

## **Modeling Methods for Integrated Curriculum—Three Teaching Units**

By Susan Douglass, Ann El-Moslimany, and Sommieh Uddin

Curriculum integration has been widely discussed in Muslim schools and mainstream education circles. Muslim educators express concern about the demands placed on their academic programs by the extra subjects taught in their schools, the shadow of public school curriculum, standards and testing. This paper will argue in favor of curriculum integration, illustrate its advantages, and demonstrate three different models or methods of achieving integration, presented as case studies.

### **Integrated Curriculum in Muslim Schools—Luxury or Necessity?**

Advocates of systematic curriculum integration insist that it is a necessity, not a luxury. Muslim schools' mission to infuse academic subjects with Islamic knowledge and values, and the value of holistic learning based on the oneness of the Creation offer clear arguments. The fact that Muslim schools have in effect a "double curriculum" (core academics plus a nearly equal number of Islamic and Arabic subjects and activities in the school day) makes integration a necessity for covering all of the subjects in the allotted time. Among mainstream educators, trends in the development of standards for skills and content that map extensive overlap among core academic subjects offer solid arguments for integration. Writing across the curriculum, technology in all the subjects, and the many crossovers among science, social studies and math are further evidence of integration as a plus. From the standpoint of students' achievement, it is certainly clear that integration of the curriculum that links subjects makes instruction more meaningful and easier to retain in interest and in memory. Alternatively, covering each subject in isolation can make it seem as though topics are taught just because they are part of the school curriculum, with no clear reason for studying one topic over any other at any given time. The school day is chopped arbitrarily into pieces that have little relationship to one another, linked only by the discipline of school itself: obey the teachers, do "your" (or more accurately "the school's") work, and get good grades to please parents, school, and future gatekeepers of life success.

### **The Goals of Integrated Curriculum**

The purpose of pulling together related topics in the curriculum is to enhance student learning and appreciation of learning. Integration of curriculum is a more efficient use of time, because when it is done effectively and systematically, it avoids backtracking and substitutes depth of learning for shallower repetition. Integration should make learning meaningful, offer motivation to learn and a model for implementing learning in life—both now and in future careers and family/community life. It should serve as a constant lesson that learning is not something we "finish" when the diploma is issued, but a lifelong pursuit. If learning and teaching are ways of glorifying God, then integrated learning reflects the unity of all creation, and the marvelous connections and patterns in Allah's creation.

These presentations will show how curriculum integration can work, by describing three integrated units that have been taught successfully in Muslim schools at various grade levels, and describing how they were developed and taught. The panelists,

educators with extensive experience in curriculum planning and research, classroom teaching, and training teachers, model these units and discuss their planning and implementation. The three units differ in subject area covered, in scope, and in method, but all share the common element of teaching across the curriculum.

- Case Study #1 belongs to the Tarbiyah Curriculum used at Crescent Academy, and concentrates on implementing the theme of Healthy Living, one of seven school-wide themes. The unit integrates Islamic studies, science, language arts, social studies, math, and physical education/health, and has school-wide components that take the form of morning assembly content, hallway displays, classroom instruction, and student projects.
- Case Study #2 was developed at the Islamic School of Seattle. The unit makes connections among science, Islamic studies, history and language arts surrounding the topic of genetics. Content is explored through discussion of the words of the Qur'an about heredity and reproduction in the natural world, through exploration of historic studies such as Mendel's pea experiments, and advances in breeding animals from Muslim history. Students explore scientific principles and controversial uses of genetics through reading, writing and research projects. Study of genetics is used to develop an understanding and appreciation of the signs of Allah as evidenced in the intricate, sophisticated interconnected, systems in His creation.
- Case Study #3 is a year-long science, social studies, language arts and Islamic studies integrated module on earth science and human geography, with connections to math and fine arts. Using the National Geographic Society's *Reading Expeditions* cross-curricular topic books, various web pages, and hands-on activities, a team of three teachers guided third- and fourth-grade students through a year's study of earth science, map skills, learning about human culture regions and biomes around the world, as well as sampling art, folk literature, homes, clothing and languages in these places around the globe. Readings from the Qur'an made connections to Allah's provisions for His creatures, and Arabic language resources introduced vocabulary parallel to what the students were learning in English.

### **The Special Role of Language Arts in the Integrated Curriculum**

One common element is the involvement of Language Arts in these integrated units. In many schools that pursue integration of the curriculum, language arts is at the center of the curriculum, both receiving content and aiding learning in the content areas. Success in all academic subjects depends on the skills of reading, writing, speaking and listening to acquire and process information, and schools that place a value on integrating curriculum recognize that language arts should not be an isolated subject. Integration does not mean that language arts is merely the servant of teaching factual content in science and social studies; literary appreciation and creative writing should not be shortchanged. By interweaving literature, creative writing, and art into the units, however, the whole becomes greater than the sum of its parts.

There are of course complete instructional programs available for self-contained Language Arts instruction, with basal readers, spelling and grammar workbooks, and writing programs. Many schools feel obligated to purchase these sets at great expense, for all grade levels, and some elementary teachers might feel that without them, they are doing a high-wire act without a net. Current trends in publishing do mandate that basal language arts programs include some content from science and social studies, as well as literature. These content-area reading program selections are often random, however, and unfortunately they are usually unrelated to topics taught in science and social studies at the corresponding grade level. The selections are there for two reasons: (a) educators have recognized that the ability to read and analyze stories and poems does not necessarily guarantee the ability to comprehend non-fiction, informational texts, and (b) the market for Language Arts materials demands such inclusion, even if it makes up only a fraction of the reading content in the basal series. Similarly, grammar, spelling and vocabulary building occur based on lists of words, rules and skills, with special workbooks for drill and practice. Sentences used as examples are contrived and often isolated from any meaningful context. Writing assignments are contrived to work through a list of literary forms or writing skill rubrics.

There is nothing inherently wrong with the above approach, and it may achieve some or all of its objectives. Integrating language arts skill development into a larger content area teaching unit or module, however, may be more efficient and meaningful, though it does involve extra work for the teacher. It may involve developing instructional materials beyond the ready-to-use workbook format. Integrated unit development will certainly involve research into literary materials that harmonize with the content and contribute to the overall learning. The additional work of the teacher or curriculum team also results in greater rewards in quality of student work and skill acquisition. A look at the educational supplements market, however, underlines the fact that reading and writing across the curriculum are widely accepted, encouraged, and sought after. Instructional materials developers from primary grades to high school include reading and writing skills, as well as vocabulary development and mechanics, into content programs. As Muslim schools develop customized teaching units based on models for integration, it is hoped that we can both draw upon and contribute to these mainstream trends in teaching for greater meaning and enhanced proficiency, in order to foster motivated, interested and proficient students able to forge ahead at every stage of their education during their lifetimes.

### **Case Study in Integrated Instruction #1: Sommieh Uddin, Crescent Academy, Canton, MI**

#### **THE TARBIYAH PROJECT IN ACTION**

The **Tarbiyah Project** is a vision, a framework and a set of programs develop by Br. Dawud Tauhidi in collaboration with staff members at Crescent Academy International in Canton, Michigan.

#### **Vision**

The Tarbiyah Project is a concept of what Islamic education can and should be. It employs God-centered, broad-based themes, developed from a global perspective. Its chief goal is to nurture the *fitra* inherent in every human being to its full potential. It promotes the view that learning is a transformative, rather than merely informative, process.

### **Framework**

One of the significant features of the Project is the provision of a framework to help identify significant content and optimum teaching/learning methods. The instructional strategies used (hands-on, student centered, brain compatible) are as critical as the content itself. These aspects of teaching and learning are an integral part of a holistic program which focuses on the overall development of the child.

**The Tarbiyah Curriculum** is organized around seven broad-based themes that stem from a God-centered perspective. These themes are entitled *God Consciousness, Noble Character, Useful Knowledge, Healthy Living, Human Relations, Faith in Action* and *Public Service*. The school year is divided into six units and three marking periods so that two themes are addressed during each trimester. *Faith in Action* and *Public Service* are usually combined into one unit in the last trimester. It is important to note that the themes function in a circular, rather than linear fashion. Also, the global nature of the concepts addressed by each theme often overlaps or dovetails. This is both an inherent and intentional part of the overall design of the curriculum.

As an institution, Crescent Academy is committed to the successful development and implementation of the Tarbiyah Project. The project has been ongoing at the school for the past seven years, moving from a values-based, character education focus to an overall integrated and finally, transdisciplinary, curriculum of school-wide themes. From the director to the principal and the teachers, everyone has a role to play in its development and implementation.

**Director's Role:** Br. Dawud Tauhidi is the founder and chief developer of the Project. He is also the former principal and current director of the school. He communicates the overall vision and global perspective of the Project to staff members through written materials, in-service activities, discussion and inspiration. His current focus is the development and coordination of Tarbiyah standards and objectives with national curriculum standards

**Principal's Role:** Sommieh Uddin has been the principal of Crescent Academy for the past five years. As the curriculum leader for the staff, her job is to promote implementation of the vision with its curricular objectives on a school wide basis, providing guidance, direction and resources to staff members. She also oversees the development of grade level curriculum overviews and unit plans, and evaluates teacher and student performance in achieving teaching and learning objectives in the classroom.

**Teachers' Role:** As the main thrust of its hiring process, the school administration seeks certified educators who can embrace both the vision and practical aspects of teaching and learning through the Tarbiyah Project. Teachers are responsible for the development and

implementation of yearly curriculum overviews and unit plans using a customized Unit Plan Template. Teachers work to establish a positive, student-centered learning environment in the classroom. They also work with the administration to design and implement school-wide activities such as Literacy Arts month, the Useful Knowledge Fair and Spirit Day activities. These activities are connected to the school wide themes and are often the culminating activities of the unit

**Venues for the Launching and Progression of School wide Themes:** At Crescent, these aspects of the program are usually planned and implemented by the principal

- **Hallway Display Case**

A three panel display case greets all who enter Crescent. It announces the theme with graphics and written text, often in the form of Quranic verses, hadith, poetry, chants, songs and short stories.

- **Morning Assembly**

The first 15 minutes of the day sets the tone for everything that follows. The school-wide theme is reinforced with special du'a, exercise and other brief activities, including student's presentations, readings and songs.

- **Tarbiyah Talk Newsletter**

It is very important that we convey our unique vision to parents. The *Tarbiyah Talk* newsletter is written by the principal to introduce the special focus of each theme, showing how it is part of our life as Muslims and how it can be reinforced at home. The newsletter provides consciousness-raising for the parents. It helps them grasp the global picture of the Tarbiyah curriculum. Classroom newsletters help them understand how the Tarbiyah concepts are taught in the classrooms.

### **Planning Process**

From one school year to the next, new and veteran teachers are coached and guided by the director and principal so they may develop a deep understanding and a global view of Tarbiyah curriculum content and practices. After some discussion and background reading on an upcoming theme, teachers meet together to plan their grade level units. This usually requires several planning sessions above and beyond allotted school planning time. It is common for dedicated Crescent teachers to meet after school and on the weekends to complete this process. Those who teach the same grade level in different classes meet, as do those who teach separate subject areas, such as Arabic, Quran, art and gym meet with their students' other teachers to work out the integration of subjects through the given theme. Middle school, Montessori and kindergarten teachers meet in grade level teams.

The director has developed a special unit plan template that reflects our particular approach to teaching and learning. This comprehensive, seven-page document facilitates a detailed plan that includes content, method and resources as well as theory and practice. Teachers are required to list content area standards and objectives taken from national (McRel) and state (Michigan) curriculum guidelines as well as various textbook resources. A timeline for the six week period is also part of the plan. Teachers use the

template in conjunction with key Islamic concepts and skills and content material from all subject areas to develop customized learning experiences for Crescent students.

Unit plans are submitted to the principal on an average of once every six weeks. New teachers are also required to submit a more traditional weekly lesson plan to ensure appropriate pacing throughout their first year. Unit plans are not due until at least one or two weeks into the unit, so that student-generated questions can become important tools in guiding the direction of content and the learning process.

Plans are submitted on disk and entered into the school data base. The principal is responsible for reading all plans and providing commentary on them to the teachers. Walk-in classroom visits provide opportunities to see the plans in action. Incoming teachers use their predecessors' plans to guide them in learning the development process.

### **HEALTHY LIVING: A BALANCE OF MIND, BODY AND SPIRIT**

An Integrated, Transdisciplinary Unit from the *Tarbiyah Project* at Crescent Academy International

As the fourth theme of the year, *Healthy Living* is a midway point in more ways than one. The first three themes, *God Consciousness, Noble Character and Useful Knowledge*, deal primarily with individual spiritual, moral and intellectual development. The last three themes, *Human Relations, Faith in Action and Public Service* are concerned with the application of those qualities in the public sphere. Aptly named, *Healthy Living* is about learning to strike a balance between body, mind and spirit so that we may live a life of *istaqama*, individually as well as within our societies and the world community. As Muslims, we acknowledge the importance of living a balanced life when we ask Allah (SWT) to guide us to *Siratal Mustaqeem*, the straight, upright, and balanced path.

When we study the physical aspects of good health, we stress the fact that the body is a sacred vessel, given to us by Allah (SWT) so that we may do His work here on earth. He gave it to us in perfect condition and it is our responsibility to Him and ourselves to maintain it in the best health possible by making good choices about food, exercise and the use of our time. A recent display for the Healthy Living unit featured *Crescent's Healthy Living Code*:

*Feed your body, feed your mind /Remember Allah all the time/Exercising, eating right  
Getting enough sleep at night./Too much T.V. drains the brain/Read a book or play a  
game. Time for work and time for play/Use time wisely every day/Oh Allah, perfect our  
deen/Help us earn a qalb saleem.*

The kick-off for the recent *Healthy Living* theme involved that marching chant and body/mind/spirit activities in morning assembly. We wrote "body, mind and spirit" on three soft, rubber balls in primary colors. I threw them out at random in morning assembly. The students who caught them had to tell us something they would do that day to feed their mind, body or spirit. Their ideas included reading more Quran and other books (March was also Reading Month), watching less T.V, eating less junk food and getting more exercise.

The short selections below have been culled from various grade level unit plans. They are intended to illustrate how this unit was developed. More detailed individual plans will be shared with workshop participants at the seminar.

The *overview* or summary of the KG unit is as follows: “The children will learn how important it is for them to live a well-balanced life by eating healthy foods, exercising on a daily basis, getting plenty of sleep every night and staying happy by enjoying the life God gave them, feeling thankful and honored by remembering Allah on a continuous basis.” Some highlighted *activities* of the unit included making life size models of themselves and placing the organs where they belong, labeling parts of the body in English and Arabic, taking a field trip to a local health center, doing exercise videos together, reading trade books about the body, and eating right. In the dramatic play corner, the children ran an emergency room and a health food store. Islamics provided the opportunity to learn about staying clean inside and out. Arabic vocabulary focused on healthy foods. The clock was introduced to learn about time and the importance of using it for good things and not wasting it. As the public service component of the unit, kg students will go to the supermarket on a field trip and determine what health-related items are important to buy for people in a homeless shelter.

The third grade teachers and their students came up with the following *driving questions* for their unit: “What makes me strong on the outside when I’m soft on the inside? Why did Allah give me such strength? What is the view in Islam about personal hygiene, overeating, junk food, laziness and consumerism? How do these behaviors interfere with our balanced lifestyle and healthy living? Once we remove these damaging behaviors, what habits should we choose to replace them?” (Magnuson, Pusilo and students) Some of the *content area connections* included a study of federal and state government. They focused especially on how each of the three branches of government balances the others. They have recently elected a class president and are soon to go through the process of passing a bill into law. In their literature circles, third graders identified balance or the lack thereof in books characters. Some Arabic selections about a sly fox provided a look at an unbalanced character as well.

As part of their Michigan history content for this unit, the third grade explored food production in Michigan. They decided to have a Michigan feast, serving only those foods produced in our state. They ate the foods on Friday. On Monday, they added up the calories they had consumed versus the amount of calories they had burned through exercise on that day. They were dismayed to learn that they’d mostly consumed much more than they needed and had not exercised enough. They have also been learning about the different types of exercise (aerobic, anaerobic) and are keeping journals of how much they get of each type. Understanding the food pyramid was also a big part of this unit as was the famous “one third” hadith.

Another connection between state history and healthy living came when they began discussing the importance of the auto industry in our state and the use of natural resources and non-polluting fuels. This lead the class into constructing solar powered model cars and learning more about fuel efficiency and the protection and conservation of resources (balanced living in the environment). The Quran teacher had the children learn *S. Al Qiyamat*. Part of its message is about how Allah (SWT) will judge us, based on the balance of our scales on the Day of Judgment. This provided another opportunity

to discuss the importance of balance in our lives here as well as hereafter. As a *culminating activity* for the unit they did persuasive reports designed to convince others to change an unhealthy habit. These reports utilized statistics and graphs. The rubric they developed to evaluate their reports included the spiritual, mental and physical aspects involved with changing the unhealthy habit.

Middle school teachers have the most challenging job of collaboration because their classrooms are not self-contained. Working with themes and having one core language arts/social studies teacher for each grade level has cut down on the fragmentation previously experienced. Middle school teachers spend collaboration time brainstorming separately and as a team about a given theme and then being very selective about the content used to develop it. A culminating project developed with student input, provides the focal point for selecting content.

The sixth grade unit plan included several of the McRel standards for Social Studies, Language Arts and Behavior Studies. Then the curricular content to meet those standards was carefully selected and developed into classroom learning objectives and activities seen through the lens of our theme of balanced, healthy living. The *goals* for the unit were described as follows: “Students will study, contemplate and evaluate the balance of mind, body and soul that is essential for a healthy, whole person from the perspective of not only the individual, but the entire civilization as well. Balance will be understood as part of Allah’s grand design in the universe, which is necessary for healthy individuals, families, communities, nations and the physical environment.” (Abbas) *Curricular connections* to these concepts included the rise and fall of the Islamic empire, the intricate design of microorganisms, and character studies of prominent Muslim leaders.

I would like to credit all Crescent teachers for the wonderful ideas I have found in their unit plans and their classrooms. Without their efforts, the implementation of this Project would not be possible. Special thanks to Jennifer Coury, Cindy O’Rourke, Karen Abbas, Amanda Magnuson, Noor Banister, Sahar Gelany, Danielle Pusilo and Sahar Abdel Malik for the unit plan ideas mentioned in this article.

## **Case Study in Integrated Instruction #2: Ann El-Moslimany, Islamic School of Seattle**

To understand the process of integration that is used at the Islamic School of Seattle, we have to begin with the methodology used in the teaching of the English language. Writing across the curriculum and reading are essential components of any theme that the children study. Lucy Calkins, Regie Routman, and Nancie Atwater have each published several books that are useful references for understanding our approach to language learning.

### **Reading**

Our reading program is literature-based. Certainly every child must learn to read with fluency and comprehension, but this is only a partial goal of the reading program at ISS. We expect the children to also achieve the following:

1. To enjoy reading and to develop the habit of reading "good books"
2. To use literature as an aid to understanding oneself and others
3. To evaluate, think critically about, and respond creatively to literature
4. To seek out written material to gain information

Teachers **at all levels** read to children on a daily basis. This motivates non-readers and enables readers to experience and respond to materials beyond their own reading ability, but it also allows the teacher to share excellent picture book with older children. At all levels it gives children a model of oral reading and practice in the important skill of listening.

### **Literature Circles**

Discussion is used to introduce literary understanding and appreciation. Within such discussions teachers naturally introduce children to terms (and therefore concepts) relevant to literary exposition at an early age. In addition, receiving and questioning the works of published authors provide the skills necessary to receive and question the writing of classmates.

Discussion can be within the whole class but should move into small-group, student-led discussion through literature circles. In literature circles children choose from among themed book. The book may be related to a current classroom theme or may relate to a particular problem, situation or value that the teacher wants to discuss or promote. A purpose of literature circles is to encourage the elements of good writing so that the children can apply it to their own work. See:

<http://fac-staff.seattleu.edu/kschlnoe/LitCircles/>

<http://www.literaturecircles.com/>

Eeds, M. & Wells, D. (1989). *Grand conversations: An exploration of meaning construction in literature study groups*. Scholastic, 1990

Day, Jeni Pollack, et al. *Moving forward with Literature circles: How to plan, manage and evaluate literature circles that deepen understanding and foster a love of reading (theory and practice)* Scholastic, 2002.

### **Writing**

Writing across the curriculum is stressed. Children are encouraged to think like writers and to express themselves in writing before they have even mastered the mechanical aspects of language. Content is stressed over form in the initial drafts. The mechanics of writing are taught within the context of the children's own work as they are led through the stages of the writing process.

An excellent manual on teaching writing using the process writing approach is: Muschla, Gary R. *Writing Workshop Survival Kit*, Center for Applied Research in Education, 1993.

**Publication** is the final stage of the writing process and for the child validates the work that has been expended to produce an excellent piece of work. Anything that makes a piece of writing “public” is publication. See: Gravois, Michael. *35 Ready-To-Go Ways to Publish Students' Research & Writing (Grades 4-8)*, Scholastic, 1998

I will present two different themes that have been used this year, **Labor** and **Genetics**.

### **Labor**

We often use holidays or other commemorative occasions to teach some aspect of history (usually American). Our theme on labor was done in connection with Labor Day. This theme extended over a three-week period. Our days are divided into blocks of time and this unit was taught from 9:30 to 11:15 two days a week

The specific objectives of this theme was to understand and appreciate the impact of the industrial revolution on the recurring problems of laborers in America and to contrast those who worked for social justice with those who took advantage of the weak and the poor. This theme extended into the 20<sup>th</sup> century with the story of Cesar Chavez and outside of the U.S with the story of Iqbal in *The Gift of the Carpet Boy*.

Opportunities for visitors and field trips are presented by local labor history.

The Islamic values to be understood were:

The importance of work, justice and taking a stand for justice for all humanity through social activism.

Children searched for verses from the Qur'an that relate specifically to justice. This emphasized to them the importance of justice in Islam.

Our themes dealing with American History rely largely on literature circles because there is such a wealth of material—not only in nonfiction books, but especially in historical novels.

### **Initial read-aloud**

*The Industrial Revolution (Cornerstones of Freedom)* -- by Mary Collins;

### **Other read-alouds**

*The Carpet Boy's Gift* by Pegi Deitz Shea

*Harvesting Hope: The Story of Cesar Chavez* by Kathleen Krull

*Three Cheers for Mother Jones* by Jean Bethell

*Coolies* by Yin, Chris K. Soentpiet (Illustrator)

### **Literature circle choices**

*Lyddie* by Katherine Paterson

*Mother Jones* by Betsy Harvey Kraft

*The Bobbin Girl* by Emily Arnold McCully

*Dragon's Gate* by Laurence Yep

*Eastside Story* by Bonnie Bader  
*A Coal Miner's Wife* by \_\_\_\_\_

### **Other Books Available in classroom**

*Voices from the Fields* by S. Beth Atkin  
*La Causa: The Migrant Farmworkers' Story* by Dana Catharine de Ruiz  
*Growing up in Coal Country* and *Kids on Strike* by Susan Campbell Bartoletti  
*The Story of the Haymarket Riot (Cornerstones of Freedom)* by Charnan Simon  
*The Triangle Shirtwaist Factory Fire* by A. R. Schaefer

### **Genetics – Integrating Islam and Science**

In this theme, as in any of our more scientific themes, our two goals are to teach for understanding of scientific phenomena and to instill in these young Muslims wonder and awe at Allah's creation.

We covered in a very basic way Mendelian genetics and moved into the structure of the cell, then into molecular genetics. We ended with individual assignments on controversial topics such as cloning, genetic engineering, stem-cell research, human genome project etc.

Each lesson began with a question designed to stimulate creative thinking and further questioning. The initial assignment was to find as many verses in the Qur'an as they could that discussed the signs (ayaat) of Allah. The first question was "What does the ayaat of the Qur'an have to do with the ayaat of creation?" After much discussion the students came to see that both the verses of the Qur'an and what we can see in Allah's creation are signs that He has given us to strengthen both our love of Him and our faith. As the unit progressed we continually stressed the miraculous, intricate precision of the systems that Allah has created.

The next question also concerned specific verses from the Qur'an. This time they were asked to find the verses that spoke of Allah creating everything in pairs. The question this time was "Why is it important that the system of life that Allah has created has two sexes?" By now we had already studied Mendel's peas and we focused on that. This group had studied the importance of genetic diversity in relation to disease, but it took a nearly the entire block of time for them to reach the conclusion that two parents ensure that unique individuals will be present from one generation to the next.

This approach continued through a question concerning how it was that the chromosome number stayed the same from one generation to the next in spite of two cells coming together; how it happens that cells are exactly the same in the beginning of cell division and later become specific kinds of cells.

The last question for extended discussion was for the children to figure out what two things the molecule that carries the genetic material must be able to do.

During the remainder of the unit the students worked on their writing. Each was required to discuss not only the benefits of these technologies but the dangers and the moral issues surrounding their use. Each of these topics led to intense discussion and preparation for the future into which they will be living their lives.

### **Case Study in Integrated Instruction #3: Susan Douglass, Education for Life/El-Iman Learning Center, Annandale, VA**

**Type of Instructional Unit:** The sample unit is one of a series of year-long interdisciplinary modules developed for the elementary grades at El-Iman Learning Center. These units integrate science, social studies, language arts and Islamic studies, and where content-area readings are available, Arabic language studies is also integrated. Mathematics and fine arts are brought in wherever appropriate. The units are targeted to multi-age classes offered in rotating sequence over multiple years to allow coverage of academic standards with less repetition, but greater depth.

**Grade Level:** The module as described is designed for a 3<sup>rd</sup> and 4<sup>th</sup> grade multi-age classroom, though it could be modified and upgraded in scope to meet the needs of a 6<sup>th</sup>/7<sup>th</sup> grade Earth Science/Human Geography or World Cultures & Geography course.

**Topics of Study Included in the Module:** This module is designed to cover academic standards for Earth Science (elementary science) and Human Geography (elementary social studies). Students study the contemporary world from the perspectives of geology, biology, and geography, including human culture and relations with the environment. As tools for learning, they acquire map skills and tools for understanding the world in spatial terms, and an understanding of the biological systems upon which life depends.

**Rationale for Integration:** While typical elementary grade science involves a spiraling curriculum with the whole range of disciplines covered each year, this module provides in-depth study of a smaller range of topics. Social studies in elementary school typically focuses on a smaller range of topics each year. This module arose from the fact that there is a large amount of content overlap between earth science and introductions to geography taught at the end of the primary grades, not always in the same, but in proximate grade levels. The teaching module takes advantage of this overlap, using the time saved from repetition in order to spend more time on difficult map skills acquisition on the one hand, to do more demonstrations and hands-on learning in earth science, and to benefit from systematic global study of the earth's biomes and human culture regions in parallel.

**Method of Integrated Unit Development:** Using the National Standards for Science and Geography, content requirements for the proposed topic from middle elementary grades were compiled and compared. Mainly through brainstorming among the Academic Coordinator and the teachers involved (in this case, three teachers, respectively, of language arts/social studies, math/science and Arabic/Islamic Studies), a logical scope

and sequence was decided upon. This was laid out using MS Word's "Outline" mode of word processing. The program allows content to be sketched into an outline and moved around, both up and down in sequence, and back and forth among levels of detail. With the content divided mainly among science and social studies, parts of the outline were color coded for each teacher. This outline began with only the major headings (shown below at three levels only), but each teacher's job was to develop and record HOW they would teach the topics and subtopics, filling in readings, web sites, activities, and short descriptions of lesson procedures as more detailed levels of the outline. Because the outline can be easily added to, it helped overcome the obstacle of keeping all the parallel tracks organized without having the whole thing developed at the beginning of the year. Recording the unit for future use was also a high priority. Reading material was identified, as were other instructional resources, and written into the outline where it fit. Teachers were instructed by the Academic Coordinator to keep a binder with the master outline in it, and using tab dividers, to keep copies of ALL lesson plans, worksheets, teacher-made materials, and lesson ideas as well as materials and resource lists, in the sequence in which they were used. Wherever possible, teachers were encouraged to keep and file digital versions of their outline, lesson plans and student handouts.

**Teaching Resources:** The newly developed National Geographic Society *Reading Expeditions* series designed for science, social studies and language arts, and selected books from the *Windows on Literacy* and *Theme Sets* series formed the core materials. They feature tools for integrating into language arts instruction. Textbook segments also played a role in the first semester mainly. World literature and arts for children was drawn largely from Internet sources such as the Smithsonian Folklife site and its links, and the many world folk tale sites. Web sites for teaching science and map skills also played a major role. Hands-on activities were developed by the teachers and the students, and were a weekly event. Arabic and Islamic studies tie-ins depended on the creativity of the Arabic/Islamic teacher, who brought in materials from her collection and the school's library, and helped identify appropriate Islamic studies linkages. Using the Alim or other Qur'an and Hadith search software is an important tool to start with, and to have in the classroom as ideas come up. Resource and needed material lists are a vital part of the unit development, and need to be inserted at the right places in the outline, along with notes on how to use them if necessary. The outline needs to be linked to a pacing guide for the year, as well.

**Content Summary:** The year begins with parallel instruction in science and social studies, which will merge at the halfway point of the year or before. Science instruction begins with the history of the earth and the dynamic processes that shape it and make it suitable for life. This is integrated with Qur'anic and Arabic language content where possible. Social studies instruction concentrates on learning map skills and the basic features of the earth. Both content areas feature lots of hands-on activities for comprehension. Student reading is carried into language arts for comprehension, writing and spelling/vocabulary. Creative writing and reading follows themes. When the introduction is complete, study will focus on a global survey of regions, i.e. examples of biomes and culture regions such as deserts, forests, mountains, coasts, waterways, etc. Students learn about the plants and animals, adaptations to environment, how people live

and use resources, and adapt the environment. Environmental issues are introduced as well. Language arts features regional languages and selections from literature, with activities on clothing, handicrafts, architecture and the arts. Islamic studies may focus on religions, on places where Muslims live, and on diversity of people as Allah's blessing, and the provision He grants to all peoples in different places. See Content Outline, below:

**Content Outline:**

See next pages.

**I. FIRST SEMESTER: Earth Science and Geography Introduction – skills, terms and concepts** (Use National Geographic *Reading Expeditions* series “Earth Science,” “On Assignment and “Science Issues Today”(selections)and NGS Theme Sets “Shaping Earth’s Surface,” “Extreme Weather.” )

**A. Earth Science introduction**

**1. Creation of the universe and the earth** (Qur’an verses on the creation; stories of the Creation (Arabic and Islamic Studies content incorporated throughout)

a) *How the land formed*

(1) volcanoes

(2) earthquakes

(3) plate tectonics

(4) rock cycle

**2. How the oceans formed**

a) *Formation of water on earth*

b) *water cycle*

**3. Air and elements**

**4. Climate**

a) *What makes climates*

(1) clouds

(2) ocean currents

(3) winds

(4) rain-shadows and mountains

**B. Social Studies Map Skills Introduction**

**1. Identification of continents**

a) *Mental mapping of continents and oceans*

b) *Equator, Prime Meridian, Poles*

(1) **Make globe models**

**2. B. Using longitude and latitude**

a) *Learning about location grids step-by-step toward understanding the Global Positioning System*

(1) **cross-curriculum (math) students learn about coordinates, first using rows and columns of desks, playing a game so each child learns their own “classroom coordinates”**

(2) **cross-curriculum (art) Pixellating images on graph paper, and “translating” them into coordinates to be “programmed” for classmates as Bingo game**

(3) **cross-curriculum (language arts) have students design a crossword puzzle & key on graph paper, using spelling words from the social studies/science materials.**

b) *Relating equator, prime meridian, International Date Line, N & S poles to a grid system of longitude, latitude, numbering of degrees*

(1) **Describe how the grid system can be used to locate any place on earth exactly—the Global Positioning System.**

(2) Pumpkin longitude & latitude activity w/markers to learn the four segments of a sphere and their “names” NW, NE, SW, SE

(3) scavenger hunt of cities –, the teacher prepares a list of “mystery cities” named only by their coordinates.

(4) Finding Makkah: Show a book or prayer chart with longitude and latitude indicating which direction to pray from a variety of places in the world.

### 3. Seasons and Climate Zones

a) Rotation and revolution

(1) **Coordination Game: rotation and revolution role play**

b) *Seasons of earth year: Animation web sites and texts that teach about the tilt of earth, sun’s rays variation in intensity*

(1) Use the NASA “The Reasons for Seasons” site first, as it is the simplest. Photocopy text for students to read at home.

(2) Web animation of a city to see how intense the light is there at different times of the year, and on different days. Show the change in the length of the day.

(3) cross-curriculum (Islamic studies) Using above information on day length, get a prayer chart for North America and find out how the prayer times change.

c) *Recognizing tropics, temperate and arctic zones*

(1) Discuss climate zones and relate to the strength of the sun’s rays during the whole year

d) *Identifying countries’ climates and seasons*

(1) Choose countries on the globe and find out which zone they are in.

(2) Bring supermarket fruits & vegetables labeled with countries of origin to correlate with climate zones

### 4. Landforms

a) *Defining landforms*

(1) list of terms for landforms and get definitions from a classroom atlas glossary

(2) Use a line art diagram of landforms. Color and label

b) *Locating and comparing landforms*

### 5. F. Comparing types of world maps

a) *vegetation map, elevation, climate, population density*

b) *finding out what the map colors mean*

c) *locating examples from each map*

d) *giving groups different maps w/lists of questions*

e) *comparing map colors with keys, correlating map data*

**II. SECOND SEMESTER (or earlier) -- World Regions, Cultures and Ecosystems and Biomes – how & why is the earth diverse?**

**A. SCIENCE CONTENT--Use National Geographic Reading Expeditions series “The Land Around Us,” “Science Issues Today”(selections) and Theme Set “Animals in Their Habitats”; junior encyclopedias, Time/Life books**

**B. SOCIAL STUDIES CONTENT--(follow National Geographic *Reading Expeditions* series “World Regions” & “World Cultures”; geography textbooks and junior encyclopedias, Time/Life books**

**C. Introductory science**

1. what is an ecosystem?
2. biomes
3. food webs & food chains
4. Identify and locate the major types of biomes on earth - maps

**D. Introductory social studies – what is diversity?**

1. people live everywhere – migration map
2. animals live in certain places – Qur’an verses on diversity in the earth
3. definition of region --
4. people make “regions’ to divide the earth into parts

**E. what kinds of regions are there? dividing earth to understand it**

1. biomes -- plants & animals, amount of water, climate
2. culture -- **WHAT IS CULTURE?**
3. religion, language
4. resources
5. country borders

**F. Case studies on major world regions**

**1. What is a region?**

- a) *Different landscapes of plants, animals and people*
- b) *examples of specific kinds of regions*

**2. Social studies content for case study of each region**

- a) *what is this region like?*
- b) *locating regions and identifying geographic features)*
- c) *describing particular regions –examples of life there*

**(1) people and places**

**(2) use of natural resources**

**(3) human adaptation TO THE ENVIRONMENT**

**(4) food, clothing, housing (basic needs)**

**(5) PEOPLE ADAPT THE ENVIRONMENT in those**

**places – building things, farming, mining, fishing, trading**

**(6) economic life in each region**

**(7) cultural life in each region**

**(8) arts and literature—USE ONLINE RESOURCES**

**(9) folktales, songs, poems**

**(10)**

**arts & crafts**

- 3. Science content for case study of each region**
  - a) *why is the region the way it is (rainfall & topography)*
  - b) *what is the biome like?*
    - (1) animal & plant life**
    - (2) natural resources**
    - (3) soils**
    - (4) climate**
    - (5) how plants are adapted to the environment**
    - (6) how animals are adapted to the environment**
  - c) *environmental issues in each region*
    - (1) endangered species**
    - (2) declining habitats**
    - (3) pollution**
    - (4) conservation of resources**
- 4. Case Study 1: Ocean & Coastal, wetland areas**
- 5. Case Study 2: Rain Forests**
- 6. Case Study 3: Deserts**
- 7. Case Study 4: Grasslands**
- 8. Case Study 5: Temperate Forests**

## **Conclusions**

Curriculum integration means saving time and allowing students to learn both in depth and with greater meaning. It is not a luxury, nor is it a departure from the necessary topics in the curriculum. It is a necessity in Muslim schools that spend periods of the day with Qur'an, Arabic, and Islamic studies, in addition to time spent in assemblies, extracurricular activities, and community service, etc., and of course want to have excellent academics in the core subjects. By dividing the topics and skills that are common to more than one core subject, we save time for teaching specialized topics in greater depth and with more understanding.