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Assessing Agricultural Literacy Elements of Project Food Land and People in K–5 Using the Food and Fiber Systems Literacy Standards

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Agricultural literacy has been evolving as a discipline for over 25 years. In agriculture, as other disciplines of education, the body of knowledge can be identified and measured by a set of standards. The Food and Fiber Systems Literacy Standards, developed in the 1990s, have been widely accepted as the standards for agricultural literacy. Also developed in the 1990s was an agricultural literacy curriculum, called Project Food Land and People (FLP). The FLP curriculum, consisting of 55 units, is used in 27 states to teach science, math, social studies and language arts and to promote agricultural literacy in grades Pre–K through 12. This study uses the standards and benchmarks of the Food and Fiber Systems Literacy (F&FSL) to assess the extent to which FLP addresses the agricultural literacy standards for grade levels K–5. Although there were variations in the level of coverage, all standards and benchmarks of the F&FSL were addressed in the FLP units identified for grade groupings K–5. Congruence or incongruence, as measured by F&FSL standards and benchmarks, identified potential strengths and weaknesses to consider in revision of both curricula.

Keywords: agricultural literacy, curriculum alignment, integrated curriculum, food and fiber systems literacy

Introduction

Well into the twentieth century, close identification through daily contact with a common agrarian culture and heritage resulted in a shared sense of common knowledge that today we call agricultural literacy. This connection has become progressively more tenuous with modernization and urbanization. Today, Americans are two to four generations removed from the farm (Leising, Igo, Heald, Hubert & Yamamoto, 1998; Madsen, 1998; Pokarny, 2003; Tennessee Department of Agriculture, 2004) and a majority of Americans, even in rural agricultural states, "have no direct link to agriculture" (Arkansas Foundation for Agriculture, 2006, para. 1).

The first major initiative to address this growing lack of agricultural knowledge was the Agriculture in the Classroom program resulting from an United States Department of Agriculture task force that began in 1981 (Agriculture in the Classroom Consortium, 2006). Seven years later the National Research Council expressed concern for declining agricultural knowledge in the 1988 report, *Understanding Agriculture: New Directions for Education.* In support of systematic instruction about agriculture for all K–12 students, the National Research Council stated that agriculture "is too important a topic to be taught only to the relatively small percentage of students considering careers in agriculture and pursuing vocational agriculture studies" (p.8).

However, the lack of agricultural awareness is not just a concern of those in agriculture. The perception of the general public has been challenged dramatically by books such as *Fast Food Nation* (Schlosser, 2002) and *The Omnivore's Dilemma* (Pollan, 2006), calling to attention the lack of public understanding of "the moral and ecological repercussions" (Kuh, 2006,

para. 3) of the decisions made in the effort to produce food. Project 2061 of the American Association for the Advancement of Science (2006) has also raised many long–term agricultural literacy issues of management and policy related to food production, resource use, and sustainability.

Recognition of need for agricultural knowledge raised awareness of a concern for definition of boundaries in the emerging discipline of agricultural literacy. This marked a first step toward developing a balanced curriculum to promote agricultural literacy as well as efforts to measure the ability of existing curricula to convey a balanced body of agricultural knowledge. Throughout the 1990s, the effort to define the discipline of agricultural literacy and its sub–categories of knowledge continued. During this time, two notable systematic curricular developments arose – Food and Fiber Systems Literacy (Leising, et al.,1998) and Food, Land and People (2004). Each developed independently as parallel responses to the growing interest in agricultural literacy. Field tested in 1996 and 1997, both have since been adopted in many states promoting agricultural literacy.

Purpose

The purpose of this study was to determine the extent to which Food and Fiber Systems Literacy (F&FSL) benchmarks measure the agricultural literacy objectives of Food, Land and People (FLP) lessons in grades K–5.

FLP lessons were analyzed for agricultural literacy content in order to determine:

1. The extent to which F&FSL standards and benchmarks were addressed by FLP lesson units per F&FSL grade level grouping (K–1, 2–3; 4–5).
2. The relative frequency of usage for individual F&FSL standards and benchmarks in FLP lesson units by grade level grouping (i.e., which standards or benchmarks were addressed more or less than others).

Conceptual Framework

The F&FSL framework was developed over a four–year period in the mid–1990s as "a road map for infusing Food and Fiber Systems knowledge into core academic subjects and across grade levels" (Leising, et al., p.4). This framework was organized into five thematic standards:

I. Understanding food and fiber systems
II. History, geography, and culture
III. Science, technology, and environment
IV. Business and economics
V. Food, nutrition, and health.

Each standard was described by a benchmark with both cognitive and affective objectives at each of five grade level groupings (K–1, 2–3, 4–5, 6–8, and 9–12), which were sequenced by increasing complexity and difficulty. The framework was designed "to clearly outline the knowledge and understanding to be agriculturally literate" by "drawing out food and fiber connections from core subjects" (p. 9). Example lessons were included as appendices, but the bulk of the "challenge for educators in infusing food and fiber systems literacy into core academic subjects" (p. 10) was left open for the user to resolve in the course of lesson planning.

Malecki, Israel, and Toro (2004) defined infusion of agricultural literacy into the curriculum as "the purposeful integration of agricultural topics into the mandated curriculum….as natural interdisciplinary linkages" (para. 5). The North Central Regional Educational Laboratory (2004) has also defined curriculum infusion in a more general context as "an educational approach that uses real–life issues as the context for teaching academic skills and knowledge" (para. 1), but also noted that this definition is sometimes applied to curriculum integration. The interchangeable use of these two terms can sometimes be confusing.

Outside agricultural education, a curriculum infusion approach has been commonly applied to introduce content and issues not normally associated with an academic core subject area, such as substance abuse, violence, HIV/AIDS, bullying, and social ostracism into K–12 classes across subject areas" (Northeastern Illinois University, n.d., p. iii). The University of

Richmond's alcohol awareness program has used curriculum infusion in the form of "fit–it–in" modules to insert special activities during the semester or as out–of–class assignments (University of Richmond, 2002). Similarly, the Close Up Foundation has advocated curriculum infusion as a model for incorporating service learning into the classroom as an enrichment strategy built into the existing curriculum, rather than simply an "add–on," feature (Close Up Foundation, n.d).

However, interviews with teachers who used a curriculum infusion model to incorporate Rivers to Reefs environmental education experiences into science classrooms revealed three areas of concern that limited the usefulness of infusion (Parlo & Butler, 2007). The first concern was associated with time constraints. Teachers felt "compelled to closely follow their schools' established standards" in order to meet state and federal testing accountability mandates, resulting in "demands on time that did not allow for instruction of extra material" (p. 34). The second concern was the difficulty teachers experienced in facilitating conceptual transfer linking environmental field experience to classroom instruction. The third concern was finding ways to logistically include outdoor experiences in a curriculum bound by physical and temporal limitations of a traditional classroom setting.

State assessment directors have also cited demands on classroom time as a deciding factor in curriculum decisions, reporting sweeping changes following the adoption of accountability mandates under the No Child Left Behind Act (Pederson, 2007). State assessment of subject areas outside the requirements of No Child Left Behind decreased in 46 out of 47 states surveyed. Assessment directors from 25 states noted a corresponding "reduction in resources and time for non–tested subject areas" (p. 289). Interestingly, directors from five states noted increased "integration of non–tested subject content into tested subject areas" and "increased alignment of curriculum and assessment with state standards" (p. 290).

Nesin and Lounsbury (1999) defined curriculum integration as a student–centered collaborative approach utilizing a thematic organization of learning without regard to traditional subject area boundaries. This differs from interdisciplinary instruction. An interdisciplinary unit organizes learning into a common theme, but content and activities in any given class are still bound to the subject–area specific outcomes of that class. Math and science are still studied as math and science, although the lesson may be related to a unifying theme such as *the oceans* or *colonial times*. In contrast, curriculum integration begins with a theme that (ideally) reflects student concerns and experience, through objectives and activities that are derived from the exploration of the logical consequences of learning about the theme.

The 55 lesson units in the FLP curriculum "textbook" *Resources for Learning* (2003) were based on a conceptual framework of seven comprehensive, thematic, ideas about the interconnectedness of Food, Land and People. These themes were: awareness and appreciation; historical perspectives; the agricultural base; economics; images, attitudes, and behaviors; decisions; and implications for the future. The lessons and activities of the FLP curriculum thematically integrate agricultural issues and topics "into all aspects of the standard PreK through 12th grade curriculum" (Colorado Foundation for Agriculture, n.d., para. 6) in units written for varying ranges of grade level in varying combinations throughout the PreK–12 curriculum.

However, as Blackburn (1999) noted, any "supplemental" non–mandated or non–tested subject material must be directly tied to the core academic curriculum before it will be accepted by teachers and administrators. In order to facilitate implementation of FLP either as a stand–alone course of study or as supplemental material for pre–existing courses, lessons and activities were specifically designed "to support state and national academic standards" (Colorado Foundation for Agriculture, para. 6). Powell et al.(2006) affirmed this in a single–state curriculum analysis study, showing strong correlations to a majority of the student learning expectations in that state's required curriculum frameworks.

The question concerning the research reported here is also one of correlation to standards. However, unlike previous studies by Powell et al. (2006) investigating correlation between FLP and state curriculum frameworks, the focus shifts to correlation with F&FSL standards and benchmarks as the self–described

outline of "knowledge and understanding to be agriculturally literate" (Leising, et al., 1998, p. 9).

Methodology

Curriculum alignment, sometimes equated with curriculum correlation, is the process of linking teaching units, instructional materials, and objectives to standards and assessments (Aviles, 2001; Johnston, n.d.; Milks, 2001, LaMarca, 2001). LaMarca defined alignment in both vertical and horizontal dimensions in terms of depth and content match between standards and curriculum items or assessment tasks. Vertical alignment referred to the complexity, or "depth," of instruction, whereas horizontal alignment described "breadth" by "matching course materials by instructional content" (Aviles, 2001, p. 7). LaMarca operationally defined content match in terms of "analysis of broad content coverage, range of coverage, and balance of coverage" (para. 4). Broad content match, also called categorical congruence, is generally measured by specific objectives that "contribute to attainment of this broadly defined skill" (para. 5). At a grass roots school level, horizontal alignment is usually achieved by "mapping the curriculum onto the standards" (Johnston, n.d., para. 2). In this process, teachers analyze the curriculum for content, specific skills, and assessment products to produce a skill–by–skill timeline of outcomes to use in planning and alignment to standards (Mills, 2001).

Each FLP unit included a few general objectives that focus mostly on the integration process rather than specific classroom behavioral objectives that address either academic content objectives or agricultural literacy standards. For example, the unit *Expression Connection* has five general objectives for a two–lesson unit, including "identify words and phrases that relate in some way to farming…," "use reference books to justify connections," and "justify connections through discussion."

In order to analyze content match (LaMarca, 2001) between FLP and F&FSL, it was first necessary to write classroom objectives that specifically identified concepts and activities to build agricultural literacy. After writing sample classroom behavioral objectives for each concept or activity in FLP units designated for a given grade level, the objectives were correlated to the F&FSL benchmarks for the designated grade level, by comparing the objectives to the wording of the descriptors and explanatory commentary provided in the F&FSL Guide. Part of a sample page from the resulting teacher guide (Powell, 2007) is shown in Figure 1.

FLP Unit 1: The Plant and Me (PreK–3)				
Sample Lesson Objective			***F&FSL Benchmark and Descriptor***	
Standard I			**Understanding Food and Fiber Systems**	
Grades K–1	A	Students will recognize that humans eat plants (and animals).	Meaning	Students will discover food, clothing, and shelter originate from plants and animals.
Grades 2–3	A	Students will relate the provision of basic survival needs of plants to meeting human needs.	Meaning	Students will tell how agriculture provides people's basic food, clothing, and shelter needs.
	D	Students will recognize that both plants and humans need air, food, light, and water.	Importance	Students will determine resources, such as water and land, are shared by households, businesses, and agriculture. They will describe examples of multiple uses for land and water resources.
Standard II			**History, Geography, and Culture**	
Grades K–1	A	Students will recognize that humans grow plants (and animals) for food.	Role in Evolution of Civilization	Students will illustrate how agriculture provides food, clothing and shelter. They will classify agricultural products as food, clothing, or shelter.
Standard III			**Science, Technology, and Environment**	
Grades K–1	A	Students will observe and document the life cycle of a growing plant.	Relationship to Ecosystems	Students will identify the natural life cycles of plants and animals. They will illustrate life–cycle stages.
	B	Students will identify natural resources air, food, light, and water.	Dependence on Natural Resources	Students will identify natural resources. They will illustrate natural resources used by Food and Fiber Systems.
Grades 2–3	A	Students will recognize interdependencies between plants and animals in the 0_2–$C0_2$ cycle.	Relationship to Ecosystems	Students will describe components of an ecosystem. They will illustrate specific components of an ecosystem in the community.

Figure 1. Partial copy of p. 1 (reformatted) from *Unit–by–unit correlation of Food, Land and People lessons to the Food and Fibers Systems Literacy Benchmarks for grades K–5* (Powell, 2007)

This is the same (admittedly subjective) process used by classroom teachers in mapping content coverage as well as that used by textbook adoption committees and textbook editors in state–by–state promotion of textbook adoptions (Johnston, n.d.; Mills, 2001). The resulting teacher guide (Powell, 2007) has been used in several FLP training workshops to raise awareness of standards–based agricultural literacy in the implementation of FLP lessons and materials in the classroom.

Results

Results for Objective 1 were very straightforward. *All* F&FSL standards and benchmarks were addressed at least once at *all* grade levels analyzed in this study (K–1, 2–3; 4–5). However, not all standards and benchmarks were addressed in the same proportions. The distribution and patterns of "coverage," showing alignment of FLP lessons to F&FSL standards and benchmarks varied considerably between grade levels. An analysis of variations in the relative frequency of usage (Objective 2) is presented here to provide an empirical foundation from which to address issues of vertical and horizontal alignment.

Grades K–1

Of the 55 FLP lesson units, 13 were designated for use in kindergarten and/or first

grade (Units 1–13). All five F&FSL standards were addressed at least once in these 13 units (Figure 2). However, some units broadly addressed many standards, while other units focused in more depth on fewer standards. Six of the FLP units designated for grades K–1 addressed four or more F&FSL standards; another six units addressed two or three standards; only one unit addressed a single standard.

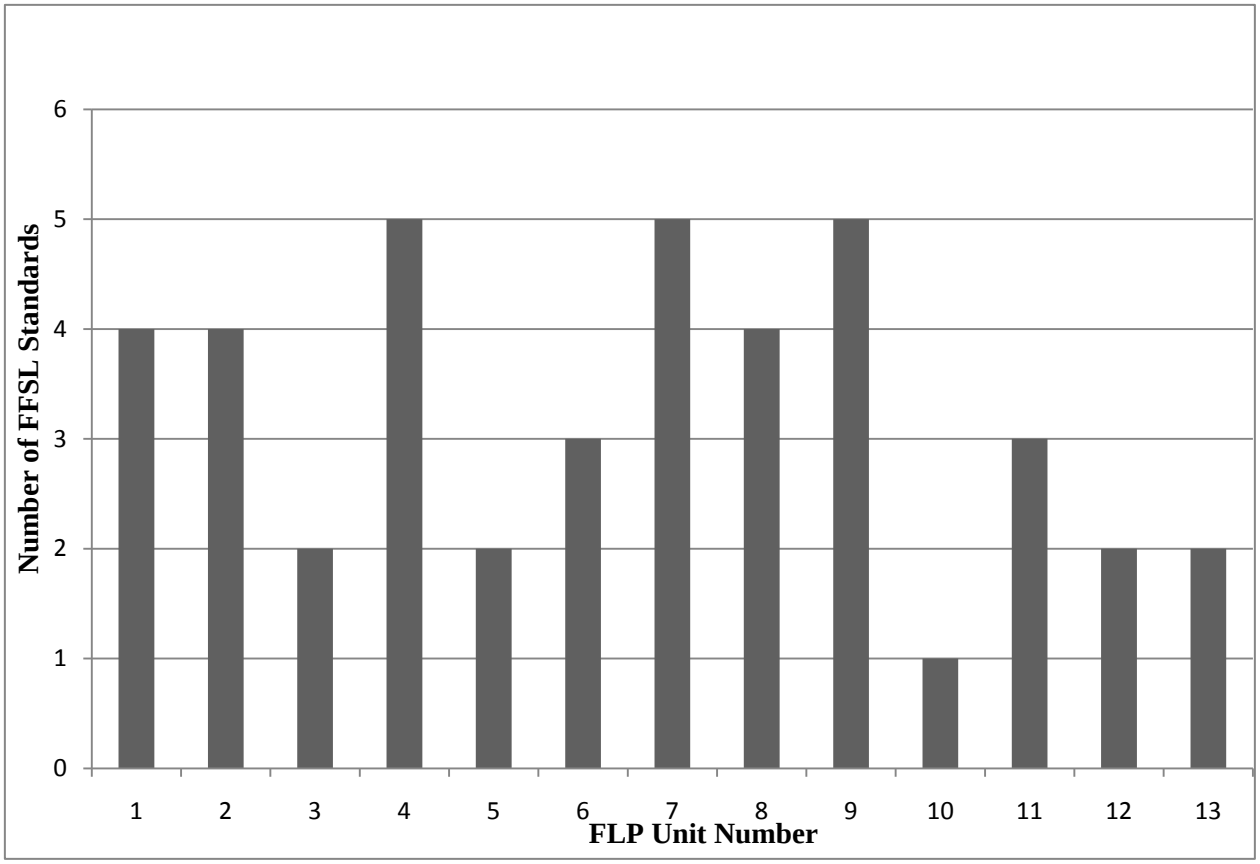

Figure 2. F&FSL Standards used per FLP unit for grades K–1.

FLP lesson units designated for grades K–1 also addressed all 21 F&FSL benchmarks for grades K–1. However, some F&FSL standards were addressed by more benchmarks and some by fewer (see Figure 3). For example, Standard I ("Understanding Food and Fiber Systems") was addressed at least once in nine FLP units. However, lessons with a strong focus on Standard I addressed as many as three or four benchmarks in this standard. Some benchmarks were used repeatedly, especially introductory benchmarks from Standards I (Understanding Food and Fiber Systems), III (Science, Technology and Environment), and V (Food, Nutrition and Health); some benchmarks were used only once or twice. Of the nineteen total occurrences of Standard I benchmarks in K–1 FLP lessons, Benchmark I–A was addressed in eight different FLP units. Benchmark V–A also was addressed in eight units and Benchmark III–A was addressed in seven units. In contrast, *nine* benchmarks (in various standards) were addressed only once. Of the remaining benchmarks, six were addressed four to six times each and three benchmarks were addressed two to three times each.

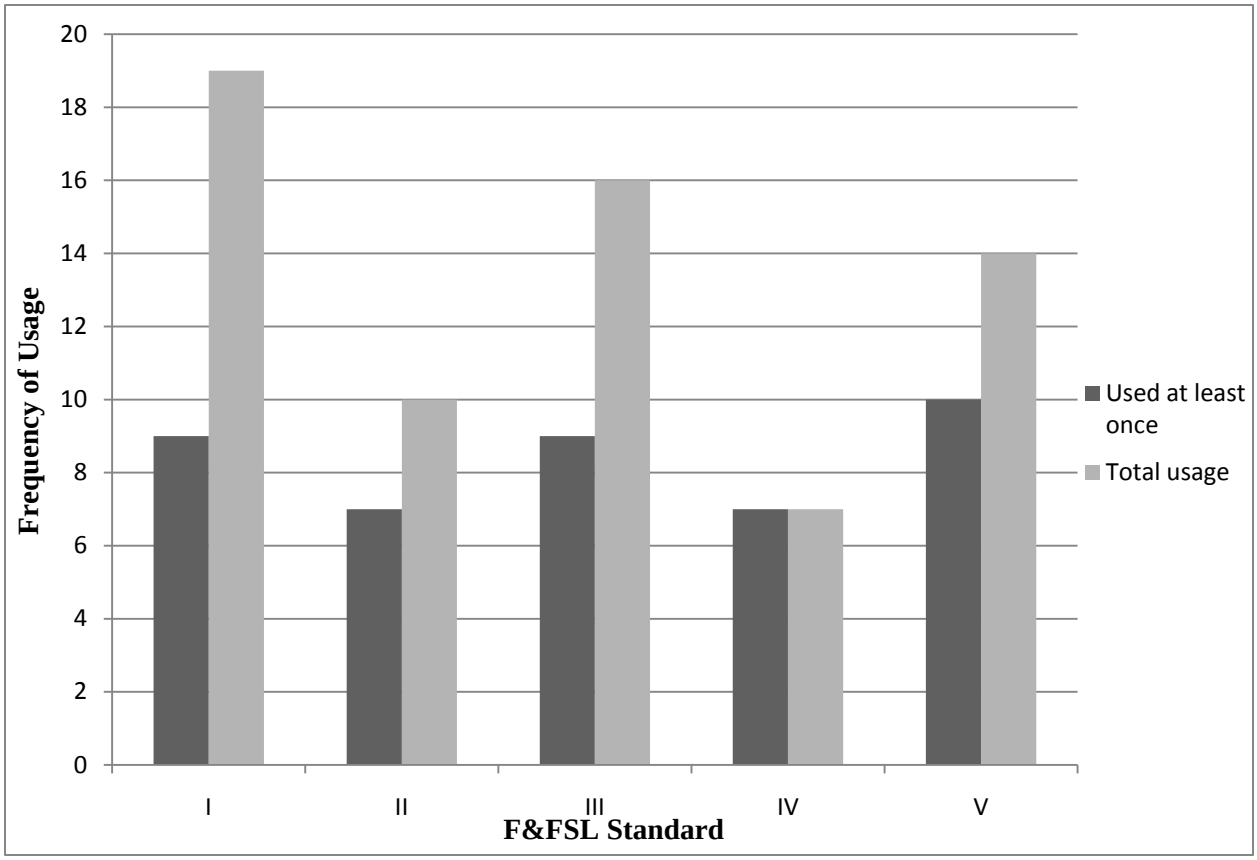

Figure 3. Frequency of usage for F&FSL Standards in all FLP units for grades K–1.

Grades 2–3

Twenty–five FLP lesson units were designated for use in the second and/or third grade (Units 1–25). All five F&FSL standards for grades 2–3 were addressed at least once (see Figure 4). Although no individual FLP units designated for grades 2–3 addressed all five F&FSL standards, five units addressed four standards. Nineteen units addressed either two or three standards. Only one unit at this grade level addressed just one standard.

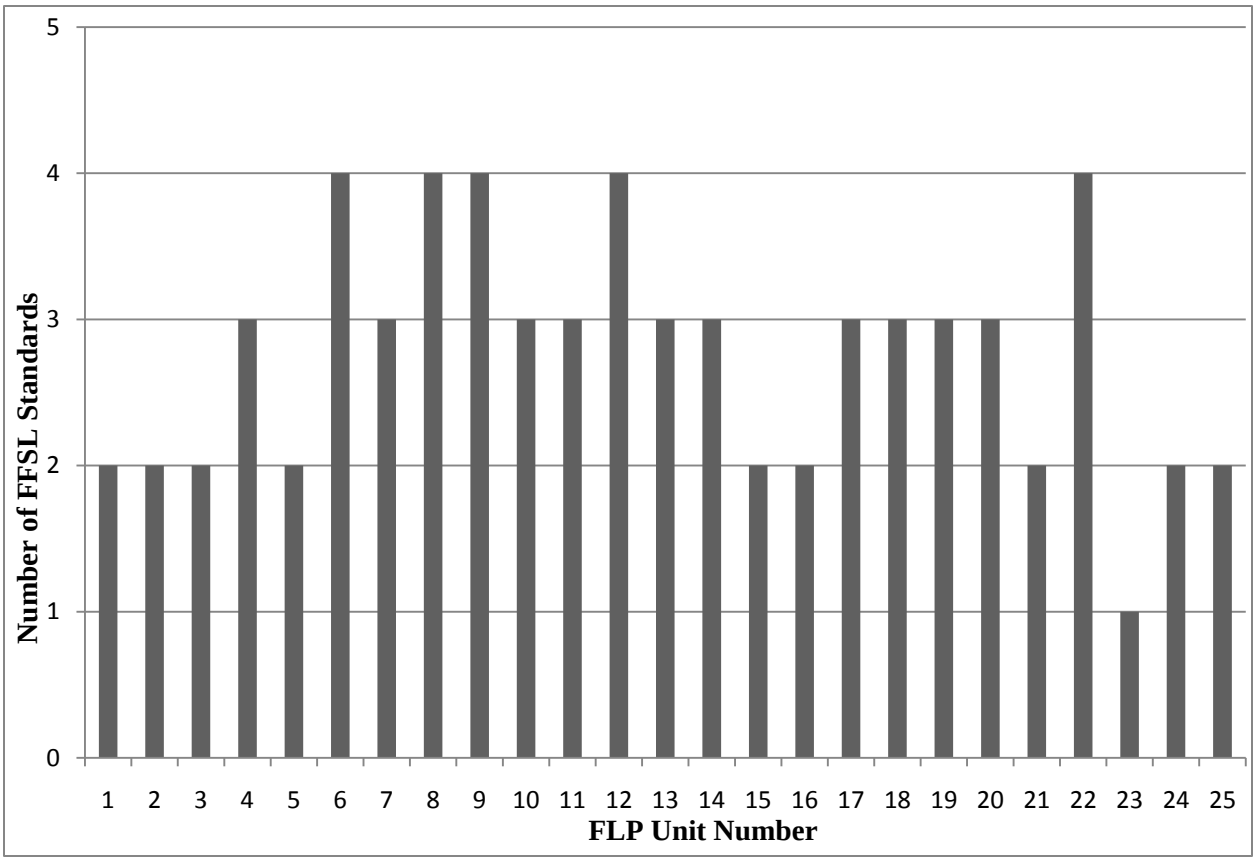

Figure 4. F&FSL Standards used per FLP lesson unit for grades 2–3.

The relative frequency of correlation to individual F&FSL standards in FLP units for grades 2–3 varied considerably more than for grades K–1. Standard I (Understanding Food and Fiber Systems) was used at least once in 22 units and Standard III (Science, Technology, and Environment) at least once in 17 units, but Standards IV and V (Business and Economics; Food, Nutrition and Health) were each used at least once in only nine units (Figure 5). Incidence of multiple benchmarks from the same standard showed Standards I and III in FLP lesson units to be even more predominant for grades 2–3 than for grades K–1. Standard I was addressed in 48 FLP units and Standard III in 32 units. By comparison, Standards IV and V were addressed in only 14 and 12 units (Figure 5).

All 22 F&FSL benchmarks for grades 2–3 were addressed by FLP units designated for grades 2–3, but extremes of "coverage" for individual benchmarks were even more noticeable at the upper end of the frequency range than the extremes described for grades K–1. Two benchmarks (I–A and III–A) were each addressed in 15 units and two benchmarks (I–C and I–E) each addressed in 11 units. Only four benchmarks (III–D, IV–D, V–C, and V–D) were addressed by just one or two units. Six benchmarks were addressed by three units each. The remaining eight benchmarks were addressed by four to eight units each.

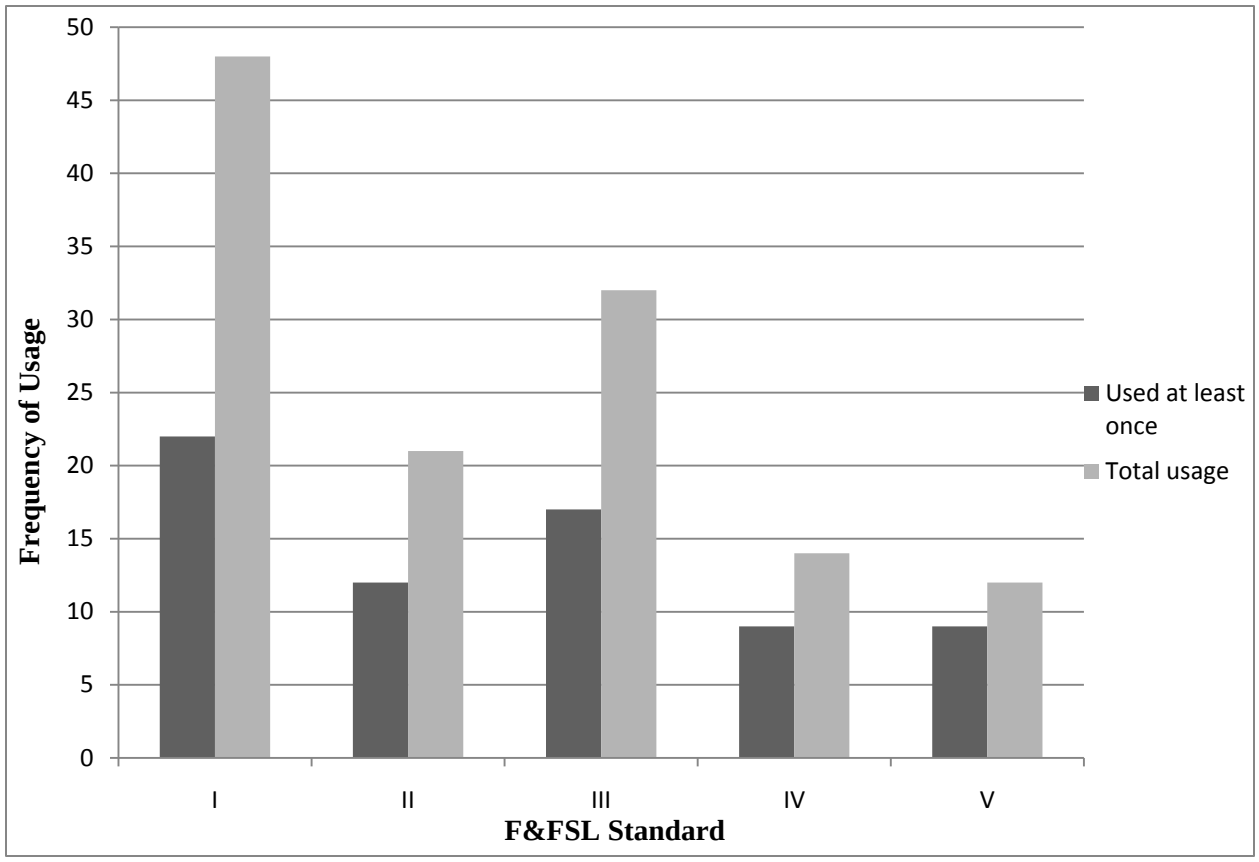

Figure 5. Frequency of usage for F&FSL Standards in all FLP lessons for grades 2–3.

Grades 4–5

Forty–two FLP lesson units were designated for grades 4–5 (Units 3–45). All five F&FSL standards were addressed at least once at this grade level (Figure 6). Six FLP units addressed either four or five F&FSL standards; 33 units addressed either two or three standards; only three units addressed just one standard.

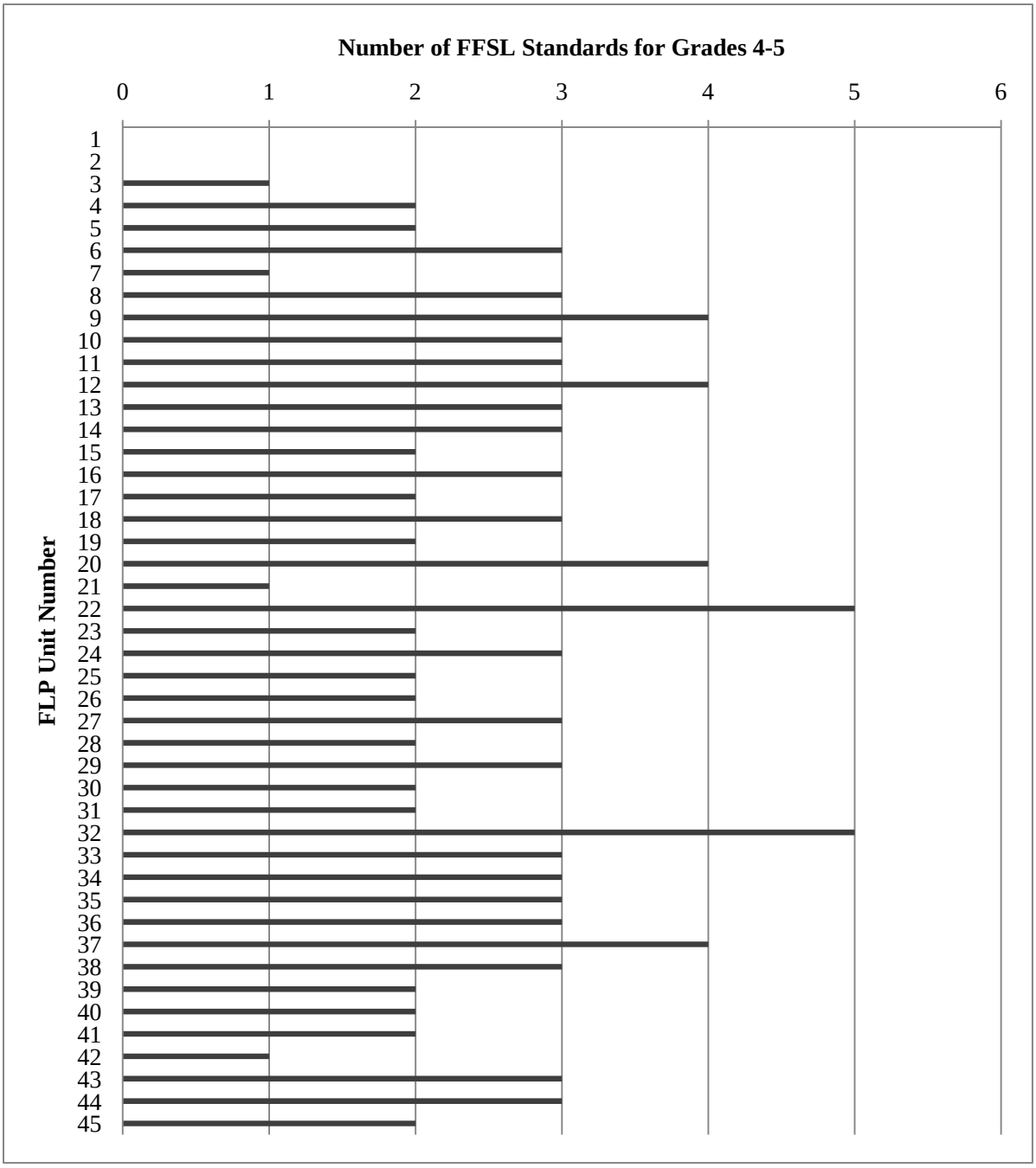

Figure 6. F&FSL Standards used per FLP lesson unit for grades 4–5. (Note: FLP Units 1 and 2 were not designated for grades 4–5)

Figure 7 shows the frequency of usage, standard by standard, in grades 4–5. Standard I (Understanding Food and Fiber Systems) was used more than twice as often as Standard V (Food, Nutrition, and Health), in both single and total usage (52 benchmarks in 31 units versus 21 benchmarks in 14 units). Standard II (History, Geography, and Culture) was addressed by 31 benchmarks in 24 units, Standard III (Science, Technology, and Environment) by 39 benchmarks in 26 units, and Standard IV (Business and Economics) by 29 benchmarks in 20 units. The usage of multiple benchmarks closely mirrored the frequency pattern of usage

for at least one benchmark in Standards II, III, and IV.

As with both previous grade levels, all 22 F&FSL benchmarks were addressed by FLP lesson units at grades 4–5. However, frequencies of usage for individual benchmarks clustered noticeably at both the high and low extremes. Benchmarks I–A and III–A were both addressed 19 times. Benchmarks II–E, III–B, and IV–E were addressed in 15, 14, and 11 units. Five benchmarks were only addressed once or twice. The remaining 12 benchmarks were addressed in four to nine units each.

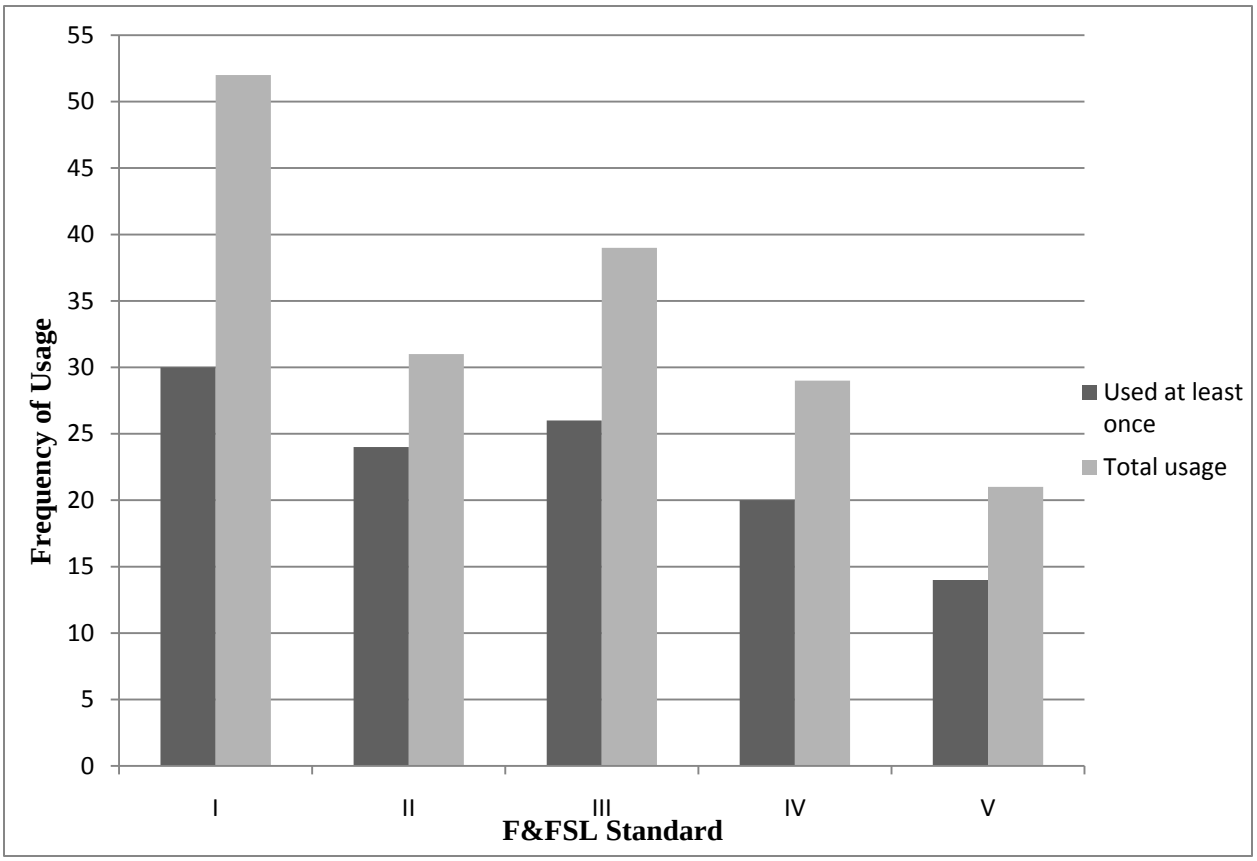

Figure 7. Frequency of usage for F&FSL Standards in all FLP lessons for grades 4–5.

Discussion

All F&FSL standards and benchmarks were addressed by FLP units at each grade level for grades K–5. However, not every F&FSL standard or benchmark was addressed equally. Some F&FSL standards and benchmarks were addressed by very few FLP objectives, while others were more prevalent. F&FSL Standards I and III for *understanding food and fiber systems* and *science, technology, and environment* were more strongly supported by FLP units at all grade levels. Earlier studies (Powell et al., 2006) also supported a strong connection between FLP units and academic standards for science, with alignment to as many as 100% of state standards for some scientific specialties and grade levels. F&FSL Standards II and IV for *history, geography, and culture* and *business and economics*, both associated with academic content in social studies, received intermediate support at all grade levels. Powell et al.also found moderate to strong alignment to 65–85% of state standards for most social studies subjects. F&FSL Standard V for *food, nutrition, and health* was well–supported by FLP at grades K–1, but much less so at other grade levels. This may have been because food–related units in

FLP addressed F&FSL benchmarks for younger or older students, rather than those in the middle grades.

The stated intent of Project Food, Land and People was to develop a curriculum that could be used in academic content area classrooms to teach academic concepts and process skills (Food, Land and People, 2004). An integrative agricultural literacy context provided the organizing focus for a thematic approach to academic content, supporting agricultural literacy through core subject classes. It should be noted that other agricultural literacy curricula have been developed also that were intended to be taught solely for the agricultural literacy content. In contrast, the F&FSL Guide established a framework of predetermined agricultural literacy benchmarks with the intent to infuse those benchmarks into academic classes where appropriate.

In practice, the distinction between infusion and integration becomes muddled. Preliminary field observations from a pilot study implementing FLP in third and fifth grade classrooms (Powell, 2008), showed a tendency to use FLP content and activities in interdisciplinary units or as "fit–it–in" infusion modules. Feedback from this implementation study underscored the reluctance, commonly expressed by teachers and administrators (Nesin & Lounsbury, 1999; Pederson, 2007), to include *extra material*, even when the material is closely aligned to standards and woven seamlessly into existing curricula, The potential of FLP as a thematic, integrated approach to learning seems to be going largely unrealized. A standards–based focus such as the one taken here and in previous correlation studies (Powell et al.2006), justifying the integration of non–assessed subjects, may even work against the "leap of faith" required to let go of subject–area distinctions and truly integrate.

Although the F&FSL framework can be a valuable guide for assessing agricultural literacy content associated with FLP, some content conveyed through FLP might not be effectively measured by F&FSL benchmarks. Some FLP units – and some F&FSL benchmarks – are longer and more broadly focused, and some are shorter and narrower, which may account for come incongruence. Both curricula were intended to be supplemental and it must be recognized that each developed independently of the other with no intentional effort to meet criteria expressed in each other's conceptual framework or that of any other developing agricultural literacy standards. Despite a common goal to promote agricultural literacy, some imbalance in the distribution of agricultural literacy content should not be a surprise. However, it is encouraging that F&FSL can be used to measure the effectiveness of an agricultural literacy curriculum with which there is no pre–determined association. This helps to support and validate both F&FSL and FLP.

Recommendations

Like any set of standards, the F&FSL framework will eventually need to be re–assessed in regards to the breadth and depth of its benchmarks, especially since the original development of these frameworks began in the mid 1990s. Given the evolution of the concept of agricultural literacy and recent changes in society, the need for revision becomes more meaningful to keep up with changes in school curriculum. Perhaps inclusion of additional thematic strands relevant to the still–developing definition of agricultural literacy would more effectively support that maturing definition in ways not readily evident as worded in the existing F&FSL Guide. This would likely entail the expansion or clarification of existing standards and benchmarks as well as the addition of new standards and/or benchmarks, since some FLP content was not readily correlated in the F&FSL Frameworks. Mature and well–developed standards generally represent a fixed body of knowledge that changes slowly and only with considerable deliberation. However, since most state standards for academic subject areas are re–assessed every four to six years, it is reasonable to think that agricultural literacy standards would benefit from the same type of re–assessment.

A curriculum is measured against widely approved standards, and as such must be stable yet dynamic, only changing when a broad consensus within the discipline agrees that changes can be justified. Since FLP is in its second edition and currently undergoing revisions to update that edition, it appears that it is evolving to reflect more complete and current content related to agricultural literacy. Perhaps

FLP, as it continues with future revisions, should consider the selection and organization of content that more systematically aligns to the F&FSL frameworks. The FLP curriculum, like the F&FSL framework, was developed using a thematic conceptual framework. However, the absence of collaboration between developers of these independently conceptualized models has left gaps in alignment that could easily be resolved. FLP units could expand existing lessons to include overt connections to F&FSL benchmarks with minimal adjustments in background material or format. For example, the addition of a "connections" box at the beginning of each lesson could identify agricultural literacy objectives, similar to the boxes for academic standards. These connections would help to make conceptual links from FLP to the F&FSL standards more explicit. The F&FSL standards and benchmarks, for their part could refer more directly to examples that are already part of FLP units without substantially changing the conceptual or instructive intent of the existing framework. However, even with this alignment of the FLP and F&FSL standards the F&FSL Standards would need to evolve to accommodate new and relevant developments related to agricultural literacy.

The issue of content correlation and alignment to agricultural literacy standards parallels the larger discussion facing education today regarding standards–based testing. Standards and the tests associated with standards are driving the academic curriculum (Pederson, 2007). Should assessment merely measure performance indicators in order to evaluate and support larger educational goals, or does accommodating assessment become a goal to which all other decisions must conform? Does correlation to more/multiple benchmarks from a given standard within a teaching unit imply greater complexity or depth in the treatment of that standard? Does absence of correlation mean that the content is not relevant? These issues remain unsettled, not only for agricultural educators, but for education as a whole.

Pressures arising from political and social authorities that determine the substance and intent of standards are sometimes at odds with the professional training and judgment of curriculum developers or classroom teachers. As the discipline of agriculture literacy evolves, advocates of standards such as the F&FSL framework and developers of curricula such as Project FLP are gradually coming to recognize the importance of unity in language, terminology, goals, and vision. A more collaborative approach to standards–based curriculum, incorporating both academic and agricultural content, has the potential to unify previously segmented proponents of agricultural literacy while still addressing the larger curriculum needs of a changing society.

The FLP curriculum is one of several attempts to promote agricultural literacy through infusion or integration of agricultural issues and topics within existing classes. Although the F&FSL framework is not perfect, it is highly recommended that other curricula having agricultural literacy as a goal use the F&FSL framework to determine the extent to which they address literacy standards and benchmarks. Such a cross–check would be valuable for both the curriculum under analysis and would provide feedback for further development of the F&FSL framework. The challenge will be to incorporate diversity and strength within the supportive conceptual structure of an agreed–upon knowledge base that bridges philosophical differences. Those who advocate and support the F&FSL Standards should encourage a systematic process for updating and re–assessment of the standards so that it will maintain relevance for those who wish to use it as a guide for establishing agricultural literacy in the future.

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