

**FAMILIES AND THE EMERGING LEARNING ECONOMY:
CRAFTING PERSONAL RESOURCE ECOLOGIES TO SUPPORT LEARNING**

A Report to

KNOWLEDGEWORKS FOUNDATION

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INTRODUCTION

We are not homeschoolers, we are not private schoolers, we are not public schoolers. It is a year-to-year thing.

Wanda, mother, suburban Ohio, homeschool elementary and middle schoolers

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Education is just a small part of the whole thing.

Corinne, mother, urban California, private elementary and public high schoolers¹

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A new **learning economy**—a system of production, organization, and exchange of learning assets, resources, and experiences, both formal and informal—is growing rapidly around the edges of the formal school system. New commercial players are offering diverse services ranging from specialized tutoring to educational travel and leisure programs. They are introducing new kinds of products ranging from educational toys to functional foods and nutritional supplements that enhance learning. New technologies (including the Internet, social media, and mobile computing and communications devices like cell phones, iPods, and PDAs) and cooperative ways of organizing resources (such as open access or collectively managed resources) are enabling new platforms for the creation and exchange of learning resources that support many new formats for learning.

This learning economy is diversifying from its traditional roots in the industrial age paradigm of education and expanding the ways that families and teachers create learning experiences for their children. At the same time, it is challenging the centrality of today's schools as the primary organizer of learning. While parents and caregivers have always wanted the best possible education for their children, the environment for achieving that goal is rapidly changing and uncertain. Understanding the future of the learning economy and its impacts on education is essential for ensuring an equitable public learning system for all school-age children. As the learning economy continues to grow and diversify, it will shape both the distinct roles of schools and parents' strategies for educating their children.

¹ All quotations use pseudonyms to protect the anonymity of the interviewees.

To understand how families are interacting with this emerging learning economy, IFTF interviewed 16 families with school-age children in Ohio and California.² What follows is a description of today's learning economy and the strategies and challenges that families encounter as they attempt to organize learning for their children, based on these interviews. Chapter 1 defines the learning economy. Chapter 2 explores the experience of today's families in detail. Finally, Chapter 3 examines the future of the learning economy, as well as its needs and gaps.

² See appendix for research methodology and sample.

CHAPTER 1.

DEFINING THE LEARNING ECONOMY

Strictly speaking, an *economy* of learning resources is the organization of wealth around learning, with a system of production and consumption of educational goods and services. What is emerging, however, is more a robust learning landscape—an interrelated collection of learning resources, organizations, places, values, media platforms, and philosophies. From classrooms to living rooms and gardens, toy aisles to grocery stores, community parks to social networks—this landscape teems with teachers, families, companies, activists, and myriad other agents.

Many dimensions of this landscape are not new. We have had an informal system of learning resources for many years. Private and parochial school options preceded the formal public school system, and since mandatory school attendance was legislated, learning has been dominated by government-organized public schools. Charter schools and homeschooling have diversified the composition and organization of this system, while commercial offerings for tutoring and extra-curricular activities have provided supplemental services.

However, several catalysts are converging with existing resources to create an explosion of new learning life forms—new organizations, new roles, new products, new conceptions of learning.

People trust themselves more than they trust public institutions

For more than 30 years, trust in public institutions has been declining. For education specifically, the National Opinion Research Council reports that the percentage of people who trust education to be effective and trustworthy in fulfilling its public role declined from 37.3% to 28.3% between 1972 and 2006. The percentage reporting hardly any trust in education almost doubled from 8% to 14.9%.³ At the same time, parents recognize their own need for ongoing learning, with many enrolling in adult classes. Sixty-eight percent of adults in IFTF's Core Survey enrolled in a class in the past year, with 61% of them stating professional development, 56% stating personal development, and 36% stating interests/hobbies as their motivations.⁴ This couples with rising parental anxiety about college admissions: many families are vying for whatever competitive advantage is available, stimulating an immense market demand for supplemental education services. We've seen in many other areas a rising do-it-yourself ethos, which becomes a do-it-*ourselves* ethos when amplified by social media platforms. All this leads to learning as an

³ NORC reference annual survey

⁴ IFTF Core Survey, 2006

expanding market as education and learning become a consumer value and part of a learning lifestyle.

The existing educational industry is experiencing immense growth

Today, the education sector is approaching \$1 trillion, or 10% of the country's GNP, second only to health care.⁵ Federal and State spending on education is approximately \$750 billion. According to the Education Industry Association, education companies report about \$80 billion in annual revenues and play an increasing role in supporting public education through supplemental learning services, ranging from after-school tutoring to school improvement and management services, charter school services, alternative education and special education services. Some niche markets in this sector are large and growing. Exam preparation and tutoring boasts \$4 billion. This year, back-to-school expenditures reached \$18 billion. The market for summer camps is \$20 billion.

New markets supporting educational goods and services are emerging

Some new enterprises are directly involved in education, while others are currently at the periphery. Since 1996, U.S. computer and gaming software sales have more than tripled, topping \$9.5 billion, as their demographic base expands. Recently, “serious games”—games for training, learning, and social change—have received growing attention. Travel and vacation services are incorporating learning opportunities in their packages. The functional foods market—nutraceuticals—is continuing to grow, outpacing growth rates of the traditional food industry between 2000 and 2010 by 9% to 1%.⁶

People are adopting a learning lifestyle

Resources and activities are being appropriated for learning-specific purposes. In our interviews, families reported using cooking to teach measurements or basic chemistry. They would gather at local parks to learn, visit museums, and turn family vacations into learning opportunities.

Online educational resources are proliferating

A growing system of free and easily accessible online learning resources is supporting students, educators, and parents. Curriculum communities such as OER and Curriki allow teachers to share lesson plans. Homeschool families are connecting online. Educational

⁵ <http://www.educationindustry.org/tier.asp?sid=1>

⁶ Functional foods and nutraceuticals are foods and supplements that have value beyond their nutritional benefit and are consumed for explicit gains in performance. IFTF SR-787B, 2003.

podcasts are populating iTunes, which has even opened iTunes University, a collection of lessons to support mobile learning.

These catalysts are driving a rapidly expanding learning landscape, as illustrated in Figure 1.

Figure 1. Today's rapidly expanding learning landscape



CHAPTER 2

FAMILIES AND THE LEARNING ECONOMY

As suggested by the quotes in the introduction, families are diversifying the ways that they support their children's education. Just as there is not a single type of learner, there is not a single type of school experience for students, nor is there a single type of family strategy for supporting their children's education. The expansion and diversification of the learning economy is taking place hand-in-hand with families and creating an entirely new landscape for learning.

IFTF visited 16 families in the greater Bay Area region of California and in the center and surrounding areas of Columbus, Cincinnati, and Cleveland to understand families' experiences with the learning economy and their rationales for the decisions they make concerning their children's education and learning.

Seven trends characterize the shifting experience of families in the emerging learning economy this chapter examines each of these trends:

1. The burden of education shifts from institution to family.
2. The learning economy is co-created.
3. Personal learning ecologies mediate the chaos of the learning economy.
4. Family learning ecologies shape the role of the school.
5. Learning deserts promote self-sufficiency.
6. Personal learning ecologies require new skills.
7. Learning ecologies create work for the family.

TREND 1: THE BURDEN OF EDUCATION SHIFTS FROM INSTITUTION TO FAMILY

Traditionally, families have counted on schools and the broader public education system to manage education. That meant that families relied on schools to be safe and to provide the necessary services and activities to support their children's learning, and assumed that the schools were succeeding. No matter who you were or what your background, you could trust the education system to take care of your children's intellectual and social development.

Current dropout rates and student performance data suggest this is no longer the case. Likewise, families in our study also suggest that this relationship to public education is shifting. Education lies like a weight on the shoulders of the families we interviewed. The burden of ensuring an effective and successful education has shifted from the institution to the family, resulting in diverse responses and strategies.

Families are concerned and uncertain

With the decline in trust comes an increasing sense of concern and uncertainty among families about their children's education. Assurances and assumptions about the safety, quality, effectiveness, and appropriateness of the school experience are subject to doubt. The burden of crafting and managing a program of learning has shifted to families. For some, this burden is greater than for others—due to economic hardship, educational background, social capital, the quality of schools and learning opportunities available, as well as the time and level of sophistication needed to assess learning needs, identify solutions, and negotiate a complex system.

Well, I don't know if it is a different world, or just where we live, but it just seems like I feel a need to be involved. ... The schools aren't as good as they were. I mean, without us helping them sort of navigate through the maze, they'd fall through the cracks.

Aaron, father, urban California, public elementary and middle schoolers

Few, if any, of our interviewees had memories of such active concern on the part of their own parents. Choices were clear and decisions were made without much drama or family engagement. Comments about their own education reveal a sense that education wasn't a domain that was negotiated and managed on a daily basis. The topic rarely took much family time to sort out.

I went to the same school everyone went to. If I had stayed in the countryside I never would have gone to school. I would have finished the third grade and my parents would have put me to work on the farm. I finished elementary school. But when I was in the fifth grade I started to work. I went to school in the morning or in the afternoon—which is how they do it in Mexico—and then I worked the rest of the day.

Angel, father, suburban California, public middle schoolers

Learning issues are priority topics in daily conversations

Among the interviewees, the topic of education—schools, learning, and social and emotional development—were priority issues and part of daily conversations at home, around the dinner table, and with friends and family members. Whether they were immigrant parents, suburban mothers, or welfare families, interviewees felt this topic creep into their list of daily tasks that needed to be managed and monitored.

It's a full-time job trying to get my kids a decent education.

Connie, single mother, rural California, public elementary and high schoolers

It will be harder work for me with all the children in other than homeschool, because I will have to find out what is there and stay current with what happens day to day.

Wanda, mother, suburban Ohio, homeschool elementary and middle schoolers

TREND 2: THE LEARNING ECONOMY IS CO-CREATED

Families are bringing their concerns about education and learning to the marketplace and looking beyond “school” to the learning economy to help their kids. Anything that can provide a competitive edge on achievement, exposure to new ideas and experiences, and skill development is a worthy investment. Whether it is a traditional instructional tutor or acupuncture, families are creative in linking educational and learning benefits to a diverse range of products and services, including food, home furnishings, alternative health, and recreational and leisure activities. Meanwhile, companies are paying attention to this growing consumer demand. Disney now offers a Youth Educational Series, including curriculum and learning teams that provide a behind the scenes learning experience at Walt Disney World Resorts.⁷ The Boston Waterfront Hotel offers EduFunCation, a package of tours and activities for Boston tourists that have an educational edge for families.⁸ The result is that families have transformed and reclassified a number of practices, like managing their diet, cooking, designing and refurbishing the home, and planning family vacations and recreational activities as part of managing their children’s education.

The growth of the learning economy, however, includes more than commercial offerings for educational products and services. Families interact with places, people, and media to co-create their own learning experiences and to extract learning from daily encounters. Education and learning isn’t just something one consumes or buys, but rather something that gets actively created through the interaction of parents, educators, children, and other participants in the community. Families may buy products and services from adjacent markets, but it is through the process of co-creation that they become meaningful learning experiences. Interviewees looked for opportunities for these kinds of interactions.

Families co-create learning opportunities using health and food

The kitchen is an important learning zone for families, as a place to learn about mathematics and chemistry, but also as a venue for gaining responsibility for personal health.

Well, he actually cooks a lot for himself now. He’s a jock; he plays sports, so he reads all of the labels. “Mom, stop buying junk food.” That’s what he would tell me, and he’d look at it and say, “How many calories?” He’ll eat everything up, so learning from me would be just cooking and asking me how to do certain

⁷<http://disneyyouthgroups.disney.go.com/wdyp/programs/programOverview?page=YESProgramOverviewPage>

⁸ <http://www.marriott.com/hotels/hotel-deals/boswf-renaissance-boston-waterfront-hotel/>

things. I tell him to go on the Internet and find a recipe so there's a lot of research with that.

Latoya, single mother, suburban Cleveland, public high schooler

They know that they have to eat nutritious foods. I tell them that the brain needs nutrients because it's working, thinking. You need to eat things that are nutritious for your body. You need energy. You need nutrients in your brain so that you can learn.

Tonia, mother, suburban California, public middle and high schoolers

And, Jess does a lot of cooking. She loves to cook. She loves to learn different recipes and find out. She also takes cooking classes occasionally at Viking Home Chef. We have a friend who works there, so she'll take a cooking class there. [From cooking she's] learning measurement, learning how to measure food and, you know, what dicing means, what the different cooking terms mean. Jordan could tell you better than me.

Carol, single mother, urban California, homeschool high schoolers

Families co-create learning with digital media

While most families we interviewed had personal computers with educational software such as reading and math programs, interacting with digital media as part of daily life was viewed as a source of co-created learning.

One boy used the Internet to research the health implications of a Big Mac he received as a reward from his teacher.

Yeah, his teacher, Miss McDermott, the one who bought him this book! He was listening to directions; like everybody got the message wrong and he got it right. She said, "I'm going to buy you, Andy, McDonald's lunch." Yeah! He went to McDonald's Web site and he checked all the lawsuits against McDonald's preparation. He watched the movie Super Size Me. He went to the Wikipedia; he asked boys "what should I take at McDonald's?" His choice, basically, was chicken nuggets. Then at the end somebody recommended him whose opinion he values—somebody recommended the Big Mac and Andy ate a Big Mac.

Georgia, mother, suburban Cleveland, public middle schooler

A middle schooler demonstrates to her parents her savvy online social skills by not accepting a friend on MySpace. These social skills are viewed as equally important to the technical and creative skills she also demonstrates.

Stan: I have to say, though, it is actually very educational for Ronda, in a sense. She's learning how to write HTML code. She's really into designing her page so ... she's learned a lot of technology skills from that. She's reformatting and restructuring and writing code. She's really into the way her page looks and: "How do I bring this music clip in and import this from here?" I mean, she can do a lot of things that neither of us understand.

Suzanne: Yes. And she understands [talking about MySpace]. She's pretty good—she doesn't even want to take people that she doesn't know. In fact, she got a friend request, I think it's called, from somebody who said, "I'm a girl and I'm moving to Baxter from California. I'm trying to make new friends" or whatever.

Stan: But this is, again, a classic educational example. Ronda saw the picture and this girl looked awfully cute so Ronda started doing research and she found this picture that was a stock picture from some other site.

Stan and Suzanne, parents, suburban Cincinnati, public middle and high schoolers

Families use their geographic communities to co-create learning

For our families, geographic communities, whether urban, suburban, or rural areas, were sources of intellectual stimulation and social development. A deep sense of place was seen as a rich venue for learning opportunities and explicitly mined for its learning opportunities.

One family made an deliberate choice to live in urban Cincinnati, acknowledging the learning experiences it would enable for their homeschooled children.

I mean, the kids see a lot of diversity.... Socially it's a real interesting learning experience. And that's the interesting thing about living in the city, that it is a neighborhood. You have your privacy but you also get to know people, so it's an interesting experience. The kids walk the dog and doormen hand them treats for the dog. My son has worked with the church. They do a feeding of the 5000, so a lot of street people go there and have dinner, so my son has helped serve dinner. So, now they stop him on the street and talk to him. They give him power fists, "Hey, Rick, how you doing?" There was a place over not too far, Café [De Paris], where the owner speaks French, so my kids will go in and there and speak French with him and you know.

Tim, father, urban Cincinnati, homeschool middle and high schoolers

A rural family considers their organic farm a vibrant "classroom" for their elementary school daughter.

Yeah, the outdoors is her classroom a lot, for sure. Well, over the years growing up here she has been able to really interact with the place and the gardens and the forest and down at the river. You know, just the amount of exposure to the

natural world for a little person—and that was even before she started formal schooling—that was a big part of her learning, I think.

Peter, father, rural California, public elementary schooler

Families co-create learning with social networks

Interacting with diverse social networks—including church members, co-workers, fellow school community members, and neighbors—was another important way that families enabled co-created learning. Social networks expand learning capital (the people, resources, information, and values that support learning) and introduce new opportunities. They also are important “safety nets” for parents who lack skills, energy, time, or money and help buffer children from uncertainties or weaknesses in their immediate family environment.

The one thing that comes to mind, there are a lot of people at church who are sort of supporting him in his college, sort of focusing on college and learning about the different colleges.... A lot of them are either counselors or college search—like, supporting kids in getting into college, particularly kids who might not look at college, which is not really true for Kris. But, they’ve offered to kind of help him do the search, and so he’s got there.

Carol, single mother, urban California, homeschool high schoolers

Shanon: Why is that important? Well, because we can’t provide all of that learning for her, you know. As I said, I don’t crochet. I hate doing little sewing things. And luckily there’s somebody else, like: “Oh! Go knit with Jamie!” So, yeah, it enriches her life and it doesn’t make our role as her parents to provide all of her learning experiences.

Peter: Yeah, I think a diversity of experience would be what I’d say is valuable, and the fact that we have a larger community besides our nuclear family to have learning from and interaction with.

Shanon and Peter, parents, rural California, public elementary schooler

Church is working out great because he has a job now [greeter]. You’ve got to give him something to do. He’s really thriving in there. He’s talking more; he’s talking to people; he’s hugging people. He used to run. He’s actually having conversations.

Latoya, single mother, suburban Cleveland, public high schooler

Families use projects, travel, and life events to co-create learning

Family projects (for example, home remodeling), life events (such as adopting a child or caring for a sick family member), and vacations all contribute additional opportunities for co-creating learning.

Reconfiguring the home to maximize learning is an important theme among our interviewees, prompting families to buy organizational systems like bookshelves and desks. One homeschooling family even constructed a classroom in the home.

This desk I just brought in for her a couple weeks ago, so this is where she's going to be doing her homework. And I wanted her to have a quiet place; as you can see, there's no TV in here, because she's awfully distracted with TVs. She reads a lot, she loves to read, and I haven't put up all the books up there yet, because she has a lot more which I have in my junk room downstairs.

Sara, mother, urban California, public middle and high schoolers (and toddler not yet in school)

Home remodeling to build a classroom served as a collective learning experience for one family.

Isaac: So now we're here in the classroom. This is 225 square feet of classroom space which we have quickly filled.

Elena: This is the addition that we just closed our eyes and said, you know, "Bite the bullet. We'll have to add." The dining table was just filled. And, you know, it just got smaller and smaller for them.

Elena: This is actually the greatest learning experience for the kids. Because when we had this built, what we did was three walls, roof, and a bottom part. And the rest they did. They scrubbed it, they—they did the painting. They chose the colors.

Isaac: Oh, we put the—drywall tape between the seams. We put that. We had them sand it, put some more, sand it, put the primer on

Isaac and Elena, parents, suburban California, homeschool middle and public high schoolers

Travel was seen as an important way to broaden children's thinking about people and places. But planning the trip and researching the itinerary became a good opportunity for co-created learning.

So, I want him to be able to experience different countries and all of that too. I want him to be able, when they talk about certain area, he's been there. I think, actually next year, we're going to go out of the country.

Latoya, single mother, suburban Cleveland, public high schooler

Whenever we go on trips, so what they do is research on the area we're going to go and find out okay, what's the point of interest, you know? We made a point of that because when we're going to a trip we don't want it to be a passive thing for them. But give them something to focus on so that when they get there, "Oh yeah, I read about that. I saw that." Most of the stuff we do is available on the Internet, which has been a fantastic tool for us.

Isaac and Elena, parents, suburban California, homeschool middle and public high schoolers

TREND 3: PERSONAL LEARNING ECOLOGIES MEDIATE THE CHAOS OF THE

LEARNING ECONOMY

A co-created, emergent learning economy, with various institutional, commercial, family, and community players, is constantly in flux. New businesses offer new learning services. Schools open and close; principals come and go. Families move to new neighborhoods. Children develop new learning needs and desires. The learning economy is not orderly, easy to recognize or classify. Families make sense of this messy learning economy by crafting personal learning ecologies—each family creates a personal network of people, resources, places, products, services, and information that supports their children’s learning.

Personal learning ecologies bring order to the somewhat chaotic and fragmented learning economy. They serve as a personal filter: As families discover a resource from the learning economy, they bring it into their family context, and it takes on a special role, addressing a particular need or bringing a particular attribute to the family’s learning environment. In the family context, the resource takes on new meaning and relevance. Learning ecologies therefore are an important framework for families to understand available resources and put them to work.

Learning ecologies, then, differ from family to family and evolve over time. They are not static schedules and rigidly structured programmatic learning practices. Rather they are dynamic systems of resources that reconfigure as children grow and develop new needs and desires for learning; as the family context changes and introduces new constraints or opportunities; and as the external community and school environment change.

To adapt to emerging needs, families may make small changes, such as adding a summer course, or big changes, such as switching from homeschooling to a local school.

Families constantly evaluate components of their learning ecologies

As one mother describes, her learning ecology evolves as she interprets the needs of her whole family. She carefully examines the implications that learning choices have on the logistics, schedules, and overall dynamics of the family. A learning activity that would disrupt the sense of “family” and their dynamic as a unit would not be a good choice in her opinion.

I really think for me that’s the approach for their schooling—year by year looking at, “Is this still a good fit? Is this still working? Does it work for our family dynamics? Does it work for them individually as learners, are they progressing? How are they doing learning-wise?” and that kind of stuff.

I am thinking that this coming year might be our last year of homeschooling, because John is in the public school, and my work schedule at the church community keeps us opposite so the family dynamics are not the same. So I do not

think I will be homeschooling Xiu [adopted Chinese toddler], but we will keep all opportunities open and take it year by year and look at what the children need and want individually. Also, I feel that I am ready to go back to work. I have some desire for that and to be full time at the church. For J and L I would probably go for the Christian school, but I would go back and observe the public school again and re-evaluate.

Wanda, mother, suburban Ohio, homeschool elementary and middle schoolers

Families design their learning ecologies to provide a competitive edge

A single mother in Cleveland explains her strategic move into the edge of a neighborhood that would qualify her for a school with a Mastery program. After reviewing statistics about all the schools on the Internet, visiting them, and discovering the Mastery program, she organizes an ecology of theatre, crafts, and social networks for her daughter that will “set her up to win.”

Basically, it goes back to setting her up to win, in my opinion, because I know that—I knew she was going to be graduating from New Albany. Mastery level means she has to have a 4.0. [I’m a] single parent. I don’t make tons of money. I’ve been through two downsizings. It’s not like I have this huge fund set up for her college. But, obviously, [I’m] well-knowledged enough that, even if I don’t, she can get there.

Donna, single mother, urban Cleveland, public high schooler

When a real estate agent tells her she can more than double her money by selling her house and moving to Columbus, she evaluates and refuses the offer as it would upset the intentions of the carefully crafted learning ecology.

I can’t go to Columbus.... You’ve got to look at this whole dynamic that I’m trying to set up.

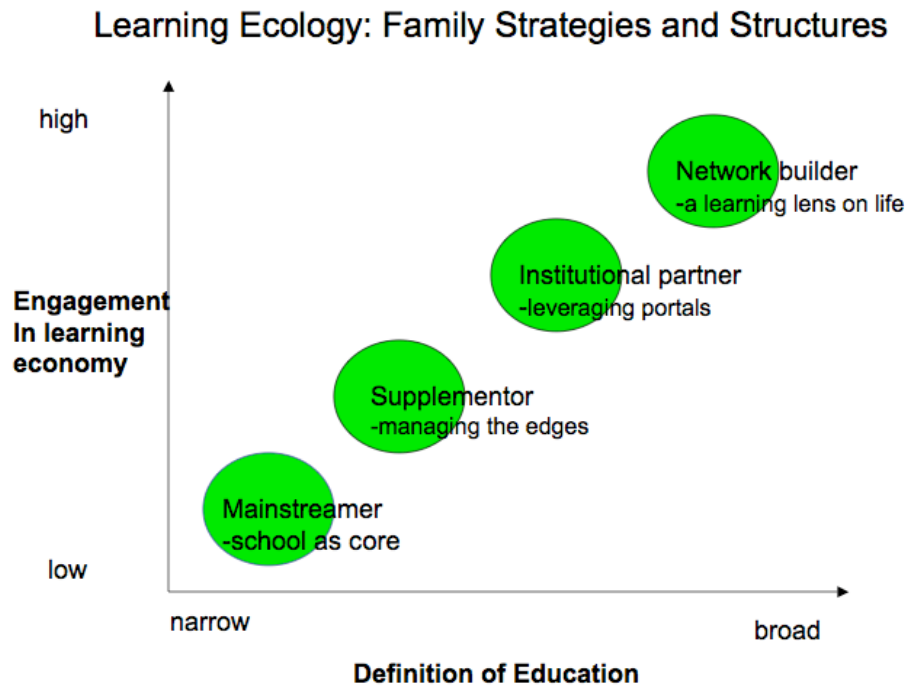
Donna, single mother, urban Cleveland, public high schooler

TREND 4: FAMILY LEARNING ECOLOGIES SHAPE THE ROLE OF THE SCHOOL

Families demonstrate various ways to organize and structure their learning ecologies. These structures reflect their distinct philosophies of education; their abilities and desire to engage in the learning economy and craft a personal ecology; and the relative robustness of their learning geographies (the available resources).

Four types of learning ecology structures emerged from our data. They are mapped out in the diagram presented in Figure 2.

Figure 2. Learning Ecologies: Family Strategies and Structures



Each of these learning ecology types also suggests a particular role for schools, ranging from serving as the sole provider of resources to providing minimal to no resources at all.

While Figure 2 shows four types of learning ecology strategies and structural relationships with schools, families are really located all over the space in this figure.

Families that fall in the lower right corner (broad definition of education and low engagement) are likely to be frustrated families, with limited skills to build learning ecologies or with limited available resources to construct a richer learning ecology (such as in a learning desert, discussed in Trend 5). Families that fall in the upper left corner of Figure 2 (narrow definition of education and high engagement) are those families whose needs are met by traditional sources (such as their school) that receive the bulk of their focused engagement.

Mainstreamers use the school as their anchor provider

Mainstreamers have a relatively narrow definition of education and learning. They see academic learning as the cornerstone of their children's development and expect the school to provide this. If the school doesn't sufficiently meet this goal, mainstreamers will engage the school to try to resolve the situation, but they don't go farther than the walls of the school.

Connie is a mainstreamer. She relies on the school for everything, from academic skills to life skills. She feels frustrated that she doesn't know how to engage more effectively with the school. She doesn't get the support she would like from the school community.

They really should be taught a lot more about what's going on the world now. I mean we all know that they need to have math skills and reading skills and English skills, but what about that life class? Why can't we have a life class about real life situations? You know, I worry about my kids every time they leave the house if they're not with me. So the whole—I'm on the phone with them every hour. "Where are you guys at, what are you doing? Who's around you?"

Connie, single mother, rural California, public elementary and high schoolers

A homeschooler uses the Ohio Virtual Academy in a mainstream way, not straying from the prescribed lessons and curriculum available online. She looks to her church to provide her children's moral education and socialization.

I'm connected to Ohio Virtual Academy (OHVA) and so in this program I sign up and I agree to teach the curriculum that they provide so the books that you see are mailed to us in boxes; the materials that go with the science lessons and the art lessons are all mailed to us. Then Monday through Friday we go to the computer and we type in OHVA and get on the Web site, and then Josh's lessons for the day come up and they're listed out, and Liz's lessons come up. And then I log in on the computer everything that we've accomplished, and then once a month I talk with the teacher and she's just my support. "Are there any problems, or anything I can help you with?"

For me, I like the structure of the program. I don't have to figure out all the different components; it's all figured out for me. For me it's Ohio standards, so I know I'm right up to par with what other children in Ohio are doing. The downside is I feel like they try to create this false sense of community.... I don't

feel a deep need for community and social interactions because I do feel like there's so much here [referring to her church] and we have that component, so it could be a lack on my own part, too, that I don't put forth enough effort or am consistent in going to those things, so it could be partly on me as well.

Wanda, mother, suburban Ohio, homeschool elementary and middle schoolers

Supplementors look for add-ons that complement the school

Some families have ecologies that expand beyond the school walls and demonstrate higher levels of engagement than mainstreamers. Supplementors actively use out-of-school resources (like enrichment classes, camps, games, technology, and tutors), family and community members, and vacation trips or other special events to add on to the school experience. The school is still the dominant player that shapes most of the learning ecology. Families engage lightly with the broader learning economy, extracting a resource and applying it to a gap in their personal ecology. They manage around the edges of school as a way to supplement their children's learning. Supplementors have a slightly broader definition of education and learning than mainstreamers, but their primary motivation for supplementing comes from the desire to improve on what the school offers. There seems to be no inherent desire to engage with the broader learning economy nor any broad definition of education that guides them to search for innovative resources and experiences.

One mother supplements the learning ecology with family resources and some out-of-school classes. As a Russian immigrant, she believes that it is the role of public school to provide basic education. Even if she has the money for private school, she sends her son to public school. However, dismayed by the small amount of homework (compared to what she did as a Russian student) she supplements her son's activities with interactions with family members.

Oh, my husband, he reads with him like every day and they discuss what they read. You see the chandelier in here is very low because it's very comfortable for them to read and I can cook, and they can discuss something, and I can participate in the discussion because the homework he receives is such a joke compared to what I used to have in school.

It's just five minutes; not even five! Seriously. I asked his teacher, "Just give Alan more homework to keep him occupied." And she said, "You know what, he's already ahead and kids need time to relax; school is very tough." She absolutely disagreed. I homeschool him. I bought—I can show you—he's in fifth grade and when he was in fourth grade, he used to do seventh and sixth grade Russian math. I ordered text books from Russia. He goes to school and he learns what they learn to do there, plus I can lecture him for 15 minutes and write a couple of exercises, and he'll do it.

Georgia, mother, suburban Cleveland, public middle schooler

Institutional partners use the school as a portal

In some learning ecologies, key institutions serve as portals to the broader learning economy. In this structure and strategy, the institution (such as a school, a church, or a workplace) provides a conduit to the learning economy and opens up opportunities to the family. As families' definitions of education and learning expand, the portal becomes a gateway to the diversity of the emerging learning economy.

Sara: She was going to go to Stanford and do their program, the nursing program, but they only took like 11th graders, I think. So, definitely in the next year, we're going to have to really—it's kind of like a camp for six weeks.

Interviewer: How do you find out about those?

Sara: Through school. Everything's through the school.

Sara, mother, urban California, public middle and high schoolers (and toddler not yet in school)

Network builders see school as one of many nodes

Network builders have a broad definition of education and learning, seeing a learning opportunity in almost any kind of experience and interaction. Network builders place great value on social and emotional intelligence. They have diverse views about the purpose of education. Some frame the process of education as an process of becoming rather than a progression through steps toward acquiring information and knowledge.

In order to fulfill the full definition of education and learning, network builders reach out to friends, co-workers, educators of all kinds, and even strangers to create vast social networks. They experiment with classes and various activities as a way to pique interest and discern the passions of their children. For network builders, the school is one of many nodes that can help them build social, informational, knowledge, and resource networks in support of their children. Network builders bring their energy and broad view of learning to the school at times, but they move beyond the school and establish multiple key nodes of interaction and learning.

One family has two children, one in private and one in public school. Each child participates in multiple dance, music, and art classes and camps, religious instruction, travel, and volunteer activities. The focus is to provide equal parts of academic, social, and emotional learning and growth for their children. Their view of education is that their vast network will help them discover and support the process of their children "becoming" who they intended to be in life.

You know we're not overboard on the academics. We're kind of more balanced. It's like we encourage a lot of athletics, a lot of emotional intelligence, a lot of communication, a lot of development in terms of what do you want to do with your life, who do you want to be; where's your passion and your drive? Let's

encourage that. Also, reading, and intellectual and academic development, but it is equal to all other types.

We have had this approach with our children that they try everything that they do. They do music and singing courses, and do some study of music and singing and instruments. Also athletics and sports; all forms of dance; all forms of art; and that they be exposed to all of those different activities until they lose interest or it takes hold or whatever happens. But I've let them know that my job is to help them become the person they're intending to become and we don't know what that is. We don't know where their passions lie, so it's just kind of an opportunity to discover who they are, so it's just exposure. I feel like my job—our job—is exposure. We explicitly told them that.

Corinne, mother, urban California, private elementary and public high schoolers

A suburban Columbus family utilizes the entire community as a network for their children's learning ecology with the attitude that everything is a learning experience.

Suzanne: And everything is a learning experience. Like if something social happens they sit down and they really process it and discuss it. And everything is used as a learning opportunity, not just the subjects like math or whatever. Everything is a learning opportunity. And it's not so much quantity—it's more like the quality, really, usually.

Stan: You could even say it this way ... that the view of education is not primarily what you know—it's who you are. And so it's like in school you can test and test and test and see how much someone knows but Hitler could have been a really knowledgeable guy but nobody wants to educate their kid to be Hitler. It's like who you are is—essentially in the end if you really strip it all down and ask parents, "What do you want?" it's who you want your kid to become that's really important to you. And we think sometimes that what you know is a vehicle for who you become but I don't think we often critically unpackage that and say, "Is knowing more a step towards becoming?"

Suzanne and Stan, parents, suburban Cincinnati, public middle and high schoolers

One rural California family had sophisticated views of their daughter learning from the natural environment, interacting with other children and the interns, and avoiding commodity culture. Despite being somewhat remote and in a very small school environment, they cultivated a learning ecology, consciously nurturing an environment in which their daughter could learn.

I think just a diversity of experience, whether it be learning different crafts or travel or trying different foods or meeting different skin colors, just gives somebody a broad understanding that they live on a big planet but yet we're all here, related, on this big planet. So I think it engenders a sense of understanding of the world.

Shanon and Peter, parents, rural California, public elementary schooler

TREND 5: LEARNING DESERTS PROMOTE SELF-SUFFICIENCY

Not all families live in locations with abundant learning resources. Some neighborhoods are learning deserts—locations barren of quality schools, local parks and museums, bookstores and libraries, and other commercial and public sources for learning. Developing strong social capital—trusted relationships and connections with diverse people—can be critical to identifying and acquiring information and resources for learning. But often, the families find themselves developing self-sufficiency instead.

Sometimes parents develop their own skills to provide for missing resources

When one family moved to the rural area where they now live, they started to compensate for the isolation by seeking out connections and creating their own learning activities to contribute to the community.

Like when we moved here I was looking for a music class for her, and we ended up finding somebody who came down and taught young kids music and I ended up taking over and teaching it for a couple of years. So there were music classes for young kids in the community. But now I've been teaching preschool so I'm not doing that so it's not there anymore. There's not somebody else necessarily to take over.

But there are—we're thinking about horseback riding lessons for her and that's available and trying to come up with a soccer camp. I mean, there are things but it's not like the diversity variety that you'd have in urban areas.

Shanon and Peter, parents, rural California, public elementary schooler

Sometimes it's safer to disconnect

One single mother living in a poor community where drug dealing is prevalent described how it is good not to be connected to other people because socializing could only bring danger to her daughter. The downside is that people stay to themselves, and they do not collectively engage with the school to make changes.

When we do get good teachers, they are not from here, and they do not last long.

CLO is a good neighborhood because we do not know anybody. We stick to ourselves and so do the neighbors. They sell drugs and that is why we stay to ourselves and I do not want the kids to have anything to do with them. Sometimes I am worried about the neighbors approaching T if she is alone at home.

Connie, single mother, rural California, public elementary and high schoolers

TREND 6: PERSONAL LEARNING ECOLOGIES REQUIRE NEW SKILLS

As the learning economy expands and enables new players, the opportunities for where and how learning happens expand. Parents are confronted with many choices about resources, about their relationship to the formal education system (such as whether to homeschool), and about the best ways to organize and manage a diverse set of learning resources and activities into a coherent experience for their children. In other words, how do they get value out of the learning economy?

Our interviews suggest that three core skills are important. These skills—self-agency, self-customization, and self-organization—enable families to flexibly adapt to their changing needs (those of both the parents and the children) and the volatility in their broader school-communities.⁹

Self-agency is the capacity and initiative to act on one's own behalf

This practice is apparent in much of today's do-it-yourself movement and is important for developing high levels of engagement with the learning economy.

One single mother explains how you can't just accept what is assigned to you; you need to be active and make sure you get what you want for your children.

You just find these things out. It's the same thing with my family. They're like, "How do you find out about these things you've got Kianna involved in?" I said, "I just don't send her to the school that's assigned to me. I research." You know, I say, "Hey, there's got to—what else—what else is out there? There's got to be choices."

Donna, single mother, urban Cleveland, public high schooler

Self-customization appropriates a variety of resources for learning

Through self-customization, families modify and change a service or product, adding value to meet personal needs. Often when families customize for learning, they are appropriating products and services not explicitly intended for an "educational" market.

One mother described how her social network collectively takes action to create learning events and activities specifically for their community.

⁹ As industries become fragmented and unbundled from their formal institutions these skills tend to become increasingly important. A similar trend is taking place in the health economy, where these skills are critical for health consumers who are taking more responsibility managing and funding their own health and health care.

Corinne: I would say that most of our friends are very educated women and men who are very drawn to living in a diverse culture with a diverse life and learning daily.

Jim: And so we're called constantly to join different kinds of events, and we create events, that are specifically designed to help educate us.

Interviewer: When you said "to educate us" you mean "us" [pointing to adults], not just the children?

Jim: All of us.

Corinne and Jim, parents, urban California, private elementary and public high schoolers

A homeschooling father told of his needs and experiences customizing lessons.

The first two years I got material on my own. There was a Web site called EdHelper.com. And I joined it. It was free. But then I wanted to get additional materials. So I paid to get the additional material. And they have lots of materials, but no specific lesson plans. You need to put it together yourself.

Isaac, father, suburban California, homeschool middle and public high schoolers

Another homeschooler described her customization process in a very different way. Rather than using prescribed lessons she customizes the children's life experiences to meet their requirements.

How do I think of it? For me, the required stuff, I try to—it's real loosey-goosey for me, to be honest. Because, I try to let them focus more on what they really like to do, and if we can incorporate what they, you know, like the English into what they like to do. Kris can maybe write about his drumming class or write about his trip to Brazil. The same with Jordan, you know. As opposed to like coming from, okay, write an essay on some foolish thing, you know.... So, it's kind of more being creative ... there's no compartmentalization—I'm not good at this.

Carol, single mother, urban California, homeschool high schoolers

Self-organization creates shared learning ecologies

Navigating the learning economy and creating personal learning ecologies requires families to form groups—to self-organize to provide support, ideas, and resources to each other.

I've been emailing Kim and Gloria [room parents] about supporting us—moms getting together and supporting each other in creating events for the kids that are culturally rewarding and teaching them more about the arts and theatre.

Corinne, mother, urban California, private elementary and public high schoolers

Carol: The big challenges? Sometimes, I mean, just feeling responsible for coming up with the activities sometimes feels challenging. But, I think the value outweighs. I mean, there's no way I'm going to send my kids somewhere they're just sitting writing the right answers. So, even though sometimes it feels like [sighs], you know, I don't want to, you know, I'm tired or whatever.

Interviewer: How do you kind of work through that challenge?

Carol: Usually, I'll call another parent, "Can you take my kids today?" "Will you hang out with me today?" There's challenges for me, personally.

Carol, single mother, urban California, homeschool high schoolers

TREND 7: LEARNING ECOLOGIES CREATE WORK FOR THE FAMILY

As the burden of education increasingly falls to the family, managing learning ecologies becomes a basic domestic activity. It creates more mental, emotional, and financial work, but it also offers opportunities to bond. Facilitating learning experiences amplifies basic tasks of parenting. Lessons get bundled with informal activities, such as teaching chemistry through cooking family meals. Informal learning gets bundled in family time, for example, learning thinking skills when playing board games.

For some families, the learning ecology becomes an organizing principle around which family life revolves. One family had “family homework time” in which everyone studied. Another family described how homeschooling was the only constant rhythm and structure in their lives over the past ten years as they moved, changed jobs, and experienced other life changes. Some take on the learning ecology as a family project.

It was clear from our interviews that developing a robust learning ecology creates work for the family, specifically: establishing roles; identifying, coordinating, and evaluating resources; navigating institutions and bureaucracies; and managing vulnerabilities and insecurities.

Families must establish roles in their learning ecologies

Families often need to work out a division of labor, based on their skills and personalities, and the time they have available; negotiating multiple roles can sometimes be hard.

In one family, the mother explains that she does basic caretaking but her husband does the teaching.

He doesn't want me to teach the kids regularly, because I'm a very short-tempered person, and I will tell them when they're right and if they don't get it, then I'll start raising my voice, and my husband doesn't like that [laughs]. So he's like, "Okay, you take care of the kids regarding their regular things, like giving them baths, feeding them, and dressing them up and all that stuff, and I'll take care of their education [laughter]."

Neela, mother, suburban California, public elementary schoolers

In their homeschooling family, Isaac and his wife believe that everyone in the family needs to take responsibility and make a commitment to homeschooling. Isaac is the primary teacher, but the wife plays an important role of supporting and motivating him and the children.

I mean, you have to have total commitment from yourself, and if your spouse is there, you have to have total commitment from them. And last but not least is total commitment from the kids. When we started this, the first two days that we did the

homeschooling, we didn't do any schooling. The first two days was a meeting of: This is what we're doing. This is why we're doing it. This is how we're going to do it. This is what I expect from you. This is what you should expect from me. And we're going to do this no matter what.

Isaac, father, suburban California, homeschool middle and public high schoolers

When people have multiple roles, such as teacher and mom, it takes work to figure out when to act from which role—when to be the teacher and when to be the mom, for example. Such role navigation requires careful coordination with spouses and others who interact with the learners.

I think when you're the mom and the teacher, it becomes very difficult because everything a mom says—if you say, “Well you need to correct that.” If an outsider says, “Let's work on this, you need to correct that,” it just sounds normal, but when a mom says that it comes across like, “You need to correct it, you're failing.” So, I think the patience—on both sides—that's the one part of homeschooling I find difficult, is that you are the mom and you have to temper everything a little bit.

You just really have to be aware of it and work with each other and I think the biggest thing is just being aware of it. And sometimes I'll go tell my husband, “Here are some points they need to work on. They've heard me say too many things.” And he'll come in and he's better at expressing, and he's not their mom, it's not quite as intense. But, emotionally, they need me to be more positive, so I try to stay that way as much as possible.

Cassandra, mother, urban Cincinnati, homeschool middle and high schoolers

Another mother spoke about her sister acting as a partner in making key decisions about her daughter's education. Her sister's daughter is two years older and provides an early look at what to expect, so the sister has become an experienced confidante.

So, even though my sister is in Texas, if you want to talk about a close network—there's times when it's like we talk almost every day. And then there's times we can go two or three weeks without [talking]. But that's a very close partnership in the decision-making of raising our kids.

Donna, single mother, urban Cleveland, public high schooler

Families must develop strategies for resource identification and evaluation

The way people bring resources into their ecologies and the reasons for choosing resources lead to different strategies for identifying and assimilating learning ecology resources. Families in our study demonstrated two main strategies for identifying learning ecology resources: problem solving and cultivating.

Problem solvers tend to identify specific needs or challenges for which they have a prescribed solution. They then actively seek out information, people, programs or activities to solve clearly identified needs or fill identified gaps.

Isaac uses magazines to broaden his children's thinking about people and places, "letting them know there's other things besides what they're interested in."

What I do is look for free subscriptions. And if it was a kid magazine I would get that.... And when it runs out I'll look for another free subscription. And, you know, I can keep doing that ad infinitum.

Isaac, father, suburban California, homeschool middle and public high schoolers

A mother of an elementary school girl thinks her daughter will benefit from a public speaking class to get over of her shyness.

I am sending her to the public speaking class. It is offered by the communication center here, that's again offered by the city. It basically helps the kids get out of the shyness, and it helps the kid formulate what she wants to talk about.... I mean they can organize their thoughts, and then put them into words, and then talk in front of a group of people. It basically gets them out of shyness.

Neela, mother, suburban California, public elementary schooler

Cultivators tend to be less prescriptive in their search for learning resources. Their strategy is to scan and filter the environment constantly for possible resources that might have some meaning in their learning ecology. Cultivators are concerned about nurturing a learning environment and, thus, always are screening new people, activities, and places for what they would bring to the learning ecology. Cultivators tend to have well-defined philosophies about education and learning that provide their filters. These "worldviews" of education tend to come from their own educational background, their parents, and life histories—positive or negative experiences that influence their thinking and color their ideas about learning.

One mother described the seeming randomness of her approach.

It is mostly random how I find out about things—one thing always leads to another. The World Dance Center I just saw on the street [riding the bus].

Carol, single mother, urban California, homeschool high schoolers

Another parent describes how she followed her social network from preschool to private school. Her desire to remain part of a community that she valued and maintain the social and emotional context for her daughter, and her family, guided her decision.

Actually, I will also say that the bottom line in a lot of our choices, too, has been, "Where is our community going?" Yeah, but I mean a lot of kids were

transferring to Preston Hills that year, and we looked at all of [them] and said, “I want to be a part of this community; it’s a great group of people.”

Corinne, mother, urban California, private elementary and public high schoolers

Of course, families may not exclusively follow only one or the other of these strategies. They may use both. Some families actively tuned into their workplace, church, or school to identify learning opportunities, scanning them for relevance to their immediate or upcoming needs. Sara looked for a particular summer internship for her high school daughter, but she always pays attention to teachers, announcements, fliers, and other information channels at her school.

In school, for example, when we go to a workshop or when we stop in the hall and talk to the teachers, there’s always something that comes up that gives you an idea of what to do. I’ve gotten approached by a teacher saying, your daughter’s doing this, this, this, why don’t you send her to this place?

Sara, mother, urban California, public middle and high schoolers (and toddler not yet in school)

For providers in the learning economy, these patterns have two implications. First, providers need to find ways to lighten the burden of resource identification and evaluation. Second, they need to recognize that lightening the burden will mean different things for problem solvers and cultivators. For example, choices about push vs. pull technologies (such as, email alert vs a Web site) are not really either/or choices—they’re both/and strategies.

Families must manage ongoing vulnerabilities

Learning often takes place in the context of environments that present risks. In some cases, parents are battling forces that are outright toxic. Vigilance about their children’s safety and security often spills over into the learning experience.

One mother talked about the efforts she makes to provide safety and security for her children in a neighborhood where gangs go with the territory.

Yeah, they’re [gangs] all here in the area. We make sure that all the kids hang out together, that they’re not like out and about on the streets. Because we always talk to them about gangs, and my brothers are really good about that; they’re really good parents, and we talk all about it. We talk about cases that happen, because I used to work for public defenders before, and so I know a lot that goes around there, so I tell my kids stories and then talk about—try to get them out of trouble, educate them.

Sara, mother, urban California, public middle and high schoolers (and toddler not yet in school)

Another mother maintains nearly constant communication with her children to assure their safety.

I worry about my kids every time they leave the house, and I am constantly on the phone with them, “Where are you, who is around you?”

Connie, single mother, rural California, public elementary and high schoolers

Inequities in the system present a different kind of risk, and parents spend time and energy fighting them.

The bad teachers are the reason for the misery, they lack the basic skills and should not be doing the jobs they are doing ... vice principals that curse at the children. I do not wish this middle school on anybody. I have been fighting them for 3 years.

Connie, single mother, rural California, public elementary and high schoolers

He would go to Cleveland, and I always had a problem with Cleveland because they didn't send books home with the children; they'd give them homework, but by the time they get home, they don't remember.

Latoya, single mother, suburban Cleveland, public high schooler

Different levels of family commitment also create insecurities and worries that need to be negotiated.

I wish—in there, I wish he would take his studies—I wish he wouldn't focus so much on football. I wish he would focus more on school. The thing that I see that's missing—what can I say that's missing? I'd say his father needs to take more time and study with him—do more of his homework with him.

Latoya, single mother, suburban Cleveland, public high schooler

Finally, parents are always second-guessing their decisions, and they worry about whether they have made the right ones—or will make the right ones next time.

When we did the fourth grade private Christian school, there's always this feeling on my part of, Is it enough? Am I doing enough? Am I providing the same opportunities and the same teaching and learning that they would be getting if they were going to a public school? That's probably the one nagging thing that I worry about.

Wanda, mother, suburban Ohio, homeschool elementary and middle schoolers

Shanon: It's interesting. I was just thinking how we were talking earlier about what's available in classes or whatever and if it's good—you find something good and go with it but then maybe the next year it might be gone or something. And I feel a little bit that way with the charter school, that we've hired

a great teacher right when she started and for a few years that K1 class didn't have such a great teacher. We went through a string of teachers. So it's been really good but I could see that in a few years ... it's vulnerable because it's small and there's not a pool of people to draw from. So, yeah, it's vulnerable for sure. And as she grows older the smallness might feel limiting to her—you know, the same kids every year.

Peter: School can really waver. You never know. If the principal lays it down and leaves then you might have really a whole new regime.

Shanon: And I don't feel like we're committed just to the institution no matter what. It's definitely what's best for her year to year.

Shanon and Peter, parents, rural California, public elementary schooler

CHAPTER 3

THE FUTURE OF THE LEARNING ECONOMY

This report has explored the many ways that families are navigating the emerging learning economy. It has shown the growing variety of resources that families are incorporating into their learning ecologies, the strategies they use to evaluate and make use of those resources, and the new skills and work that these strategies require.

As we look ahead at the coming decade, we anticipate that the learning economy will grow and continue to change the face of learning. Yet families today vary in their ability to use personal learning ecologies to support their children's education. As the learning economy continues to grow and diversify, more families will need to develop this competency and become more adept at navigating the educational landscape and creating personal resource ecologies that work for their kids. At the same time, innovators need to look ahead to imagine new ways of meeting these needs, leveraging new technologies as well as the dynamics of the learning economy.

This chapter, then, focuses on these two objectives:

- Identifying emerging needs in the learning economy
- Imagining needs-based innovations in the learning economy

IDENTIFYING EMERGING NEEDS IN THE LEARNING ECONOMY

Several needs emerged from our interviews with families about their current practices in the learning economy. These needs cut across all kinds of families in the learning economy, but they are particularly acute for those with the least robust learning ecologies. A healthy society will need to foster innovative and equitable responses to these needs.

Need: A Visible Learning Geography

Families need to be able to see their learning geography clearly — what resources are located in their area? This visible learning geography includes formal resources that are traditionally linked to education (such as after-school programs, enrichment classes, tutors, and homework helper sessions) and also informal resources that may not have traditional links to education but offer important learning experiences (such as safe and clean parks, opportunities for youth volunteering, internships, and other social and cultural activities in the community). Efforts (by concerned parents, nonprofit organizations, schools, or local government) to map the learning assets of a community would be a first step toward improving equity in the learning economy as it would create a powerful basis for awareness and activism.

Need: Trusted Sources

With the growth of products, services, and activities designed and positioned for their learning benefits comes the challenge of evaluating quality. As the learning economy expands and more families rely on it, they will need to be able to easily assess quality. The need for trusted sources of authority on quality and effectiveness across a range of learning products, services, and providers will grow. Trusted brokers of information will need to cover areas such as health, food and supplements, travel and leisure, home furnishings, and other retail industries like toys, games, and electronics. Various stakeholders may enter this arena, including the Department of Education, particular schools or districts, manufacturers with established brands in the family wellbeing market, and professionals such as doctors, teachers, and counselors. The challenge for families will be figuring out who to trust for distinct decisions.

Need: Tracking and Management

The growth of the learning economy will unbundle more and more aspects of education from schools, with more entities playing a role in a learner's experience. An emerging challenge is coordinating and keeping track of a learner's various learning opportunities and experiences. If a greater number of learning experiences are more than just enrichment or an add-on to a child's learning, then those experiences need to be managed and tracked to provide continuity and coherence. Systems, tools, and services that provide this support will help families make sense of their choices and plan for the future.

They will also provide immense support regarding basic logistics and communication about learning activities, which can be quite complex for families with several children.

Need: Richer assessment of performance

Families often are uncertain about their learning ecology decisions, requiring them to be ready to switch course and try a new strategy. Taking a “year-by-year” approach is a common strategy for evaluating learning ecology decisions; however, a year is often too long to wait, and once-a-year evaluations are not very satisfying for families. The ability to create a more personalized learning environment would be enriched if families had better tools and processes for assessing the impact of the complete ecology. Methods and forms of real-time, ongoing assessment (or even feedback) that provide parents with a window into the impact of the ecology on their children’s performance could provide parents more grounding in decisions and assurance about their choices. Assessment strategies should match the complexity of the learning ecologies that parents are creating. Open portals and channels of communication to check in and easily understand data and see how a child is performing will become increasingly important both within and outside of formal schools.

Need: Networking and customization

Families need help identifying traditional resources, but also making the learning links between activities, people, and experiences that exist in their communities that they may not have considered “educational.” Some families have a broad definition of education and learning and can make these connections, but others cannot. Helping families draw learning connections would expand the range of learning opportunities across a wider population. Networks that help families customize formal and informal resources to meet the distinct needs of their children would be important training opportunities for parents.

Need: Community strategies for equity

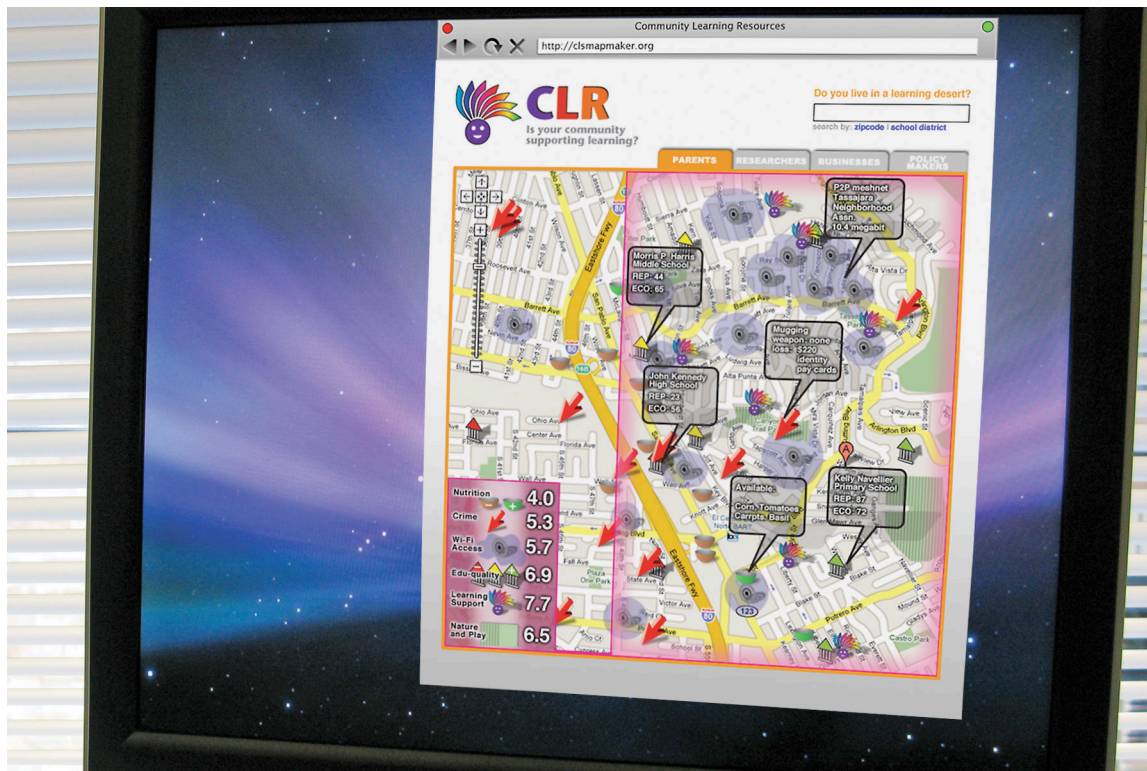
In a learning economy, those with fewer resources are at risk of falling further and further behind. As formal educational systems continue to struggle to meet the needs of all learners in a community—and across communities—learning commons offer an alternative way for people of all ages to build skills, develop lifelong learning networks, and contribute to knowledge creation. With the growth of technologies for more transparency and collaboration, commons are emerging as a crucial partner with markets in building platforms that can actually drive new wealth creation while providing greater equity of access to resources. Communities need to find ways to create the kinds of learning commons that can inspire both public and private offerings.

IMAGINING NEEDS-BASED INNOVATIONS IN THE LEARNING ECONOMY

One way to anticipate the future of the learning economy—and indeed to foster a healthy learning economy—is to imagine “artifacts from the future” that combine technological, social, and marketplace innovations to address the needs that we already see today. Such artifacts are not simply interesting new product or service ideas. Rather they challenge us to think about new ways of organizing learning, both in families and in communities.

The following pages feature seven such artifacts. For each of them, you might ask: How does this artifact meet the emerging needs of the information economy? Does it extend or amplify some of the patterns we already see in the strategies of today’s families? What new kinds of community support does it offer—or require? And what would a future learning economy look like if such artifacts were in widespread use?

Artifact: Community Innovation Center Reputation Statement



WHAT IS IT?

Community Learning Resources (CLR) helps you see how your local community supports learning. What are students and parents saying about local schools? Are there healthy places to eat nearby? How safe is your neighborhood from crime? Where can you find tutoring services and learning programs? By making visible various learning risk factors, this map mashup empowers you to navigate and evaluate your local learning landscape. Some communities are more learning-friendly than others. CLR encourages you to get involved in strengthening your community—what resources are most scarce?

Businesses can find ways to support their community. Researchers can both gather and marshal data to support new grants and initiatives. Policy Makers can see clearly what the community needs. By aggregating available data, CLR provides a powerful tool for community members engaging with their local learning geography.

WHY IS IT IMPORTANT?

As learning risk factors diversify and receive more attention, tools will emerge to help education stakeholders identify and evaluate learning resources. Such a mapping tool will reveal that some communities are more resilient than others—and not just in terms of school performance. In highlighting these issues of equity, this can help mobilize various forms of support—volunteer efforts, grants, local business partnerships, policies. Tools for “making the invisible visible”—and more varied notions of what should be made visible—will amplify how people concerned with education interact with each other and their local community.

Artifact: Learning Asset Counselor



WHAT IS IT?

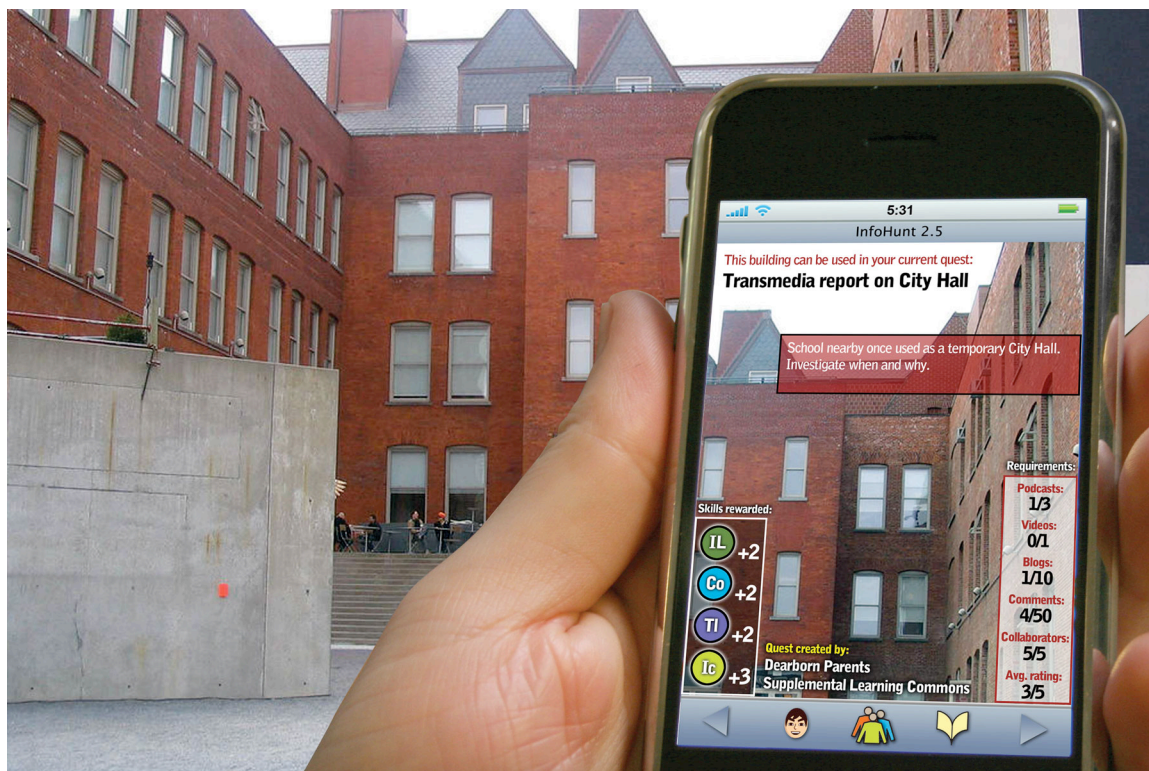
Sometimes, families simply need help organizing their child’s learning. It’s become more complicated than managing finances—performance at school, tutoring options, quality family-learning time, the right foods, local opportunities, just to name a few.

Knowledge Advisor Associates certifies local experts who can help families navigate their local community, realize what learning assets they have available, and how they can bring them together in a simple and effective way. Maybe people in a parent's social network can help with calculus, going beyond the textbook and give her an edge in her favorite afterschool activity—Mathletes. A local fiction writer coaches students at the community center on Tuesdays. Cook&learn.com has great recipes for brain-healthy foods and cooking-learning activities. The local museum is great for history projects—and family outings—and the curator loves talking to students. KAA finds people who know the local community and can counsel families building their own learning support systems.

WHY IS IT IMPORTANT?

Organizing a personal learning ecology will require immense emotional, social, and logistical resources—it will be a burden many families cannot handle alone. Trusted advisors will emerge to support families navigating the learning economy, leveraging local resources and social networks, and personalizing their learning ecologies to their children. These agents won't be student evaluators or tutors—rather, they'll help families identify the options they have available. Even struggling families can take advantage of the learning economy, and between all the players in this new space—companies, entrepreneurs, nonprofits—such service will be available to many demographics.

Artifact: Mobile Quest Module



WHAT IS IT?

This mobile quest module is a toolkit for structuring learning and lessons, inspired by alternate reality gaming. What started as a small community experiment became a toolkit you can use for homeschooling, summer learning programs, even at-home edutainment. Instead of advancing grade levels, students in this scenario accumulate experience points and gain levels. Instead of report cards grades, they achieve character skills. Instead of homework lessons, they take part in learning quests, which challenge them to explore the local community, collaborate with peers, conduct research, and create reports through multiple media. On the right are the requirements for completing the quests—among other things, students must create podcasts, which can then be used by other students. On the left are the skills to be rewarded for completing the quest—skills that this quest helps develop. This quest was designed by your local parent’s network, using collective knowledge about local history and gaming.

WHY IS IT IMPORTANT?

In the next decade, the generation that grew up on video games will start raising children in an environment already exploring gaming as a pedagogical platform. This mobile quest module introduces creative incentives for students to engage with learning experiences and provides interfaces for monitoring learning progress. In a distributed learning system, such a module will balance self-directed and facilitated learning, study and play, subject mastery and skill development. The game framework would allow parents and educators to “play along” and get a sense of the student’s performance, while the game’s reward and reputation profile would show performance over time and support real-time assessment or check-ins.

Artifact: Portfolio Curator's Invitation



WHAT IS IT?

Dewey-Downes Charter School is hosting a community presentation and open assessment of student portfolios. Each year, students focus on a particular field, tracking their progress and building a portfolio of research, ranging from reports to interviews to podcasts to educational videos. This week, your son Miguel Juarez will present his portfolio on brain nutrition and supplements, which has interested him ever since he felt pressured to take Provigil for his PSAT's. Invitations to participate in assessment have gone out to local experts relating to his subject: a nutrition professor at the community college, a certified physical trainer for the sports team, a biologist the principal knew, the son of a local parent whose graduate school work centers on brain supplements, and some others. Each will evaluate whether Miguel approached this subject authentically—as a practitioner in these fields—and are asked to review his work online before the presentation. For their participation, the experts are given some community participation points, and Hanna's Bark'N'Bagel, which is interested in how Miguel's research relates to their recent line of brain-enhancing bagels, is offering some financial support.

WHY IS IT IMPORTANT?

This charter school has adopted a new open-source style of assessment, using John Dewey, John Seely Brown, and Stephen Downes as inspiration. The community—parents, educators, even students—were tired of quantitative testing methods and learning that wasn't connected to real lives. Dewey-Downes focuses on helping students build

expertise in particular disciplines, e.g. not specific biological processes but how to think like a biologist. Colleges and businesses alike have found that cultivates more critical and flexible minds for later learning. In this model, the school helps build student portfolios and serves not as the assessor but as a convener of assessors, leveraging online and local expertise. Parents whose visions of learning go beyond school performance will resonate with such an approach, and communities have the opportunity to tap a much deep pool of talent.

Artifact: Edu-Monitoring Mash-Up



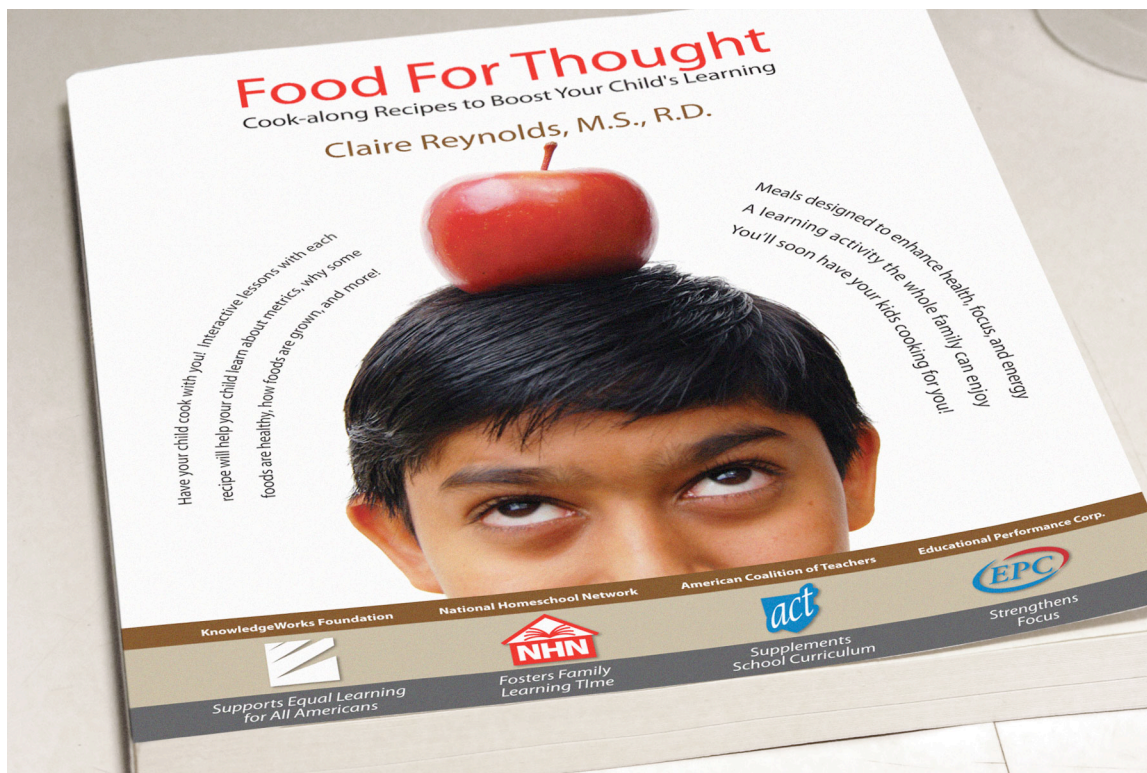
WHAT IS IT?

Cincinnati Learning Commons serves as your community commons for educational resources: books, old electronics, office equipment, tutoring, seminars for parents, online and off-line curriculum, among others. It's primary service, however, is running a community reputation economy involving families, schools, local businesses, and educational organizations. Families can contribute to the learning commons with the resources they have available—donating cell phones, helping improve local school infrastructure, counseling single parents on struggles of supporting their child's learning, etc. Everyone has something they can contribute, and your friends can vouch for you by giving you some of their reputation points. Participation builds reputation within the learning commons, which entitles families to further use of its resources. The boundaries of the commons are defined by the network of affiliated community organizations. It takes a commons to raise a learner.

WHY IS IT IMPORTANT?

As communities look for ways to increase their educational resilience while broadening access to learning resources, commons emerge as likely strategies. But commons typically require effective ways of monitoring contributions and avoiding so-called freeloaders. A reputation statement like this one encourages ongoing support of the commons by building visible identities linked to the commons. A dynamic commons community can help define learning resources and tap local expertise to build learning values. Such platforms also encourage public, private, and personal partnerships for learning: everyone in the community benefits from better education.

Artifact: Certification as Brand



WHAT IS IT?

The "Food for Thought" cookbook provides some engaging recipes for supercharging learning in your home. The right nutrients to balance the brain at the right times, strengthening focus, raising energy levels, and maintaining health. This cookbook encourages family cooking, which itself can be a learning experience. Each recipe comes with a lesson module to help your child learn about diverse cultures, measurements and mathematics, the science of food, even basic chemistry of cooking.

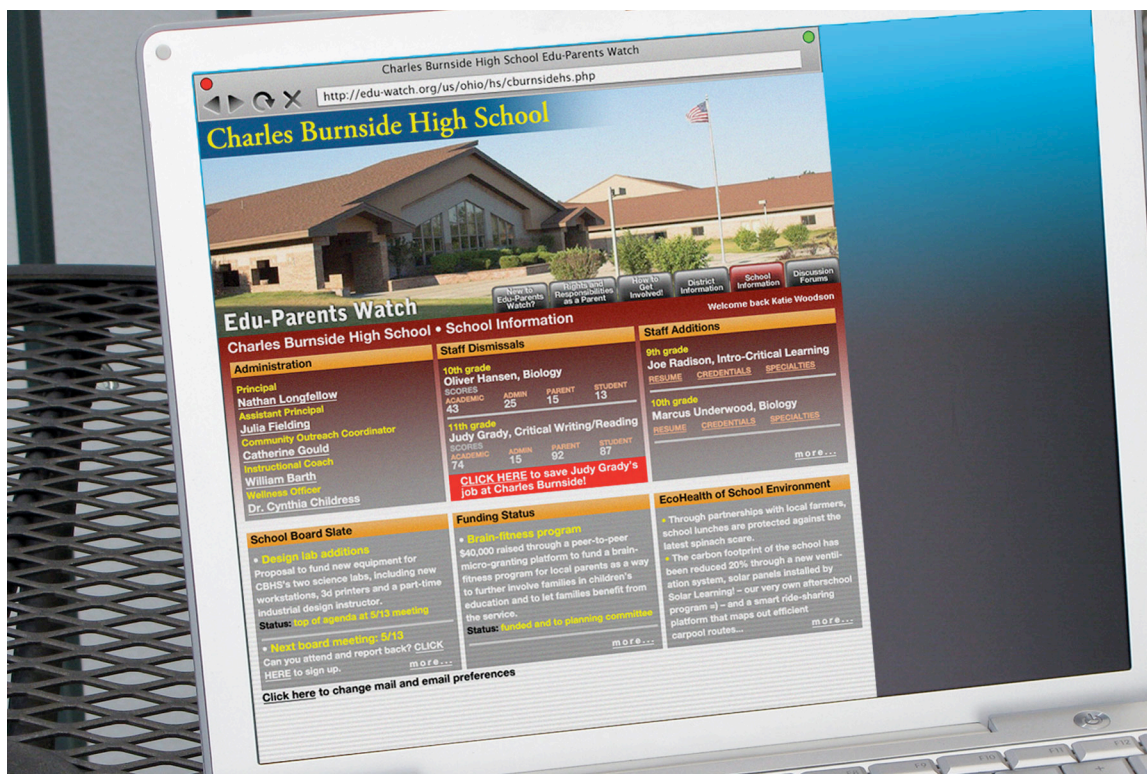
"Food for Thought" is supported by a range of nationally recognized authorities in the education and learning sector. This product is included in the KnowledgeWorks Foundation Learning Economy Network: proceeds go directly to resource poor urban

public schools, supporting equal education for all Americans. The National Homeschool Network certifies that Food for Thought fosters family learning time. The American Coalition of Teachers recommends using the cookbook lessons in conjunction with school units on mathematics and science. Finally, these foods are used in learning programs designed by the Educational Performance Corporation.

WHY IS IT IMPORTANT?

As more commodities enter the learning economy, parents will look for “trusted sources” to help them sort through the various learning claims. Different entities—networks, companies, nonprofits—will serve as certifiers of these claims, which will be diverse themselves. As family learning values get reified in the marketplace, the notion of “learning diets” may emerge—families that privilege some aspects of learning over others, e.g. learning that celebrates family time or activities that build focus or products that support local schools, much like some families support locally grown food. When building and customizing personal learning ecologies, families will look for authorities in navigating the consumer products of the learning economy.

Artifact: Parent Smart Mob



WHAT IS IT?

In your community, many parents frustrated with their schools banded together to found Edu-Parents Watch to help bring transparency to school and district activity. Members of the parent’s network attend local school board meetings, meet with teachers and

administrators, work together to compile information, and encourage parents to get involved. The district and the network don't always see eye to eye. This year, the 11th grade teacher Judy Grady is up for dismissal, despite her soaring reputation with parents, students, and her stellar performance in the classroom. In fact, she was your son's favorite. You know that a recent disagreement with administrators made her a target, but the parent's network is determined to keep her teaching. The district is slowly finding that it can make more sense to cooperate with the network. For example, this past year, the network built a micro-granting platform to help fund a brain fitness program. One of your roles is to meet with uninvolved parents and explain that they have a place at the table of education too.

WHY IS IT IMPORTANT?

Many parents engaged in their child's learning will still see the school as the primary provider of education. They will bring a do-it-ourselves ethos, seeking ways to exert influence in decisions that affect their child's learning experience. There are plenty of opportunities for parents to get involved, and networks will form that gather and relay information about the schools, inform parents about their rights, and help them navigate all the options in the formal educational system. Their efforts won't always be appreciated by educators, who will feel that parents are encroaching on their territory, but these networks can also provide invaluable social resources.

APPENDIX:

RESEARCH METHODOLOGY AND SAMPLE

IFTF conducted 16 ethnographic interviews with parents or guardians of school-age children in grades K–12. Interviews involved a visit to the home of the interviewee, a tour of the house and surrounding area (garden, garage, play areas), and an in-depth, semi-structured interview with the family, usually with one parent (sometimes both) taking the lead as responder. Sometimes children participated as they entered and left the room. Part of the interview process involved drawing a picture of the family's learning ecology. These drawings were done collaboratively with the interviewer: typically the interviewee described the ecology, and the interviewer drew, taking direction from the interviewee.

INTERVIEW FAMILY ATTRIBUTES:

Interviews were conducted in California during the month of July 2007 and in Ohio during the month of August 2007. Interviewees ranged from low-income (welfare family) to affluent (over \$140,000). They included immigrant families (from Mexico and Russia); families working in highly professional jobs; non-office or low-skill white collar jobs; and semi-skilled jobs (gardener). In two families, English was not the primary language; one of those interviews was conducted in Spanish and the other in English at the discretion of the family. Interviewees lived in urban, suburban, and rural areas and had children attending private, public, parochial, and home-based schools. Each family signed a consent form allowing IFTF to interview them and use quotations from their interviews in a written report. The names of the participants were changed to protect the interviewees anonymity.

INTERVIEW INSTRUMENT:

Interviewers audio-recorded interviews and took photographs of the interviewees' homes and surrounding areas. All interviews were transcribed for analysis.

Personal Learning Ecologies

Interviewees: parents/primary caregivers of K–12 grade level students. Ask interviewees to bring calendars or day planners to the interview. Interview the parents or person(s) with primary responsibility for their education and learning. Not interviewing kids.

Objectives of Interview:

1. To obtain rich descriptions of the places, people, activity, and resource networks that families create and maintain to support their children's education and learning
2. To understand how families identify, evaluate and manage personal ecologies in support of their children's education and learning
3. To understand how formal and informal learning assets and experiences intersect in the learning economy
4. To understand the role of the school in families' personal learning ecologies

Materials: Audio recorders (2), 11"x17" PLE template page, marking pens (2 colors)

Introduction to Families:

Hi, my name is _____ and I am a _____ at Institute for the Future (IFTF). IFTF is a nonprofit think tank located in Palo Alto that helps organizations, such as businesses, government agencies, and community organizations plan for the long term future. This project is focused on education and is being conducted for the KnowledgeWorks Foundation—an education foundation that helps make policies and programs to develop quality education for all children. For this interview we want to understand how families make decisions about their children's education and learning. We may ask you questions about your family background, your children's schools, and other things you may do to help your children learn and develop. We will be recording the interview to help with our note taking and taking some photographs.

This is a consent form that I'd like you to sign. It basically says that you decided yourself to participate in the interview and that we will give you \$100 for your participation. It also says that we will treat all your comments as confidential information. If we publish any reports based on the material collected from all the interviews we will not write anything that can be connected to you personally. And you don't have to answer any questions that you don't feel comfortable answering.

House Tour of "Learning Spaces" (approx. 40 minutes)

I'd like to start the interview by getting a tour of your house. As I mentioned we're interested in education and learning so I am interested how the different places in your house related to education and learning. This is an easy way for us to start our conversation.

So, if you could walk me through your house and show me all the places that you connect with your children's education and learning.

1. Where are we?
2. What happens in this space?
3. How does what happens here connect with your kids' education and learning?
4. Are there specific objects that you or your kids use for their education or for learning?
 - a) What are they and how are they used? Probe for media, food, furniture, toys.
5. Are there any specific technologies or media that you or your kids use here for their education and learning?
 - a) What are they and how are they used? Probe for Internet, media, games.
6. How does this space change when you or your kids are using it for their education and learning?
7. Who else uses this space?

Household Background (approx. 20 minutes)

I got a bit of a sense of who lives here during our tour but let's just make sure I got it all.

8. Can you tell me who lives here in this household?
 - a) Who are the people, their names, ages, and what they do? (brief)
9. Do you have other family/relatives/friends who don't live here?
 - a) Who are they and where do they live?
 - b) How do you connect with them and how often?
 - c) How do these people play a role in your kids' education and learning?
10. How long have you lived in this house?
 - a) Where did you live before?
 - b) Why did you move?
11. How would you describe this neighborhood where you live now?
 - a) What do you consider its strengths and weaknesses?
12. How do you spend your time in this neighborhood?
 - a) What kinds of things do you do here?

13. What kind of work do you do?

- a) What are your job responsibilities?
- b) What did you have to learn to do this job?

Parents' Education History (approx. 25 minutes)

14. Can you tell me about your own education starting from your earliest memories to today?

- a) What schools did you attend? (private, public. etc.)
- b) What kinds of programs did you participate in?

15. When you think back to your own experiences as a student, what are some key events or people that had a big influence on your learning? Why/How?

16. Who was responsible for making decisions about your education and learning?

- a) What kind of expectations did they have for you as a student?
- b) What role did your parents play in your education and learning?

17. How has your own educational experience influenced how you think about your children's education?

- a) Do you have a certain vision for your children's education?
- b) What are your expectations for your children's education and learning?

Kids' Education History (approx. 20 minutes)

Let's focus a bit now on your kids' school(s). You said they attend _____ school(s) (are homeschooled).

18. Can you tell me the story of how your kids got to their schools?

- a) Why do they go to this school? How did you make that decision?
- b) What resources did you use to help you make this decision?
 - Did you talk to any specific people? Who, why?
 - Did you read anything? Who? What?
 - Did you do anything to learn about this school?

c) Were there other things going on in your life that made you pick this school/education option? What? How did it influence your decision?

19. How is this school/education option working out for you? Example?

Kids' Learning Ecologies (approx. 35 minutes)

Besides school there may be other places and people that are important to your kids' education and learning.

20. I want you to think about your children's education in the broadest sense. Together let's list all the other people, organizations, and activities besides school that are a part of your kids' education and learning.

a) What?

b) Where?

c) Why?

d) What do your kids learn from this?

e) How did you find out about this?

f) Expectations? Were they met? How?

21. When you look at this list what are the big challenges? Give me an example.

22. Is there a particular spot on this list that is difficult? Why?

23. Things you wish were on this list that aren't? Why? What would it do for your kids' education and learning?

24. What is the relationship between your kids' school and the other thing on this list/map?

a) How could this relationship be better? What could you do to make it better?
What would you need to make it better?

25. What is your role in this map?

a) How different from your parents?

26. What would this list/map look like in 5 years?

a) additions/deletions

27. Would a tour of your house be the same or different in 5 years?

