

Ola Ka Honua: Volcanoes Alive was designed to provide culturally sensitive science curriculum to Native Hawaiian students. The program can be utilized in a variety of ways. Four different methods have been field tested, with results documented in this manual. *Please note: the information in this manual summarizes teacher feedback after field-testing the curriculum in their classrooms during program development.*

The Concentrated Block Approach. This approach involves teachers presenting the entire curriculum and supplemental projects in a concentrated block of time, providing intense instruction during a single semester.

What materials/resources are required to teach Ola Ka Honua using your approach?

The CD-ROM is used as the text and is usually reviewed in sections by the class using a data projector. After reviewing the information, students individually navigate through the section using computers in the teacher's classroom rather than the computer lab. Teachers have found it advantageous to have their own data projector for group work.

Other materials used include "Atlas of Hawaii," (Juvik); topographic maps; various Hawaiian Mo'olelo (legend) collections specific to the island, Legend books related to mo'olelo on Kaua'i have been used including "Polihale Legends," and "Kauai Tales." Students have collected stories from their own grandparents, but many students are from elsewhere and do not have family who know local stories. Resource speakers are helpful, such as retired geologists, and people from the Environmental Center and the Wildlife Refuge. Most research is done online over the school's network.

Technical support is needed, especially for printer connections. When a Windows version of the CD-ROM is available, the school's PC lab can be used.

One teacher checks the worksheets as completed and after probing the students for their recall, reintroduces lessons that need reinforcement. The teacher has students researching inquiry questions in depth, and has students make posters and give presentations on their findings. They also use peer review among students to critique presentations.

How much time is required to teach an average Ola Ka Honua lesson?

In the concentrated block approach for the science class where the materials are used as part of the mix with other materials, Units 1-8 were done in three quarters. As of Program Year Two, the lessons covered less than half of the content standards for 8th grade science, thus the need for a mix with other material. In the Special Education classroom, only portions of the material are used during the whole year. Prep time varies widely according to the teacher's degree of science background. Homework is minimal.

How do the following Ola Ka Honua tools fit into your teaching approach: scientific, technical and administrative human resources; materials; computers; cultural elements; multiple learning style focus; community involvement; standards and performance indicator alignment?

Some teachers use their own resource material. The additional computers in the classrooms have helped make it possible to have individual students take turns without scheduling lab time. Since the school uses PC computers, the PC version of the CD will really help with implementation. Ideally, the school is moving toward a middle school team, interdisciplinary approach in the future, where the curriculum is divided up among subject areas. So far, they have not used the outside resource people (kupuna need to be found) to bring into the classroom. (ALU LIKE Kupuna program will be contacted.) The curriculum has helped reach about half of the content required by new state science standards, called the Hawaii Content and Performance Standards (HCPS III).

What does a teacher need to know to begin using this approach?

It seems most effective when a science teacher teams up with a teacher with cultural background. Teacher training provided by the project has bolstered teachers with more background in both areas. By working together and gaining more background in both science and cultural knowledge, teachers make connections between cultural ways of knowing and modern observation with today's tools.

Identify some strategies for success using your approach.

Teachers have been discussing their approaches with each other, sharing what works and what does not during common preparation periods.

Must a teacher have a scientific background to teach Ola Ka Honua using this approach?

No, the curriculum helps visually illustrate geology concepts, especially with effective animation.

Does your approach require planning and coordination with other teachers, staff members, or community members?

Each teacher has been self-contained in their use of the materials. They have used community members very little. There is some difficulty connecting with Kupuna with cultural knowledge. Connections to ALU LIKE's Kupuna program were discussed to solve this.

If so what strategies do you use to facilitate this communication?

It was suggested that they may want to observe each other as to how they present their material

Does your approach encourage students to question what they have learned or been instructed to do?

If so, how do you facilitate this?

Absolutely, and the use of probing questions has gained fruitful discussions by students.

Do you use technology (multimedia) to enhance lessons? If so, how? If not, why not?

The use of the data projector with the class has been one of the best parts of the program, since it provides graphic illustration of the concepts.

Does your approach require a strict schedule, or is your schedule flexible? Explain.

Each teacher has improvised in fitting the materials into their course outline without a strict schedule. Some teachers have multi-subjects and multiple age groups among their students and have used the materials on a flexible schedule.

Are hands-on lessons more or less acceptable to students than textbook and lecture focused lessons?

The hands-on lessons have been the most successful.

To what extent do you integrate other subjects into your science lessons?

Other subjects are integrated in a variety of ways. Journals, essays, mapping, and other activities lend themselves well to integration of various subjects.

Do you provide or follow an outline of what you will cover in the classroom period? If so, what is the format of the outline, and who is the intended audience (teacher, colleagues, students, principal?)

Each teacher follows their own outline which they share with their students on the board to help track their unit progress.

How do you initiate a typical classroom lesson?

Asking their students write or draw in their journals about their reflections.

How do you encourage student participation?

The hands-on labs are most effective especially for the learning styles of most students. Labs are done in small groups. Teachers walk around to monitor the conversations of the these group discussions and ask probing questions to encourage critical thinking and prompt further questions.

How is student understanding of particular concepts assessed? Who conducts these assessments?

The special education teacher makes oral quizzes into games and challenge with points to make it fun. Worksheets are checked and used to identify concepts that need to be reviewed and revisited. Assessments are made through worksheet reviews, quizzes, and oral comments back to students.

To what extent do students work individually in your classroom? In small groups? In large groups?

What are the benefits and weaknesses of each?

Hapa ka Manawa, hui li'ili'i a hana iho. Hui pakolu or palua. Pono e ho'ike ma ka hope. PowerPoint presentations and student lead inquiry. (Usually little groups of 2 or 3 work independently. After completing the project, they show what they learned through PowerPoint or video. Students lead their own inquiry.

What is different about this curriculum?

The graphics provided help illustrate the concepts.

How relevant is the material?

The materials are very relevant with the cultural approach. Teachers need more resources about culturally significant sites on their islands to share. Materials from the Ohia Project have been useful.

What background education and general abilities must a student have in order to successfully complete Ola Ka Honua?

Basic measurement skills: using rulers, scales, etc.

How do students feel about the different learning strategies Ola Ka Honua provides (CD-ROM, hands-on labs, research lessons, interviews, demonstrations etc)?

Visual learners, which are most prevalent among our students, have really done well with the materials and like the variety of tactile activities. The program also has been working well for students with the other learning styles.

What is the general world knowledge of the group of students you teach Ola Ka Honua?

Many students lack any background about Hawaii, its culture, and things Hawaiian.

Are the students motivated to learn Ola Ka Honua concepts using your approach?

Students have received the curriculum positively and have been responsive. Subject interest has increased.

Do your students have anxieties or beliefs that require you to adapt the Ola Ka Honua curriculum? If so, what adaptations/changes are necessary?

Many students lack any background about Hawaii, it culture, and things Hawaiian.

How do the inquiry-based lessons add to or detract from the curriculum?

These lessons have prompted more critical thinking and problem solving among students. They have encouraged development of higher thinking skills and have brought more in-depth content into the lessons.

What does this curriculum hope to achieve at the end of the program?

One of its strengths is that it brings the sense of place and significance of local culture into the school more than any other curriculum so far used.

Hawaiian Language Immersion Instruction. This approach will apply the curriculum in culturally focused classrooms.

What materials/resources are required to teach Ola Ka Honua using your approach?

The CD-ROM, Lesson Manual, computer lab, library, lab materials, Web site, mentors, kupuna, community and technical support are all essential to the program. Students must be completely engaged and focused on the topic when they come to class.

How much time is required to teach an average Ola Ka Honua lesson?

Ola Ka Honua lessons can easily be taught within a class period. Most of the time, work can be completed in class and requires no homework.

How are students assessed using your approach?

Students are assessed on worksheets, labs and projects, reports, interviews, and tests. Working outside is really important, working with their hands, watching videos, and reading background material.

What does a teacher need to know to begin using this approach?

Because this approach involves teaching using the Hawaiian language, the teacher must speak Hawaiian fluently. They also must have a significant understanding of Hawaiian culture and history in order to bring together those things Hawaiian and western. A great deal of research is required.

Must a teacher have a scientific background to teach Ola Ka Honua using this approach?

Not really.

Does your approach require planning and coordination with other teachers, staff members, or community members?

No, it is not required, but if you are able to plan and coordinate with others the quality of instruction is greatly improved.

If so what strategies do you use to facilitate this communication?

Ho'ohalikelike no i na 'ao'ao 'elua. – CD ame na wikio, ame PowerPoint. Introduction then ho'ohalikelike me na mea 'e a'e. Pono e ho'ohana i na 'ano a pau. Multiple Learning styles. Aho i ka hana lima i na haumana ma ke kula kaiapuni.

Do you use technology (multimedia) to enhance lessons? If so, how? If not, why not?

Yes, especially the video and computers.

Does your approach require a strict schedule, or is your schedule flexible? Explain.

Flexible.

How do you incorporate lecture into your science teaching approach?

Review, after pre-test, after the lesson has started.

Are hands-on lessons more or less acceptable to students than textbook and lecture based lessons?

Hands on is better.

To what extent do you integrate other subjects into your science lessons?

Social Studies, language skills, oli, hula, mo'olelo, - performing arts.

Do you provide or follow an outline of what you will cover in the classroom period? If so, what is the format of the outline, and who is the intended audience (teacher, colleagues, students, principal?)

A'ole pono, aia ma ka puke. – There is no need because it is all included in the curriculum.

How do you initiate a typical classroom lesson?

Wehewehe , Hana, no'ono'o hope, Oia ka waiwai ka no'ono'o hope. Lawa ka Manawa, hana ma kela me keia ha'awina, ina a'ole lawa, hana ma ka hope o ka pule. – Explanation, then doing the work, then

reflection. The valuable thing is the reflection so that the lesson is not lost. If there is enough time, then they do reflection after every lesson, if not enough time, then they do reflection at the end of the week.

How do you conclude a typical classroom lesson?

No'ono'o 'ana – reflection.

What is different about this curriculum?

Aia ma ka 'olelo Hawai'i, Maika'i loa, nui na mea waiwai, nui na mea pono no na kumu. Pa'a ka hana haku wikio i na haumana, holo mua lakou a hana mau no ka haku wikio. – There is a translated version that is a very good for the immersion teachers. The students became proficient in making videos and some have taken that knowledge and are pursuing careers in that subject matter.

Does this curriculum restrict the learner? If so, how?

'A'ohe – No restrictions.

Are you able to cover the material within the allotted time period using your approach?

'A'ole hiki ke hana i na mea apau, 'a'ole lawa ka Manawa no ka ha'awina i ka lakou ha'awina holo'oko'a. Pono 'elua pule no kekahi section. – Cannot do everything, not enough time for the lessons, the entire lessons, there is about 2 weeks that you must do for the curriculum.

Is it time effective for a large number of students?

It is not very effective because there are not enough computers for everyone.

How relevant is the material?

Pono na mea apau. - All the material is relevant.

What background education and general abilities must a student have in order to successfully complete Ola Ka Honua?

Hana kamepuila, heluhelu 'ana, kakau 'ana. - Computer work, reading, writing.

How do students feel about the different learning strategies Ola Ka Honua provides (CD-ROM, hands-on labs, research lessons, interviews, demonstrations etc)?

Making the curriculum hands on is the best way, finger tip technology.

What prevalent learning styles does Ola Ka Honua address? How?

Visual and tactile. - Hana lima ka mea kamepuila, ka noi'i 'ana i na kupuna, ka wala'au 'ana, - Work with the computers, interviews with the elders, and discussion.

What is the specific content knowledge of the group of students you teach Ola Ka Honua?

He mau haumana hawai'i. The program delves more into the science then they would usually get.

What is the general world knowledge of the group of students you teach Ola Ka Honua?

Very little, their world is Hawai'i. Many students have never left their islands, but with technology they know what is going on through media, the Internet.

Are the students motivated to learn Ola Ka Honua concepts using your approach?

'Ae, motivated. – Yes they are motivated.

Do your students have anxieties or beliefs that require you to adapt the Ola Ka Honua curriculum? If so, what adaptations/changes are necessary?

They don't like to be in school, have a tendency to throw clay, no real anxieties.

Are instructions of each lesson clear? If not, how could clarity be improved?

The translation is still a little hard, the technical terms are hard because the way of thinking is different, Hawaiian way of thinking is hard in translation. A curriculum made in English and then translated into Hawaiian is really hard. This is touchy ground because the students may need to know science terms which don't exist in the Hawaiian language. This is a whole different subject. Maybe having both (translations) right next to each other would be more beneficial.

Does a students age need to be considered for this program? If so, for what age is this program most appropriate?

The program is most appropriate for 9th grade, middle school, and even younger, but not into High School. Environmental science – creation - use some of the same concepts but not the same. This is upper level elective science.

Does the curriculum provide adequate science background information? What areas are lacking? What areas are sufficient?

Inquiry based lessons seemed to be put in because there needed to be inquiry. It provides adequate science background.

How does Ola Ka Honua involve/support the entire learning community and the community itself?

It brings kupuna in.

Does this curriculum adequately correlate science to students life?

Volcano hazard is directly related to student life, especially because we live with a volcano. Also the interviews with kupuna help students make application of the topic in their personal lives.

What does this curriculum hope to achieve at the end of the program?

Increase student understanding of volcanoes and help them learn more about the place they live.

Why would you recommend its use?

The program provides hands on activities, based on Hawai'i science.

What specific educators will find this instructional material of particular interest?

Science teachers, elementary teachers, earth science teachers.

The **Experiential Approach**. This approach combines Hawaiian Language Immersion Instruction with experiential learning. Through this approach, select Ola Ka Honua units are tested to determine the effectiveness of the curriculum when portions stand alone.

What materials/resources are required to teach Ola Ka Honua using your approach?

The CD-ROM, library, lab materials, mentors, community support are necessary.

How much time is required to teach an average Ola Ka Honua lesson?

Prep time depends on the lesson, but probably an average of 20 minutes. In-class time depends on the lesson, but averages from 20 to 90 minutes. Homework is not necessary.

How are students assessed using your approach?

Students are assessed by their worksheets, interviews, and questions.

How do the following Ola Ka Honua tools fit into your teaching approach: scientific, technical and administrative human resources; materials; computers; cultural elements; multiple learning style focus; community involvement; standards and performance indicator alignment?

Partners at the Hawai'i Volcanoes National Park and University of Hawai'i Hilo provide presentations for students. We use Ola Ka Honua to do lessons or demonstrate if not enough time. Computers allow independent student work. Presentations with Kupuna and other elders are made. Certain students will draw their lessons with a little information, others will do a full presentation based on their ability. Students usually work in teams, with the more academic students helping less academic students. Teachers and other adults provide supervision or assistance. There is a lot of community involvement, parent/teacher chaperones, numerous guest speakers available.

What does a teacher need to know to begin using this approach?

How to effectively manage students outside of the classroom (four walls) in an outside working environment. Basic knowledge about the environment that you are working in is also needed.

Identify some strategies for success using your approach.

Never ask students questions that can be answered with a yes or no. Ask leading questions. Limit lecturing; keep instructions concise and accurate. Maximize student exploration time. Minimize the need for taking notes in the field (data collection only, no notebooks). Worksheets are used to reinforce from the field not to teach in the field.

Where does one go to get more information about this approach?

Talk to Julie Williams, Kekealani Outdoor Education Center, read environmental education journals, visit environmental education Web sites and talk to national park interpreters.

Must a teacher have a scientific background to teach Ola Ka Honua using this approach?

A scientific background is helpful, but with research before each lesson anyone could teach it.

Does your approach require planning and coordination with other teachers, staff members, or community members?

Yes, we teach in a big outdoor classroom.

If so what strategies do you use to facilitate this communication?

Always visit schools and sit down and go over lesson prior to coming. Introduction takes place when students are in the field. We ask students to sit and focus, then break them into groups and mix them up into more manageable teams. This also ensures that those who need more help do not feel intimidated.

How does Ola Ka Honua impact your teaching?

It improves and makes it better. No one is falling through the cracks.

Does your approach encourage students to question what they have learned or been instructed to do? If so, how do you facilitate this?

Yes, we ask them questions and have them ask questions of us. We conduct a review of the activity sheets and talk about “what ifs.”

Do you use technology (multimedia) to enhance lessons? If so, how? If not, why not?

Yes, PowerPoint / slides, video, DVDs, and CD-ROMs.

Does your approach require a strict schedule, or is your schedule flexible? Explain.

Our approach has to be flexible because we combine students from schools from different districts (distances) therefore different allotted time. Nature also rules because the classroom is in the field.

How do you incorporate lecture into your science teaching approach?

We lecture as little as possible, the students hate lectures.

Are hands-on lessons more or less acceptable to students than textbook and lecture focused lessons?

Hands-on lessons are way more acceptable.

To what extent do you integrate other subjects into your science lessons?

Students write essays and poems following hikes. They do math as part of the science lessons.

Do you provide or follow an outline of what you will cover in the classroom period? If so, what is the format of the outline, and who is the intended audience (teacher, colleagues, students, principal?)

We provide an itinerary for the day with the associated activities listed.

How do you conclude a typical classroom lesson?

Going back to the key concepts and what they learned and tying them into other experiences (i.e. insulation properties of lava and how they relate to lava tubes and the cooling rates of lava flow).

How do you encourage student participation?

Call them out by name (volunteer them) or make them a group leader. We ask them to walk with teacher and rotate leading groups during hikes.

How is student understanding of particular concepts assessed? Who conducts these assessments?

Activity sheets and questions and answer sessions. The teacher conducts assessments.

To what extent do students work individually in your classroom? In small groups? In large groups? What are the benefits and weaknesses of each?

Students often work in groups. They seldom work individually, only for writing assignments.

What is different about this curriculum?

It applies directly to the volcano that the teacher is teaching about.

Does this curriculum restrict the learner? If so, how?

Only in the activity sheet portion, which could be expanded further.

Are you able to teach the material within the allotted time period using your approach?

Yes

Is Ola Ka Honua time effective for a large number of students?

Yes, the class is broken into groups, which makes it manageable.

How relevant is the material?

The material is extremely relevant.

What background education and general abilities must a student have in order to successfully complete Ola Ka Honua?

Students have to be able to think, read, work with a team, and have computer ability.

How do students feel about the different learning strategies Ola Ka Honua provides (CD-ROM, hands-on labs, research lessons, interviews, demonstrations etc)?

Students very much enjoy it.

Are the students visual, auditory, tactile, or acuity learners?

All of the above

What prevalent learning styles does Ola Ka Honua address? How?

OKH addresses hands-on, pure academic and creative learning styles. It appeals to a wide variety. It is multifaceted to reach a variety of learners with a variety of lesson approaches. In the Tephra Catapult lesson, one gets to use the calculator, and also design and assemble the catapult.

What is the specific content knowledge of the group of students you teach Ola Ka Honua?

Not very good, we only have them for three days.

What is the general world knowledge of the group of students you teach Ola Ka Honua?

Most students have never left the island on which they live.

Are the students motivated to learn Ola Ka Honua concepts using your approach?

Yes.

Do your students have anxieties or beliefs that require you to adapt the Ola Ka Honua curriculum? If so, what adaptations/changes are necessary?

Some do, they have problems with separating science from mo'olelo. Some are fearful because they are so close to Pele's spirituality.

Are instructions of each lesson clear? If not, how could clarity be improved?

Yes, we use only select lessons, and those lessons are very clear.

Does age of the student have to be considered regarding this program? If so, what age is this program most appropriate for?

The program is appropriate for most 6th-8th graders.

How does the Ola Ka Honua curriculum itself encourage student participation?

Because of its hands-on nature, all students are involved. Since they are divided into groups, none are intimidated by the lesson.

Does Ola Ka Honua provide curriculum/education standards assistance?

Yes.

How do the inquiry-based lessons add to or detract from the curriculum?

It makes the curriculum more relevant and enables students to ask their own questions.

How does OKH involve and support the entire learning community, as well as the community itself?

It involves most middle school students throughout the island because they all rotate through the KOEC program, where Ola Ka Honua is taught. Parents act as chaperones, so family members are involved.

Does this curriculum adequately correlate science to student life?

Yes, it's surrounding them. Many students live on active volcanoes and are part Hawaiian.

What does this curriculum hope to achieve at the end of the program?

Greater knowledge about Hawaiian volcanoes and the importance of keeping Hawaiian legends alive because they apply to many aspects of modern life, including science.

What are the basic components of the program?

Materials are provided and activity sheets are used in the field. Computers (CD-ROM) are used individually with support from teachers.

Why would you recommend its use?

It is so relevant to the students of Hawai'i as they learn physical science.

What does the subject matter cover?

Geology, social studies, language arts, math and Hawaiian language.

What specific educators will find this instructional material of particular interest?

Same as above; Geology, social studies, language arts, math and Hawaiian language.

What kinds of knowledge, skill, or tasks will the intended instructions include?

If this were to be passed along to another teacher their knowledge of physical science through geology would increase. They would be able to utilize basic geological methods.

The **Interdisciplinary Approach**. An instructional team teaches *Ola Ka Honua* across subject areas in 7th grade math, science, language arts, health, special education, and social studies classes over the course of one school year.

What materials/resources are required to teach Ola Ka Honua using your approach?

We don't have enough computers in the class, nor sufficient access to the computer lab, to have students using the CD-ROM individually. The entire class is shown pieces from the CD-ROM using a projector. This usually occurs at the end of the unit as a review. The lesson manual is the main resource used, and the Ohia project is used as a supplement. Since the program is hands-on intensive, supplies for the activities are needed. Where supplies are limited students may work in groups, or the activity can be performed as a demonstration. In some cases, the teacher may choose to perform an activity as a demonstration to maintain better order in the classroom (e.g. the clay activity might have resulted in bad behavior so they demonstrated only).

The Ask the Geologist feature is not user friendly for the kids. One teacher had the students come up with questions and it worked reasonably well, but the response from the Geologist is sometimes above the level of our students.

Scientist Mentors were very helpful at the workshop training, but most teachers fear that the mentors will not communicate on the appropriate level for our students. How will teachers using this program in the future tap into the mentorship program?

Teachers are not sure how to gain access to kupuna. A list of resources that exist to find those willing to work with students would be helpful. Some teachers do not have a community connection to kupuna. An institutionalized partnership between the Ola Ka Honua program and a kupuna group to provide ongoing support to teachers as they use this curriculum would be very helpful.

How much time is required to teach an average Ola Ka Honua lesson?

Each lesson requires one class or block of 70 minutes, and sometimes less time than that. The team approach gives us the choice of doing a particular lesson grade-level wide or in only one subject class (i.e. science, language arts). We determine this according to the nature of the lesson, how well it ties in with each subject's curriculum, and so on.

How are students assessed using your approach?

Assessment is the same as in a traditional method school. Some of the assessments are too simple and quick; teachers will occasionally embellish the worksheet to make it a game (i.e. vocabulary). The assessments provided in the curriculum are kind of dry.

How do the following Ola Ka Honua tools fit into your teaching approach: scientific, technical and administrative human resources; materials; computers; cultural elements; multiple learning style focus; community involvement; standards and performance indicator alignment?

We don't have enough computers in the classroom to have individual student work on computers so we project computer-based materials (CD-ROM) on the big screen for the group. After Unit 1, it was difficult to find the cultural element and tie it in with culture. The OKH "took a nose dive" after Unit 1 in terms of cultural references and integration (this is being addressed after feedback was given). More lessons in other units should have cultural tie-in (i.e. give examples of properties of stone used in Hawaiian stone tools as part of the Density lesson. Why is a certain stone used for a certain cultural practice and not another?) The curriculum lends itself to multiple learning styles. Community involvement has included cultural or scientific experts and/or people who work in the field, kupuna, and archaeologists. We have the speaker visit during "Advisory" which can be used for any topic or experience. FIELD TRIPS are easier for us because we work as a team. We can make group decisions and one teacher can get the support of the others to do something. Existing IDU projects were going on that address standards and performance indicators, so this curriculum is being used to supplement and enhance the existing ones, rather than to replace it.

What does a teacher need to know to begin using this approach?

Every subject teacher must be able to find ways to connect this curriculum to their subject.

Identify some strategies for success using your approach.

Must know the “big picture” and understand the tie-ins with other subjects. Must know the curriculum well to plan how to do the tie-in.

Where does one go to get more information about this approach?

Network with other schools and other teachers. The trouble is that “team teaching” means different things to different schools/teachers.

Must a teacher have a scientific background to teach Ola Ka Honua using this approach?

In the team approach, not every teacher needs the scientific background but it helps for all teachers to have some knowledge or understanding. Same goes for the cultural side – you have to have some knowledge or understanding of the native Hawaiian culture to make it effective.

Does your approach require planning and coordination with other teachers, staff members, or community members?

YES! This is a key strategy for team teaching. This takes place during Planning Period – the team teachers plan together (every other day). They also work together to develop the grade level plans.

If so what strategies do you use to facilitate this communication?

The students get a more holistic understanding of the topics, see the tie-ins between subjects, due to the team approach. They see that all of their teachers are using this curriculum and tying it in. It is like the “needle and thread” tying it together.

Do you use technology (multimedia) to enhance lessons? If so, how? If not, why not?

We use limited technology (a few computers, some LCD projectors, PowerPoint and overheads) but can envision it being better if students could use the CD-ROM individually on their own computers. Also, it could be much higher tech in the future with networking (networked classroom computers and printers, digital cameras with printers, networking with other schools that also are using the curriculum), distance learning with scientists in the field, etc. A key goal is to eventually have students using the CD-ROM individually.

Does your approach require a strict schedule, or is your schedule flexible? Explain.

Team teaching is very flexible. In the non-science classes, they parts of the OKH lessons are incorporated in the topics or lessons that they’re already teaching. Linking OKH into a pre-existing curriculum, rather than making a new one.

How do you incorporate lecture into your science teaching approach?

We don’t lecture. Instead, we have student-teacher discussions which build on prior knowledge and personal experience (i.e. some of the kids have been to the volcano).

Are hands-on lessons more or less acceptable to students than textbook and lecture focused lessons?

Hands-on lessons if they are age-appropriate are more acceptable (i.e. don’t use unsafe/risky procedures such as Bunsen burners or clay).

To what extent do you integrate other subjects into your science lessons?

It is used constantly to enhance and support all subjects in the team approach.

Do you provide or follow an outline of what you will cover in the classroom period? If so, what is the format of the outline, and who is the intended audience (teacher, colleagues, students, principal?)

We use a monthly or weekly planner. We don’t usually have a written document that everyone follows. Since teachers meet every other day, they are in constant communication. Status updates are frequent and oral.

How do you initiate a typical classroom lesson?

Bell ringers – a task that is up on the board when they arrive that they start right away when they come in (about 5 minutes long; a short hook to the lesson). All teachers do this – it is consistent.

How do you conclude a typical classroom lesson?

Reflect on what we learned and what the objective or purpose of the activity was.

How do you encourage student participation?

Change the lesson (if students are bored). Try to check for understanding in different ways (vary the approaches: pinch something if true or false; other creative ways). Break it up into mini-lessons (the block is quite long).

How is student understanding of particular concepts assessed? Who conducts these assessments?

Post-tests, graded lessons, tests. Assessment is handled in individual subject classes. For IDU projects that have general themes encompassing all of the classes the assessment crosses over subjects, there is one general assessment for what was learned in more than one class.

To what extent do students work independently in your classroom? In small groups? In large groups? What are the benefits and weaknesses of each?

It is important to vary the approach. The disadvantage of groups is that you get opihī (one student stuck to another who does the work), independent work is good because the student is accountable.

What is different about this curriculum?

It is relevant to Hawaii – culture and science. It is interdisciplinary, encompassing all of the core subjects. It is very hands-on.

Does this curriculum restrict the learner? If so, how?

The way the curriculum is, sometimes it restricts the learner. Sometimes the lessons seem like just basic, broad questions and information that doesn't encourage higher learning thinking. It is not much on the higher order thinking skills, the critical thinking skills. It provides a good, solid foundation for knowledge, comprehension and application – but is lacking on the analysis, evaluation, and synthesis. Those higher order skills are necessary on the standardized test.

Are you able to teach the material within the allotted time period using your approach?

Yes, because different teachers in the team can teach different aspects and still get the other things they need to teach done (as opposed to trying to teach the entire curriculum in one subject class which probably wouldn't be possible – it would take up too much of the year).

Is it time effective for a large number of students?

Yes, because our approach allows a large number of students to do it across several classes.

How relevant is the material?

Very relevant to the geographic region (Hawai'i), to other curriculum, to standards, etc.

What background education and general abilities must a student have in order to successfully complete Ola Ka Honua?

Prior exposure to concept of place and Hawaiian cultural stories and figures is helpful; prior exposure to geography skills is helpful. However, this curriculum overall is very good in that it doesn't require a lot of prior knowledge and it is understandable and doable by a broad range of student skill/knowledge levels. We had a pretty high rate of success for all students across a broad range.

How do students feel about the different learning strategies Ola Ka Honua provides (CD-ROM, hands-on labs, research lessons, interviews, demonstrations etc)?

They like the hands-on labs and demonstrations. They like the CD-ROM. They like the variety – arts, crafts, etc. The curriculum taps into the various strengths of the kids – some do better on writing, others on art. OKH gives an opportunity for each child to bring out their strengths. Different styles of learning.

Are the students visual, auditory, tactile, or acuity learners?

All of the above. There is a variety among the kids' tendencies. Local kids like hands-on best.

What prevalent learning styles does Ola Ka Honua address? How?

A lot of different learning styles, and this is good.

What is the specific content knowledge of the group of students you teach Ola Ka Honua?

Grade 7 students who are following a core curriculum of science, language arts, math, social studies, and reasoning and writing.

What is the general world knowledge of the group of students you teach Ola Ka Honua?

They cover world cultures in Grade 6, but have little earth or life science prior to this year.

Are the students motivated to learn Ola Ka Honua concepts using your approach?

Volcanoes is a good hook because they're interested in it, so this helps motivate them to learn the concept of culture (in social studies). It ties in to their Hawaii environment and themselves as people and this helps motivate them.

Do your students have anxieties or beliefs that require you to adapt the Ola Ka Honua curriculum? If so, what adaptations/changes are necessary?

Their attitude is pretty average and comparable to other subject matter. They don't get super excited, but they aren't discouraged either. They seem to be captivated and engaged, even if they don't express excitement explicitly. They have a very positive attitude towards the art activities. They have a positive attitude toward the lessons that have materials and hands-on tasks. The cultural stories are somewhat sensitive. Teachers have to be careful not to present it as religious; sometimes they have to present it carefully so the students don't feel uncomfortable with it conflicting with their religious beliefs.