening environments that foster dynamic learning

ASCD Education Topics page
Expert Marian Diamond answers questions about the brain and learning.

www.ascd.org/cms/index.cfm?TheViewID=1708

Practitioners share their views on the brain and learning.

www.ascd.org/cms/index.cfm?TheViewID=1708

The Brain, Education, and the Competitive Edge
Geoffrey Caine and Renate Caine

http://cainelearning.com/books/home.html

The EIC Model™
Here’s where to find out more about using the environment as an integrating context. State Education & Environment Roundtable.

www.seer.org/pages/eic.html

Planning Integrated Curriculum: The Call to Adventure
Susan M. Drake


Understanding by Design
Grant Wiggins and Jay McTighe

www.ascd.org/publications/books/198199/

Rethinking School Lunch – a project of the Center for Ecoliteracy
Curriculum Integration

www.ecoliteracy.org
The Project on Schools Using Multiple Intelligences Theory (SUMIT)
This is a three-year national investigation of schools using Howard Gardner’s theory of multiple intelligences.
http://pzweb.harvard.edu/SUMIT/

So Each May Learn: Integrating Learning Styles and Multiple Intelligences
Harvey F. Silver, Richard W. Strong, and Matthew J. Perini

Curriculum Materials
Resources and frameworks to support integrating food systems, nutrition, and the environment into your curriculum design
The Biodiversity Collection: Resources for Educators
Produced by World Wildlife Fund in association with the North American Association for Environmental Education.
http://naaee.org/npeee/biodiversity.php

The Environmental Education Collection: A Review of Resources for Educators Volumes 1-3
The materials were evaluated using the Environmental Education Materials: Guidelines for Excellence developed by the North American Association for Environmental Education.
http://naaee.org/npeee/vol_1_resources.php
www.naaee.org/npeee/vol_2_resources.php
www.naaee.org/npeee/vol_3_resources.php

Connecting Brain Research with Dimensions of Learning
Mariale M. Hardiman

Making Connections
Geoffrey Caine and Renate Caine
http://cainelearning.com/books/home.html

Teaching to the Brain’s Natural Learning Systems
Barbara K. Given
http://shop.ascd.org/ProductDisplay.cfm?ProductID=101075

Multiple Intelligences
For more about the theory and practice of multiple intelligences
ASCD Education Topics page
Expert Howard Gardner answers questions on multiple intelligences.
www.ascd.org/cms/index.cfm?TheViewID=999

Practitioners share their views on multiple intelligences.
www.ascd.org/cms/index.cfm?TheViewID=999

Multiple Intelligences: Theory and Practice in the K-12 Classroom
A compilation of materials that provide an introduction to the topic of multiple intelligences.
www.indiana.edu/~reading/ieo/bibs/multiple.html

Rethinking School Lunch – a project of the Center for Ecoliteracy
Curriculum Integration
A Guide to Food and Fiber Systems Literacy (K-12 framework)
A Compendium of Standards, Benchmarks, and Instructional Materials for Grades K-12 funded by the W. K. Kellogg Foundation in cooperation with Oklahoma State University. (PDF: 7 pages)
http://food_fiber.okstate.edu/FINAL1.pdf

Nutrition to Grow On
This curriculum contains nine hands-on lessons, each linking a nutrition education activity with a gardening activity.
www.cde.ca.gov/cdepress/catalog/nutried.html

Interdisciplinary Curricula
CookShop®
A hands-on approach to better nutrition that connects the classroom and the school lunch menu.
www.cfrcny.org/index.php?name=cookshop

Discovering the Food System: An Experiential Learning Program for Young and Inquiring Minds (for ages 12-18)
This program is meant for anyone who is curious about food, how it gets from farm to table, and how we, as eaters, are involved in that system.
www.cce.cornell.edu/fooodsys/

Farm to Table (K-8)
New England Breeds Heritage Conservancy at Hancock Shaker Village publication.
www.nehbc.org/FarmToTable.html

French Fries and the Food System: A Year-Round Curriculum Connecting Youth with Farming and Food
Written and developed by The Food Project’s growers and educators.
www.thefoodproject.org/newtfp/tpstore/books.shtml

Garden Mosaics Educator’s Manual
A science education and community action program for youth ages 10-18.
www.gardenmosaics.cornell.edu/pgs/edmanual/intro/intromenu.htm

Garden Mosaics Food Systems Action Projects
In the Food Systems Action Project, youth learn about our complex, modern day food system, starting at the local level.
www.gardenmosaics.cornell.edu/pgs/edmanual/activity/action3.htm

Junior Master Gardener Curricula
Headquartered at Texas A&M University, this is an international youth gardening program of the University Cooperative Extension network.
www.k2demo.com/jmg/index.k2?did=6019&sectionID=6019

National Gardening Association’s Kidsgardening.com
Information and curriculum materials for youth gardening, especially for anyone involved in school gardens.
www.kidsgardening.com

School Market Program
Curriculum for students to create and operate their own farmers’ market in school.
www.thefoodtrust.org
Research


Environmental Education

ASCD Education Topics page
Bora Simmons Answers Questions on Environmental Education
www.ascd.org/cms/index.cfm?TheViewID=2104

Practitioners Share Their View on Environmental Education
www.ascd.org/cms/index.cfm?TheViewID=2104

Research


International

*Curriculum Matters: guidance and advice for schools*
www.foodforum.org.uk/curriculum/index.shtml

*Food for Life Curriculum Pack*
Food education, including farming, food production, trade, nutrition and cooking.
www.farmtrails.org.uk/fflcurrpack/foodforlife/index.html

*Food in the National Curriculum: balanced diet or seriously malnourished?*
A summary of the position of food in the National Curriculum (England).
www.foodforum.org.uk/hot/National_Curriculum-Tea-Fis.shtml

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Center for Ecoliteracy
2528 San Pablo Avenue, Berkeley, California 94702
www.ecoliteracy.org
email: info@ecoliteracy.org