Chapter 2
Finland's Success

PISA and the Ecological View of Education

Since the beginning of the twenty-first century, the eyes of the world have turned to Finland as the benchmark for success in basic education.

The Finnish became famous when the results from the Programme for International Student Assessment (PISA)[1] 2000 test applied in the Organisation for Economic Co-operation and Development (OECD)[2] member countries were made public. In 2000, Finland was the country with the highest results in reading. Later, in the PISA 2003 round, Finland's fame increased not so much for obtaining the highest results in mathematics—actually tying with Hong Kong and South Korea—but due to its undisputed first place in the combined results from the three areas tested (reading, mathematics, and science) and also when a fourth area (problem-solving) was added. The highest national average in mathematics in the PISA 2003 results was achieved by Flanders, Belgium, when results were compared to national entities inside countries.

Then, results from PISA 2006 and 2009, released in December 2007 and 2010 respectively, placed Finland in the number one position in science. Clearly, a pattern of Finland's success had developed. Where exactly is Finland in the world map of basic education? Tables 2.1 and 2.2 respond to this question. Table 2.1 presents the results from a sample of countries that have participated in all the PISA test rounds since its inception. Because the test results are based on random samples of

[1] *Programme for International Student Assessment*. This is a program for measuring the educational performance of students between 15 years, 3 months and 16 years, 2 months of age in areas or fields associated with reading, mathematics, and science. The PISA test is applied in OECD member countries and other partner countries. The list of participating countries changes for each round, depending on countries requesting their inclusion. The PISA test is applied in random samples every three years in the same areas or fields, but in each application there are more questions or items in one of the three areas or fields. In 2000 the area of concentration was reading; in 2003, mathematics; and in 2006, science. In 2009, a new series of PISA tests was initiated with a concentration on reading. An additional area, problem-solving, was tested in 2003, but has not been included in another other round since then.

[2] Organisation for Economic Cooperation and Development.

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Table 2.1 Ranking of results by ranges in all the PISA rounds for reading (R), mathematics (M), and science (S) in a selection of OECD member countries, in a comparison including all the participating countries (OECD countries plus non-OECD partner countries). (PISA 2001: OECD 2001, pp. 45, 53, 79, and 88; PISA 2003: OECD 2004, pp. 92, 281, and 294; PISA 2006: OECD 2007a, pp. 58, 298, and 318; PISA 2009: OECD 2010 pp. 56, 135, and 152)

Country	PISA 2000			PISA 2003		
	R	M	S	R	M	S
Finland	1-1	4-7	3-4	1-1	1-4	1-3
Korea	4-9	2-3	1-2	2-3	1-5	2-4
Canada	2-4	5-8	4-8	2-5	5-9	8-12
Japan	3-10	1-3	1-2	12-22	3-10	1-3
New Zealand	2-8	4-8	4-8	4-7	9-13	6-11
United States	10-20	16-23	11-21	12-23	27-30	20-27
Mexico	31-31	31-31	31-31	37-38	37-37	37-37
Country	**PISA 2006**			**PISA 2009**		
	R	M	S	R	M	S
Finland	2-2	1-4	1-1	2-4	4-7	2-3
Korea	1-1	1-4	7-13	2-4	3-6	4-7
Canada	4-5	5-10	3-6	5-7	9-12	7-10
Japan	11-21	6-13	3-9	5-9	8-12	4-6
New Zealand	4-6	8-13	3-9	6-9	12-14	6-9
United States	NA	32-36	24-35	11-25	26-36	19-29
Mexico	41-44	46-48	48-49	46-49	49-51	50-51

students between 15 and 16 years of age, the achievement levels and averages are subject to errors of estimation. It is thus technically impossible to always precisely determine the exact position of a given country in relation to the other countries for each evaluation area (reading, mathematics, and science). The magnitude of error for an estimated average for one country is often within the magnitude of error for an estimated average for another country. In this case, it is determined that such countries are technically or statistically tied.

With this clarification, Table 2.1 indicates that Finland achieved the following positions within the groups of countries participating in the PISA tests:

First place (undisputed, without a technical tie) in reading in 2000
First place (undisputed) in reading in 2003
First place, in a technical tie with three other countries, in mathematics in 2003
First place (undisputed) in science in 2006
First place, in a technical tie with three other countries, in mathematics in 2006
Second place, in a technical tie with two other countries, in reading in 2009
Second place, in a technical tie with another country, in mathematics in 2009

Table 2.2 Ranking of results by ranges in all the PISA rounds in reading (R), mathematics (M), and science (S), in a selection of OECD member countries, in a comparison including only OECD countries

Country	PISA 2000			PISA 2003		
	R	M	S	R	M	S
Finland	1-1	4-7	3-4	1-1	1-3	1-2
Korea	4-9	2-3	1-2	2-3	1-4	2-3
Canada	2-4	5-8	4-8	2-4	4-7	6-9
Japan	3-10	1-3	1-2	10-18	2-7	1-3
New Zealand	2-8	4-8	4-8	4-6	7-10	4-8
United States	10-20	16-23	11-21	10-19	22-24	17-23
Mexico	27-27	27-27	27-27	29-29	29-29	29-29
Country	**PISA 2006**			**PISA 2009**		
	R	M	S	R	M	S
Finland	2-2	1-2	1-1	1-2	1-3	1-1
Korea	1-1	1-2	5-9	1-2	1-2	2-4
Canada	3-4	3-6	2-3	3-4	4-6	4-7
Japan	9-16	4-9	2-5	3-6	3-6	2-3
New Zealand	3-5	5-9	2-5	3-5	6-8	3-6
United States	NA	24-26	18-25	8-20	21-29	13-22
Mexico	29-29	30-30	30-30	34-34	33-34	34-34

Finland did not rank first in 2009 in any of the areas, as can be observed in this table, because it was surpassed by Shanghai's students. Nevertheless, a direct comparison between Shanghai and OECD countries or PISA partner countries or regions violates the principle of comparability between the same levels of analysis: country with country, province with province, and municipality with municipality. A comparison can be made to establish the position of a country, region, municipality, locality, or even a particular school but not on a ranking basis.

Table 2.2 indicates that Finland achieved the following in relation to OECD member countries:

First place (undisputed, without a technical tie) in reading in 2000 and 2003
First place, in a technical tie with another country, in reading in 2009
First place, in a technical tie with two other countries, in mathematics in 2003 and 2009
First place, in a technical tie with another country, in mathematics in 2006
First place, in a technical tie with another country, in science in 2003
First place (undisputed) in science in 2006 and 2009

If we look at the PISA 2000 results in Tables 2.1 and 2.2, Finland has the 1-1 position in reading. This means that according to PISA 2000–2002 data,[3] Finland's overall position was first place without a technical tie with any other country. In other words, the range of the results from no other country intersected or overlapped with Finland's range. This is what placed Finland in the spotlight, as of 2001, as PISA's best reference, at least in the area of reading.

Now, also in Table 2.1, let us look at the cases of Korea and Japan in PISA 2000 in the area of science. Both have a range of 1-2. This means that the two countries are in a technical tie. With the information obtained, it is not possible to identify which country was in first or second place. What we do know, with a certain degree of confidence, is that either of the two could be in first or second place. In other words, the differences in the results from the two countries may be due to random factors, and it is not possible to know from the ranking which country is above the other.

The three countries in the North American region show very different results. Canada, which comes out ahead, competes among the top ten positions in the world, with a clear advantage in reading. The USA ranks at approximately the middle or below the middle in nearly all the areas and all the rounds. And Mexico clearly ranks among the very lowest positions.

Because of Finland's impressive results, it has been visited since 2001 by hundreds of delegations of experts, professionals, and observers from around the world, in search of its secrets. And since 2001 the Finnish people have published their own official and unofficial versions of the reasons behind their country's success. All kinds of papers and reports have been written comparing Finland to the OECD average or to the other PISA partner countries, or comparing Finland to the rest of Europe, or comparing Finland to Asia. In short, Finland is at the height of attention.

So, what is behind such consistent, overwhelming success? The explanation is certainly not the amount of spending on education, nor the time dedicated to teaching or studying, as one might argue in the case of Shanghai or South Korea. Nor can this success be explained by the possibility of parents selecting the school where their children attend, or by the level of teachers' salaries. Nor, in my opinion, is this success due to the education system, or to the constructivist method, or to its comprehensive education—or to the size of the country's population, or the size of the education sector, or the size of schools. It is most likely that success in education is due to a varied, intricate, but interlinked, complex set of factors—an ecological view—that for some and still mysterious reason come together and work in a virtuous manner. So then, what is this set of factors?

[3] PISA 2000 was repeated in 2002, given to an additional dozen countries. While the OECD offers integrated PISA 2000–2002 results in ranking lists, the fact that this small group of countries was added to the PISA 2000 test makes a comparison of the results less valid, because the test was not applied in all of the 43 participating countries under standardized conditions. One could argue that the countries in which the PISA test was applied in 2002 had the advantage of knowing the conditions and contents of the test applied originally in 2000.

Finland and its *Sampo* in Education

In order to answer this question, I have visited this Nordic—not Scandinavian—country several times in search of the *sampo* for education. *Sampo*, in the Finnish epic narrative poem entitled *Kalevala*, refers to a magic mill able to do marvelous things, producing gold, food, and prosperity. So, could there be an educational *sampo*? Do the Finnish people have their own unique *sampo*? And is this *sampo* or formula transferable to the rest of the world?

Instead of attempting to theorize on the ubiquitous function of educational production or learning—which in my humble opinion is impossible to achieve—I would like to invite my readers to explore the enigmatic Finnish world—through its educators and students, through experts and observers—to find the different reasons for this country's success. And even more importantly, I invite you to examine a nation's thinking, embedded in the changes occurring in the complex global community, as Finland faces the challenges inherent in the peculiar modernity of the twenty-first century and all its global challenges.

What makes the Finnish so successful in the field of education? Or, we might borrow the question asked in a thought-provoking article in the *Wall Street Journal*: "What makes Finnish children so smart?" (Gamerman 2008).

The Finnish are known for being quiet and shy, and in appearance, they are. They have a life that is charmingly rural and simple, and sometimes even archaic. I have been given this fascinating perspective from friends, acquaintances, and even passers-by. Professors Jouni Välijärvi and Hannu Simola, from very different epistemic positions, as well as Maarit Rossi, the principal of a lower secondary school known for its high student performance, and Tapio Penttilä, a student in teacher education, have all opened up the world of these characteristics of the Finnish culture to me. In Tapio's words, being Finnish means: "a simple, modest life with love for nature, the forests and family." [4]

Finnish people rarely initiate a conversation but rather simply observe. A group of Finnish people would be capable of simply waiting for several minutes in the middle of an informal social gathering before interrupting the silence of the occasion. This would be unheard-of in a Latin culture, for example.

Finnish people are indeed quiet. This can be observed in a Finnair flight, or in the Pendolino fast train from Helsinki to Jyväskylä, for example. However, they are not only quiet, but also respectful of the physical and virtual space of those around them. Most of the passengers on an airline flight attempt to pass the time with their eyes closed, while some read, and only a very few glance up at the monitors distributed throughout the airplane cabin.

I came to Finland as part of a wave of curious and interested people, experts, observers, and educational authorities from numerous countries around the world in search of the magic *sampo* of education.

[4] Communication by email, May 19, 2009.

Still, the Finnish are not the only ones with consistently high results in education. The Chinese from Hong Kong, the Taiwanese, the South Koreans, students from Edmonton, Alberta, Canada, the Flemish from Flanders, New Zealanders, Singaporeans, and now the Chinese from Shanghai as well—all of them show very high results in international standardized tests. What is surprising about the Finnish is the consistency of their high results in the four PISA rounds, how close these results have been (OECD 2007b, p. 96), their students' high achievement levels, and their apparently reduced investment of study hours both in school and outside school (see Table 4.1 in Chap. 4): in sum, high results with moderate inputs.

And if that were not enough, enrollment and spending indicators place Finland in an enviable position. Finland is, more or less, at the same level as other industrialized countries in terms of enrollment, level of schooling, and graduation rates,[5] while it is far from being the country with the highest spending on education, whether in relation to the size of the economy,[6] number of students,[7] or share of total public spending.[8]

As much as I would like to, it would be both arrogant and untruthful for me to attempt to construct a ubiquitous model of education on the basis of the experiences of the Finnish, South Koreans, Singaporeans, New Zealanders, or the Chinese from Hong Kong or Shanghai. The story of the reasons for success, or the "whys" of high educational results, is very complex. Still, should this complexity discourage us from searching for a *sampo* (that may not even exist)?

I do not know. And since doubt is the source of curiosity, I will once again attempt to delve deep into the study of school education in this remarkable Nordic country. Perhaps the source of its educational eloquence can be found in its social and cultural wealth, which has allowed it to build a network of protection and support for children and their families from the time before their birth.

In the narrowest hallways of research with all their scientific pretensions, it is important to mention that not even the Finnish agree on the reasons for their success. In fact, as commented by a mathematics professor at the University of Helsinki during a dinner on the first evening after one of my arrivals in the capital city, "perhaps we'll never know—there's not just one reason, but many."

We may never be able to precisely identify the most important factor that tips the scales of Finland's educational success. Perhaps the secret lies in the mysterious, intricate process of human and physical interrelations that operate in such a fine-tuned manner, but hidden from our eyes, similar to the complex, exquisite diversity through which nature acts in its favor. The wealth and complexity of this "ecological" interaction are mentioned by Scott in his extraordinary narrative on the reasons for the failure of major state projects in the history of humanity that, in search of efficiency, have sown the seeds of destruction for the various, mysterious arrangements of natural, ecological, and human diversity (Scott 1998).

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[5] OECD 2007c, pp. 291 and 293; 2008a, pp. 42–44, 65, 68, and 331.

[6] OECD 2008a, p. 237.

[7] OECD 2008a, p. 218.

[8] OECD 2008a, p. 262.

Finland's Education System

I will not enter into a detailed description of Finland's education system, since this has been provided by the country's authorities in several publications[9] and by international agencies and entities through comparative analyses of education.

In general, compared with other systems, such as the English, French, Swiss, German, US, Canadian, Mexican, or Chilean, the Finnish system is relatively easy to understand and to follow. However, there are many research articles and results that are only published in Finnish. This means that one often depends on official, but limited, translated versions, or on secondary sources. One way to remedy this deficiency is through repeated visits, interviews, and direct observations—and this is the path I have chosen.

Finland has a small education system, since it is a country populated by relatively few inhabitants. In 2007, the total number of students (in all educational institutions at all levels, including adult education) in the Finnish education system was 1,937,700, served in a total of 4,443 institutions. Of this total number of students, 580,200 were in comprehensive basic education.[10] By 2008, the number of students in comprehensive basic education had decreased to 561,061, receiving educational services in 3,174 schools.[11] And by 2009,[12] the number of students had diminished even further, to 553,329 in 3,065 schools.[13] Thirty years ago, in 1980, the comprehensive education system served 598,587 students in 4,877 schools.[14] This means that enrollment has diminished by 45,258 students, or 7.5%, and the number of schools has dropped by 1,812, or 37%. These numbers are barely noticeable in relation to the sizes of education systems in other OECD countries such as the USA, Japan, England, Germany, France, and Mexico, for example. For many analysts, this simple fact is reason enough to question educational comparisons.

Of all the levels of schooling in Finland's education system—specifically preschool, comprehensive basic, general or vocational high school, university or vocational higher education, and graduate or polytechnical university—it is clear that the level receiving the most attention is comprehensive basic education, which begins with the 1st year of elementary school and continues through the 3rd year of

[9] For interested readers, I would suggest consulting the following official Finland websites: http://www.minedu.fi/OPM/Koulutus/koulutusjaerjestelmae/?lang=en; http://finland.fi/Public/default.aspx?contentid=162939&nodeid=41807&culture=en-US; http://www.oph.fi/english/education/overview_of_the_education_system; as well as the following websites of international organizations, agencies, and services: https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Finland:Overview http://www.ibe.unesco.org/fileadmin/user_upload/Publications/WDE/2010/pdf-versions/Finland.pdf http://en.wikipedia.org/wiki/Education_in_Finland; and http://www.edu.fi/english/SubPage.asp?path=500.4699.

[10] Statistics Finland 2008a, p. 387.

[11] Statistics Finland 2008b.

[12] Statistics Finland 2009b.

[13] Figures for 2008 and 2009 include preschool students and schools, and an additional optional year (tenth grade) of middle education.

[14] Statistics Finland 2007, p. 389.

middle school or lower secondary education (that is, 9 school years). Unlike other education systems, what is equivalent to elementary school in Finland begins when children turn 7 years of age, following 1 year of preschool education.

In Finland, nearly 100% of the children who take the PISA test are enrolled in grade 8 or most commonly in grade 9, corresponding to the last year of basic or comprehensive education.

Despite its success, Finland has reformed its school curriculums on various occasions and is currently (in 2012 and 2013) engaged in debate on more reform. The most recent comprehensive school curriculum[15] entered into effect in 2004, but it was implemented gradually; so, it was in 2006 that this new curriculum was fully in effect. In 2010–2011, the current curriculum was reviewed in order to reform aspects associated with special education as well as the support and differentiation scheme that schools should provide to children with special learning needs. Finland is drafting a new curriculum after a new law setting national goals and distribution of hours. The curriculum will become effective in 2016.

Curriculum

Although what we observe today in Finland is a decentralized education system, with significant municipal, school, and teacher autonomy, it was only three decades ago that this country's school education model was very centralized. The state had broad government control over schools through an intricate school inspection system in which the school curriculum, dictated by national school authorities, was followed by teachers with specific instructions to follow on everything and to use textbooks authorized by the state (Ropo and Välijärvi 2010).

The major school reform of the 1970s—which had been in preparation since the second half of the 1960s, and which eliminated the dual education system that selected students for either an academic track or civic (profiled for vocational education) track at the end of elementary school, a system similar to what continues to exist in Germany, Flanders, The Netherlands, Switzerland, and Singapore—did not do away with the state's strong control over school education through a detailed, strict curriculum (Ropo and Välijärvi 2010). It was not until two more decades had passed that ideas regarding decentralization, based on school autonomy and the pedagogical freedom of teachers, arrived in schools and led to three fundamental changes that are currently the cornerstone of Finland's education system: first, a curriculum based on standards to work toward, instead of standards tied to accountability and demands (Aho et al. 2006, p. 9 and 12; Ropo and Välijärvi 2010), and in which the details of implementation are left to localities, schools, and teachers; second, a professional teaching staff that is highly trained and trusted by authorities and society; and third, a fair education system in which school and teacher effort is concentrated toward assisting the students with the most need for pedagogical or learning support.

[15] The word "curriculum" will be used to express what legislation in Mexico refers to as study plans and programs.

Since the major education reform of the 1970s—which was perhaps the most important of all the periods in Finland and which included curriculum changes (Aho et al. 2006, p. 43)—the Finnish have passed through four curriculums for basic education: in 1970, 1985, 1994, and 2004 (Aho et al. 2006, p. 25). Despite the profound educational and curriculum reform of 1970 in which the dual education system was transformed into the comprehensive system (Linnakylä et al. 2010), "the national curriculum was turned into an instrument of control in the development of a new way to conduct school activities" (Ropo and Välijärvi 2010).

It is true that the Finnish of the 1990s, with the framework curriculum of 1994, were accustomed to a very centralized education model, derived from the curriculums of 1972 and 1984–1985, which were detailed and under state control. Actually, the 1994 curriculum involved a profound change toward local and school autonomy. However, the 2004 curriculum, more detailed in the way in which schools are expected to respond to their new social responsibility or role (Ropo and Välijärvi 2010), and with more emphasis on the holistic well-being of students, was interpreted by principals and teachers as an attempt at re-centralization. Thus, curriculum reform since the 1970s has swung back and forth like a pendulum (Linnakylä et al. 2010).

There is no better way to gain a full understanding of the current curriculum framework for basic education in Finland than to go to the offices of Finland's National Board of Education, or Opetushallitus (OPH,[16] its acronym in Finnish). It is through this entity that the country's school education policies are implemented. This very important Board is a semi-autonomous institution of Finland's Ministry of Education and Culture[17] (Minedu).[18] OPH has responsibility for the following levels of education: preelementary, elementary, middle school or lower secondary, high school or upper secondary (general and vocational), and adult education.[19]

Since 2009, the OPH offices are located in a building that is distinguished by classic Finnish architecture and is impressive due to its size, facilities, spaces, and silence.

It was there that I conducted interviews with a number of officials, beginning with Irmeli Halinen, who is the person at OPH responsible for the curriculum development office. She is responsible for all the curriculums associated with education, from the preschool, comprehensive basic and general high school levels, to adult education and special education.

Irmeli began by using a phrase that describes modern curriculum philosophy very well: "Curriculum is more a process than a product."

This phrase reminded me of another one from a distinguished behavior psychologist, B. F. Skinner, who said: "learning is a process and not an outcome." From this

[16] http://www.oph.fi/english/frontpage.asp?path=447 (March 17, 2009). Also known as FNBE, its acronym in English, and CNEF, its acronym in Spanish.

[17] As of May 1, 2010, the name of this Ministry changed from Ministry of Education, to Ministry of Education and Culture: http://www.minedu.fi/OPM/?lang=en (May 6, 2010).

[18] Opetus-ja kulttuuriministeriö: http://www.minedu.fi/OPM/?lang=fi (May 6, 2010).

[19] Adult education is divided into two areas: one, with a practical or liberal focus concentrating on the everyday needs of adults, and the other, with a vocational focus and more formal programs.

perspective, curriculum and learning are interwoven, clearly reflecting the modern emphasis in curriculums toward learning.

Most teachers and schools find answers to their many questions in curriculum guidelines, but according to Irmeli Halinen:

> Teachers have to decide how to implement them. In this way, they express their own opinions and viewpoints in a responsible, committed manner. They observe the local situation, but implement the solution in line with a national framework. Furthermore, when teachers write the school curriculum, they attempt to address what each student needs. In the end, the school curriculum is their curriculum.

She continued:

> In curriculum development, the image is usually one of "top-down," from legislation to the teaching-learning process. In Finland we think differently. We begin with teaching-learning, and instead of legislation determining a curriculum, it is the basis for the school curriculum and the teaching-learning interaction. This is a change in paradigm from "top-down" to "bottom-up." This philosophy or scheme is accompanied by an important teacher training program, and therefore all proposals operate in the same direction, or in other words: teacher training, curriculum and study materials all move in the same direction, specifically toward "successful learning for all students."

According to the opinions of some principals and teachers, the new curriculum (2004) is more demanding and contains new obligations for schools, such as students' personal development, something that was previously solely in the hands of families and society. Notwithstanding, the students' comprehensive personal development has been part of the national curriculum since the 1970s' school reform.[20]

The new curriculum for basic education (Finnish National Board of Education 2004, pp. 22–23)[21] mentions aspects associated with students' well-being, as specified in Exhibit 1.

Exhibit 1: Excerpts from the Finnish National Core Curriculum for Basic Education

> Pupil welfare includes attending to the child's or young person's basic learning prerequisites and his or her physical, psychological, and social well-being. Pupil welfare consists of both communal and individual support. The objectives are to create a healthy, safe learning and school environment, protect mental health, prevent social exclusion, and advance the well-being of the school community.
>
> Through pupil welfare, an operational culture of care, concern, and positive interaction is promoted in the school community, and an equal opportunity to learn is ensured for all. Pupil welfare helps to maintain the individual's and the community's ability to function in situations that threaten physical and psychological security.
>
> Pupil welfare promotes the learning and balanced growth and development of the child or young person. The objective of pupil welfare is the prevention, recognition, amelioration, and earliest possible elimination of obstacles to learning, learning difficulties, and other problems connected with attending school.
>
> …

[20] Prof. Jouni Välijärvi's comment on an earlier draft of the book.

[21] The curriculum can also be consulted at: http://www.oph.fi/english/sources_of_information/core_curricula_and_qualification_requirements/basic_education (March 10, 2012).

> Pupil welfare is the concern of all persons working in the school community, as well as those authorities responsible for pupil welfare. It is implemented in close cooperation with the home.

The previous curriculum, from 1994, was published in a slim volume, and consequently, its written contents seemed diminished. According to the OPH officials I spoke with, reactions from teachers to the 1994 curriculum were along such lines, suggesting that the curriculum contents were "insufficient."

From Irmeli Halinen's point of view, the pressure on schools and teachers does not actually come from the national curriculum but rather from the local (municipal) curriculum and textbooks.

The national curriculum (Finnish National Board of Education 2004) lists the goals and principles that the school curriculum should include, as specified in the school plan. Some of the topics emphasized are health, well-being, security, social responsibility, interaction in the school community, guidance, counseling, individual education plan, local support networks, prevention and taking care of crises and nutrition.

Irmeli Halinen concluded: "If society is more complex today, it's good for schools to be prepared."

A few months later, we once again addressed the topic of the school curriculum and new responsibilities for schools in relation to children's well-being and personal development. I have noted divergent viewpoints with regard to the latter, specifically whether schools should or should not assume the family and social responsibility of raising children. Irmeli Halinen commented the following:

> We're a little old-fashioned when it comes to curriculums. We haven't moved away from a curriculum based on teaching by subjects. It's true that we have three areas that we focus on: learning to learn, knowledge and children's well-being. With regard to the latter, what this means is that teachers should be respectful toward children, they should cooperate with them, and demonstrate that the opinions of "others" are valuable. Also, teachers in general have a great responsibility in relation to children's well-being. And schools should establish a well-being group composed of the principal, nurse, psychologist, special education teachers, and mentor or counseling teachers. In this sense teachers' attention at school is directed toward each child, on an individual basis.

On this same topic of curriculum, my next question was: "To what degree are municipalities able to move beyond the guidelines of the national curriculum?"

Irmeli Halinen responded:

> They should respect the national goals and general guidelines with regard to the main contents, but they can further develop contents and be more precise. They have the freedom to decide what to emphasize in the contents and how to do so, and they have 100% freedom in terms of methodology, which includes how teaching and learning are organized, how daily schedules are organized, and the allocation of resources and teaching materials. Up until 1992, Finland had a system for authorizing textbooks; now teachers have the freedom to select them. In 1994 the education system was reformed, and along with it, the curriculum. As of the 1994 curriculum, power in education was delegated to municipal authorities and to schools. Also, since then, curriculum models based on schools have been developed. The main idea behind these models is that teachers discuss and together decide how the curriculum will be implemented. With these reforms the system was forced in a way toward the organization of learning communities in schools.

From *Peruskoulu* (Basic Comprehensive Education) to *Lukio* or *Ammattikoulu* (General or Vocational High School)

When students move from lower secondary school to upper secondary school, they are accepted on the basis of their academic record. Only in cases of specialized education as in the areas of music, art, or technology, schools decide whether or not an entrance exam will be applied. There is free choice of school even at the elementary level in Finland. However, for practical reasons as it happens in all countries, preschool and elementary children go to the nearest school. However, municipalities are allowed to give priority to children living in the same neighborhood in basic education.[22] At *lukio* or upper secondary or high school level, free choice is the norm and the practice. Any student, from any region or municipality, may in theory request or be accepted into any of the country's high schools. It is something like an extended educational voucher system. This possibility of transferring to another school also includes private Finnish schools that are totally subsidized by the government. However, it is important to mention that there are very few private schools in Finland, and the few that exist receive government subsidies and enter into the category of dependent private schools. The percentage of total school enrollment that corresponds to dependent private schools in Finland is: 1.3 in elementary school, 4.1 in middle school, and 14.1 in high school (OECD 2008, p. 346). Municipalities finance high schools. Therefore, as in other European countries, if a student from any municipality attends a high school in a different municipality, the municipality of origin covers the cost of his/her education in the municipality of destination.

Each general and vocational upper secondary or high school has its own curriculum. Consequently, in all, there are three school curriculums in Finland: for basic education, for general upper secondary, and for vocational upper secondary education. While thus far only the 9-year basic comprehensive education has integrated all basic education in a model from grade one to nine, there have been well-documented attempts at total integration,[23] but these attempts have not been successful to date. There is, however, as mentioned in the accounts given in some high schools, greater flexibility and openness for navigating between the general and vocational models and for entering higher education.

The curriculum scheme in Finland represents the most modern thinking on learning for life and work. This scheme is based on two pedagogical philosophies: (1) Freinet's ideas, among other philosophical and pedagogical traditions, and (2) a combination of a competence-based curriculum and a content-based curriculum. In addition, one must also recognize that curriculums are not only the product of the sincere, technical thinking of a group of teachers, education philosophers, and

[22] Prof. Jouni Välijärvi's comment on an earlier draft of the book.

[23] Trant 1999, pp. 28–31, and Vuorinen and Mäkinen 1999, pp. 160–187.

education specialists. As pointed out by Aho et al. (2010) and Ropo and Välijärvi (2010), Finland's curriculum history, at least since the education reforms implemented in the 1970s, also responds to the political viewpoints of the individuals and interest groups in power.

In 2010, Finland initiated a new process of curriculum reform that was then interrupted with the change in administration in June 2011, but reinitiated with the new government. In the words of academic experts, difficulties are still experienced, specifically: attention to students considered at risk (in cognitive, affective, and social terms); ways to support talented students without neglecting those lagging behind the most; better use of electronic means for learning to detect valuable information; education for immigrants—only notable very recently in Finland; the difference in results between genders; ongoing emphasis on lifelong learning; and attention to the issues of students' motivation and attitudes in order to improve their self-esteem (Linnakylä et al. 2010).

Between 15 and 16 Years of Age: Open Opportunities

When Finnish youngsters reach 15–16 years of age, they must make a decision: general or vocational education. If they choose general education, they must present an application. Admission policies vary from one institution to another, as already mentioned.

If students opt for an academic education, they will sit an exit "matriculation" exam for certification at the end of their general upper secondary education. These students will obtain two diplomas or certificates, one granted by their high school and the other issued by educational authorities after they have presented and passed the old, well-known, famous matriculation exam. If students opt for a vocational track, they will present a practical competence exam at the end of their vocational high school studies, although this exam is not at the same academic level as the matriculation exam.

The matriculation exam is used as a letter of presentation for entering universities. These universities design their own admission policies, which may or may not require additional entrance exams. Some university policies, such as those for teacher education, have similar requirements throughout the country.

At any rate, the genuine tendency is for students to have all options open to them. For example, a student in general studies may enroll in a vocational school to take certain classes and vice versa. Statistics (Statistics Finland 2008a, b) indicate that 10% of students in the vocational track are also enrolled in general schools. And vocational students have the option of taking the matriculation exam and may choose to apply for admission to a university. Universities have the freedom to decide whether or not to accept these students.

A Glance at Some of the Reasons for Finland's Educational Success

According to the charismatic principal of a fascinating, small public school—I will describe each of my visits to this school in a later chapter—there are seven secrets behind the Finnish success in school education (Hellstrom 2009):

Trust
The best youngsters want to become teachers
Historically, schools had a remarkable role in the birth of Finland
Academic training of teachers
Teachers as professional experts
Pedagogical autonomy
Education policy provides a support system

Also, based on preparation work for presenting at conferences and giving talks, Irmeli Halinen has summarized what many experts and observers mention as factors of Finland's educational success in the following lines from an interview with her on March 19, 2008:

> It's a set of factors, all of them interacting at the same time. I've grouped together the different factors into three sets: education system; good, appreciated teachers; and individualized assistance or support. In the first major group I would place the structure of an education system that does not divide students up or separate them by abilities within schools into groups of those with more or less talent. It's a system that maintains all paths open for our students to enter upper secondary school and higher education. When policies of grouping or dividing students according to abilities were eliminated for seventh, eighth and ninth grades in 1985, and when students were given free choice to continue their studies, we had a lot of discussions in Finland around the advantages and costs of such a change. It was said that it was very difficult to determine the true abilities of each student. The discussion was centered on the point of whether or not it would be convenient to open up all opportunities for everyone, which would frequently signify a waste of resources in support for students. Fortunately, the position of opening up equal opportunities triumphed. Also in this set of three factors, I see another group of variables associated with the value that our society places on education. Society places a high value on the concept of a civilized person. Also in this scheme, teaching as a profession is accepted, valued and supported. A third group of factors within this set is what I call the "spirit of the system": interactive, cooperative and based on trust and support. In Finland there are no national census inspections or exams.

It is true that the word "trust," mentioned by the two experts just quoted, is a word I have heard a number of times in different contexts during my visits to Finland. Frequently, the Finnish refer to themselves as a population that bases their relationships on trust. This is further supported in the writings of Ropo and Välijärvi (2010), who maintain that it is not an exaggeration to say that the guarantee of quality in an education system depends to a significant degree on trust in teachers. A culture of trust also implies cooperation (Aho et al. 2006, p. 12) and networks, which is another feature attributed to Finnish education.

Irmeli Halinen continued, with the second set of factors focused on teachers: "The quality of teaching in Finland is very high. The best students go to college to get a teaching degree."

The third set of factors in Irmeli Halinen's list is associated with the topic of "individualized support." When students have problems, they are detected and addressed in time—early enough to have a greater impact.

In her view: "on this matter we also try to see that students have an active role in their education; thus in the end we have a positive work environment or atmosphere in our schools between students and teachers."

At the end of the interview, I asked her: "looking at the problem from the perspective of public resources, when resources are scarce and optimization fundamental, where would you invest additional resources?" She responded: "in the quality of teachers, in both their training and their professionalization."

From OPH to the University of Helsinki, and More About the Reasons for Success

On the same day in 2008 that I interviewed experts at the OPH office, by 3:00 in the afternoon, I was at the famous University of Helsinki—perhaps the most selective and sought-after of all the universities in Finland. There, I was to meet for the second time (the first was in 2004) with Hannele Niemi, the university's vice president, who has an incredible trajectory in the country's education. We talked a bit about the countless number of visitors coming to Finland due to its PISA success.

The number of visitors has reached the point that Finnish authorities have decided to establish a policy for receiving them. The idea is to schedule the visits through the Ministry of Education (Minedu) for official delegations from other ministries of education.

In my conversation with Hannele Niemi, we focused on the topic of teachers as a factor of success and touched upon the different paths for selecting, studying, and mastering the teaching profession. There are basically two paths: one leads to becoming an elementary teacher or "class teacher" and the other to becoming a lower and upper secondary school teacher or "subject teacher."

Becoming an elementary teacher requires approximately 5 years of university studies. Teacher education, which I will explore in more depth in Chap. 3, is very extensive, involving a broad base of competencies. Approximately 10 to 15% of elementary teachers change careers after they begin teaching, but most remain connected to the field of education. As Hannele Niemi commented, "often their main idea is to support the development of human beings."

Of course, we also addressed the popularity of the teaching profession. We talked about the famous survey conducted by the newspaper *Helsingin Sanomat*, and Niemi said the following:

The teaching profession has not been very popular for finding students interested in mathematics and science. That is part of why the LUMA project was developed, even including the "LUMA Center Website." In addition to LUMA, there have been many efforts to interest students, parents, and schools in the sciences and mathematics. All of this in order to create a new culture in favor of natural sciences.

LUMA[24] (its acronym in Finnish) is a governmental project. It was founded in 1996 for the purpose of improving abilities in mathematics and natural sciences with an eye toward elevating the culture in relation to these topics. Another aim, however, was to increase the abilities of Finnish young people with the objective of placing them within the top 25 % of the highest OECD levels. Given the results from PISA 2003, PISA 2006, and PISA 2009, one could say they hit their target. Furthermore, some analysts from the academic world maintain the same.[25]

I posed the same question to Prof. Hannele Niemi as I did to the interviewees mentioned earlier regarding the factors explaining the success of Finnish education. From her viewpoint, there are a number of reasons, grouped into five factors:

Equality For us in Finland, the ideal of equal opportunities is something we hold very high.

Population's General Attitude We are such a small country, that we quickly become aware of the negative effects when fairness is not achieved.

Learning as an Asset We have no better assets than learning and education.

Culture and History Two hundred years ago, even in the smallest homes there was a small bookshelf with the Bible, some songbooks or hymnbooks, a spelling book, and technical books on agriculture.

Women's Influence All of a sudden, schools found themselves with a great majority of female teachers—many of them with high averages from their years in *lukio* schools and with the best records on entrance exams into universities—and there was also a high percentage of women in Master's programs in universities and technological schools. Our schools are influenced by women's presence.

Regarding the books commonly found in the most humble of homes, historical recollection would seem to confirm this assessment. The following is an account by a historian:

> They [the townspeople] also bought books, mostly prayer books and religious tracts, although treatises on political economy, natural law, and medicine, dictionaries, and even works of fiction and poetry also crop up in the inventories of their possessions. …Even the very poor might own a hymnal or prayer book. (Kirby 2006, p. 53)

When I toured the fascinating, open-air historic Luostarinmäki Cloister Hill handicrafts museum[26] in the city of Turku, I noticed the small bookshelves in the simple wooden homes on display there, holding the type of books mentioned by Niemi and Kirby.

Finland is a nation with a close relationship to books and education. Although there are very few Finnish speakers around the world, Finland has developed an extraordinary support system for facilitating the reading of its vernacular language. Its

[24] http://www.helsinki.fi/luma/english/ (July 23, 2009).

[25] Ahtee et al. 2007a, pp. 269–270, b, pp. 99–106; Havu-Nuutinen and Ahtee 2007, p. 235; and Linnakylä et al. 2010.

[26] http://www.turku.fi/public/default.aspx?contentid=67049 (March 18, 2009).

system of libraries is excellent. And the services in its libraries are unsurpassable, as I was able to confirm in great libraries such as the National Library in Helsinki and the Turku city library and those in universities such as the Helsinki and Jyväskylä. And the same was true in the most modest but no less functional and well-used libraries such as the ones in the municipalities or towns of Kirkkonummi, Kemijärvi, Sodankylä, Hetta, and Rovaniemi, to mention just a few.

As I am writing now, with some distance and time since my first visits to Finland, I still remember, with special emphasis, the words of Hannele Niemi when we spoke of the Finnish success. She commented with a gentle, thoughtful smile on her face: "When you're in first place, there is only one direction you can go." As she inferred, once the highest position has been achieved, it is very difficult to maintain it, and the only possible movement is downward.

This is, without a doubt, a great challenge for Finland, with the additional countries in the new PISA rounds, and Singapore among them. Singapore is a country that has invested heavily in education and it has demonstrated high results in other international tests and indexes such as the Trends in International Mathematics and Science Study (TIMSS) test[27] sponsored by the International Association for the Evaluation of Educational Achievement (IEA).[28] Another country with impressive results is South Korea. Chinese provinces and administrations also show very high results.

There is much more to be said regarding the secrets or reasons for Finland's educational success, and I will come back to this topic in a later chapter. For the moment, I would recommend a publication by Aho et al. (2006, pp. 120–135) to readers with a special interest in this topic. It has a section on Finland's performance and the reasons for its success. Also, and more recently, an article by Linnakylä et al. (2010) offers an excellent description of the factors associated with Finnish success in school education. And even more recently published are the successful books written by Pasi Sahlberg (2011) and Hannele Nieme et al. (2012).

Is the Physiognomy of Finland's Schools Changing?

In the September 2, 2008 edition of the popular, influential *Helsingin Sanomat*[29] newspaper, there was a feature on the number of students classified under the category of special (social and behavior) education in the municipality of Espoo. The news article reported that this number had increased by 11 % in 10 years, with an annual growth rate of 1 %. This signified that there were approximately 10 % more aggressive students in the schools than 10 years earlier. Furthermore, this infor-

[27] Information on the various rounds of the TIMSS test can be found at: http://timss.bc.edu/index.html (May 27, 2009).

[28] Information on the IEA can be found at: http://www.iea.nl/brief_history_of_iea.html (May 27, 2009).

[29] Print edition, page A9; translation by Maarit Rossi during the interview on September 2, 2008.

mation describing the situation in Espoo (a town and municipality located next to Helsinki) could also be true for the rest of the country. According to Maarit Rossi, the most stressful aspect for schools is that, despite this situation, authorities have cut funds to schools—and want to further cut them. In order to confront a budget situation that is increasingly difficult every year, and which is intensified by the gradual increases in salaries as specified in collective bargaining contracts, schools increase the number of students per classroom in order to make more efficient use of resources. At any rate, the net effect of all of this seems to be that the money available per student tends to be less.

Espoo is a wealthy municipality in which one would not expect to find a high number of children in special education, or at least not a high number of children placed in special education due to learning environment problems at home linked to poverty or low socioeducational, socioeconomic, and sociocultural levels. In fact, according to principal Maarit Rossi, in less advantaged areas, the number of children in special education can be as high as 20%. For example, the same newspaper reported on September 1, 2008 that 15% of students in the Vaanta (a municipality also near Helsinki but poorer than Espoo) school district were in special education.

To confront this situation of greater challenges with fewer resources, Maarit's school, which is the *Kirkkoharju* school located in the municipality of Kirkkonummi (45min on a suburban train from Helsinki), implemented the following changes from 1999 to 2012:

An additional teacher in mathematics and Finnish
Another additional teacher as a teaching assistant to help the main teacher in mathematics and Finnish
Classes for students with special needs (10 students per class)

In 2008, a total of six special education teachers, four in special education classrooms and two who rotate through different classrooms, were appointed to work with the growing number of students with behavior problems.

Maarit clarified:

> In terms of students, the school is about the same size. The amount of money for the school between 1999 and 2008 is the same, but my budget for expenditures is greater because teachers now receive higher salaries. The solution has been to increase the number of children per classroom from 20 in 1999 to 24 in 2008. And I haven't even mentioned the higher prices of books. All of this causes pressure toward a drop in the quality of schooling.

Could these observations be part of a generalized tendency in Finland? Or, is this an isolated case? To investigate this matter and others, I went to the famous Finland statistics office.[30]

On the cold but sunny morning of September 3, 2008, I met with Mika, a staff person specializing in education.

Mika reminded me that Finland achieved a high rate of school enrollment in elementary and middle school education (from first to ninth grades) between 1917, when the country declared its independence, and 1925. The year 1921 was an im-

[30] http://www.stat.fi/index_en.html.

portant year in the history of Finnish education, not only because the country had achieved nearly total coverage in enrollment at the elementary level, but also because that was the year in which elementary school attendance was made obligatory. And between the two wars, enrollment in both elementary and middle (lower secondary) school education reached 100%. By 1950, the education policy had changed its focus to the quality of education. The system also grew in the 1960s, particularly because of the significant increase in students entering universities. The 1970s were crucial for education in Finland. During that decade, comprehensive education reform was implemented (this was when the dual system dividing students according to academic aptitude at the end of elementary school was eliminated, and the new basic comprehensive education was created for grades one to nine, with equal education for all in the same type of school). This reform was obligatory and continues in effect today. And the benefits are now well known around the world.

The previous education system was divided into elementary, middle school, and high school. Some schools were private. Elementary school was free because it was obligatory, but it was necessary to pay for middle school and high school education.

According to Mika, there were few students in high schools in the 1950s. But with the comprehensive education reform, all of elementary school and middle school education was free. Also, before the comprehensive school reform, there was an entrance exam for middle school.

Later, I spoke with Mika about special education, as well as the change in Finnish students, and the quality of schooling, as I had discussed with Maarit and read in the *Helsingin Sanomat*. In the new education system, the current one, it is true that the number of students in classrooms has increased from 19–20 to 23–35, and there are more special students with low learning and behavior problems. As a consequence, there are more groups of students classified in the area of special education or special learning. The student population seems to be more difficult now, and on this point there is agreement among three sources: Finland's most important newspaper, the principal of a middle school, and a *Tilastokeskus* expert in statistics. Even so, this is not sufficient to conclude that today's children are more difficult than children in the past. As a simple anecdote, we can look at the words of one of the fathers of the Finnish nation and education, Mikael Agrícola, who, in 1543, said the following: "How difficult it is to orient young people, these uncontrolled animals, toward a positive aim and solid results in their academic development" (Lehto-Vahtera 2007, p. 21).

I also asked Irmeli Halinen (responsible for curriculum development at OPH) for her opinion on this matter of increased numbers of students with special needs, since according to official statistics, the figure for these students had passed from 2.9% of total enrollment in basic education in 1995 to 8.4% in 2008—an increase characterized by more boys than girls (Statistics Finland 2009a, p. 35). She commented:

> There is a special reason that explains this increase. First of all, we now have better diagnostic measurements that allow us to detect problems sooner and with greater frequency. In addition the problems experienced by children are actually increasing. However, in order to confront this situation, we've decided to allocate more resources to implement a new strat-

> egy in special education with emphasis on the early stages of children's development. There is a cultural change in society derived from modifications in family structures. Generally speaking, parents now have less time to dedicate to their children. And all of society seems to be changing in this manner. In some way communication media transmit the idea to children that they are already grown up; and the relationship between families and schools needs to change in order to acknowledge these profound social transformations. We need to work on children's limits; we should empower them in different ways.

When I was reviewing OECD statistics on classroom sizes, I found to my surprise that data on Finland for this point did not appear in the corresponding tables (OECD 2007c, p. 381; OECD 2008, p. 436). It is very unusual to find that information on Finland is missing in the standardized data reported by international organizations. So, I asked Mika about the reason for this omission and he said the following:

> We don't have data on classroom size. We are gathering information on class size from teachers. It will be ready at the end of this year [2008]. We haven't yet decided if we will continue gathering this type of data for the comprehensive education [*perusopetus*]. In the future it's likely that the Minedu will do this. In order to accomplish this for the current year, we have prepared a questionnaire for all the teachers, with a response rate of 80–90 % [87 %, to be more precise, according to information provided by Mika in an interview in September 2009], so we have a good indication.

From both the *Education at a Glance 2009* publication by the OECD and my interview with Mika on September 25, 2009 at the Finland Statistics office, I can verify that Finnish authorities reported the information on class size in terms of numbers of students per class groups. In both cases, that is, elementary and middle (lower secondary) schools, the number of students per class is approximately 20, which is small. And while Finland is not the country with the greatest or smallest number, this indicator is below the OECD average for both cases among OECD countries. The number for Finland at the elementary school level is 19.8 students per group, which ironically coincides with the number reported for Mexico (the country with the lowest results in the PISA test); and the number for Finland at the middle school level is 20.1, while this number for Mexico is 29.2 (OECD 2009, p. 382). Nevertheless, this does not prove that the quality of education is a consequence of group size since, for example, South Korea, which has very high performance on the PISA test, has the greatest number of students per classroom in the OECD sample (35.6 in middle school classrooms), while Russia, a non-OECD member country with low educational performance according to PISA tests, is classified as having the smallest number of students per classroom at the middle school level, i.e., 18.

Reading and Libraries

In the experiences described in the following chapters, especially the chapters on teachers and schools, we will frequently hear that Finnish people read a lot, or at least, more than people from other countries do. We will see in the responses from many interviewees that the history of Finland's educational success is closely linked to books and reading. These are assessments based on impressions that are difficult

to document factually, since even in the statistics gathered in Finland or from the outside by international organizations, data are collected through perception-based questionnaires. At any rate, it is worth the effort to compare the data from my interviews with statistics compiled officially. Let us look at two cases for now: reading and libraries.

The question, then, is: how much do Finnish people read? According to statistics on this country, Finnish males between 10 and 64 years of age read for 39 min a day in 1999, in comparison with 52 min in 1979 (Statistics Finland 2008a, pp. 542 and 543). The figures for Finnish females were 52 min for both years. For another variable, "time dedicated to study per day," the data indicated the following: 44 min for males in 1999, in comparison with 63 min in 1979; and 58 min for females in 1999, in comparison with 66 min in 1979 (Statistics Finland 2008a, pp. 542 and 543).

So, is this a little or a lot? One way of knowing is to compare reading time with people from other countries. This can give us a more precise idea of the value given to reading in Finland.

According to data compiled by the European Commission, Finnish people between the ages of 20 and 74 years read more than people in seven other European countries (Germany, Spain, France, Italy, Sweden, UK, and Norway). In this study, people from Finland read 46 min a day, while people in the other European countries mentioned read between 15 min a day (Spain) and 38 min a day (Germany) (Eurostat 2007, p. 156).

It seems, therefore, that while the tendency is toward reading less than before, Finnish people still read more than people from other countries do.

The next question to investigate is: how much do Finnish people use libraries?

While cultural statistics are difficult to measure and compare, some positive efforts have been made to compare statistics related to the number, size, and use of public libraries. One of these efforts is led by LibEcon, a project financed by the European Commission. According to the statistics from this project, in a group of approximately 35 countries, Finland is one of the countries with the greatest number of books in public libraries per inhabitant, and it is the country with the highest number of library books borrowed per inhabitant in the same sample (Fuegi and Jennings 2004, Chap. 6).

In 2009, Finland (the OECD country with the highest PISA performance) had a total of 863 public libraries (without counting mobile libraries);[31] Mexico (the OECD country with the lowest PISA performance) had a total of 7,330. In Finland, with a population of 5,351,427 inhabitants,[32] each public library serves 6,201 inhabitants. In Mexico, with a population of 107,550,697 inhabitants,[33] each public library serves 14,673 inhabitants. In 2009, Finland had a total library collection of 40,056,000 volumes or books in public libraries,[34] signifying a total of 7.5 per

[31] http://www.stat.fi/tup/suoluk/suoluk_kulttuuri_en.html#libraries (April 29, 2010).

[32] http://www.stat.fi/tup/suoluk/suoluk_vaesto_en.html (April 29, 2010).

[33] http://www.conapo.gob.mx/index.php?option=com_content&view=article&id=125&Itemid=203 (April 29, 2010).

[34] http://www.stat.fi/tup/suoluk/suoluk_kulttuuri_en.html#libraries (April 29, 2010).

inhabitant. For the same year, the estimated number of volumes in all the libraries in Mexico, including public, specialized, and school libraries, was 70.6 million,[35] which translates into a total of 0.66 books per inhabitant.

The total number of visits to public libraries in Finland during 2009 was 54,344,185,[36] or just over ten times the size of its total population. This signifies an average of each person in Finland visiting some public library ten times during 2009. The estimated number of users or visitors in all of Mexico's libraries (public, specialized, and school libraries) was 73.2 million in 2009, a figure below the size of the national population. This means there are many more Mexicans than the number of visits to libraries. On average, each person in Mexico visits a library less than once a year, or approximately every 16 months.

These comparisons between Mexico and Finland overestimate the figures for Mexico, since all the libraries in the country are included for Mexico, while the figures for Finland were calculated on the basis of only public libraries. If we would include the books and volumes, and visits to school libraries in the figures for Finland, the figures would be much higher. This is because not only are libraries in Finnish schools a central aspect of learning, they are also used intensively by both teachers and students. At any rate, the above figures and comparisons serve to point eloquently to an enormous difference in cultural habits and inputs between the two OECD countries that, according to the PISA tests, demonstrate the most dissimilar educational performance.

Looking to the future, Finland has a new program for library development entitled the "Program for Finnish public libraries 2015," aimed at transforming and increasing the quality of their services, in order to transform them into genuine learning centers with an emphasis on digital information.[37]

A Good School Meal is an Investment in the Future[38]

We often hear that good nutrition is essential for healthy living and learning. This is beyond question, and the Finnish people believe this. Finland was the first country in the world to begin to serve free school meals (Finnish National Board of Education 2008, p. 2). Finland has offered this service since 1948. Today, this service is free for at least preschool children (6-year-olds) and students in basic comprehensive education (children from 7 to 15 years of age, in first to ninth grades). In all of the schools visited, free school meals were also offered to high school students.

[35] http://www3.inegi.org.mx/sistemas/temas/default.aspx?s=est&c=21702 (April 29, 2010).

[36] http://findikaattori.fi/en/85 (April 29, 2010).

[37] The Spanish version of this public document can be consulted at this Finnish Ministry of Education webpage: http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2009/liitteet/opm34.pdf?lang=en (April 29, 2010).

[38] Finnish National Board of Education 2008, p. 7.

In Finland, the free lunch-type meal received by all students at the basic education level, as well as in high schools and vocational schools, is very standardized throughout the country. It is designed to provide a third of the daily nutrients required by each student. The policy on school meals is dictated by law and administered by each municipality.[39]

The menu normally consists of a selection combined with various options such as: sausage, chicken, spaghetti, rice, mashed potatoes, simple green salad (based on lettuce and simple dressings), grated carrots, ground meat (meatballs), water, milk and liquid yogurt, crackers and high-fiber bread, butter, and fruit.[40] The diet should also include fish at least once a week (Finnish National Board of Education 2008, p. 4).[41]

There is no school in Finland, whether large or small, urban or rural, centrally located or remote, that does not serve a school meal. In some cases, the menu is quite extensive but always nutritious, and in other cases the menu simply consists of a warm nutritious soup with fruit and a light cracker. Sometimes, the food is prepared on site in kitchens that may be simple or well-equipped and semi-industrial, and other times food is provided by vendors managed by or contracted by the municipalities.

In some schools, especially those with middle and high school sections, there are vending machines for drinks and food that could be classified as junk food. The response by a principal at one of these schools, when asked directly, was that they could not meet the demand, and that she would prefer that students consume these items at school instead of outside school during their free time. A strong argument!

Educational and Pedagogical Leadership

Around 2:30 one afternoon in March 2008, I was trying to find my way to the offices of the Institute for Educational Leadership[42] among mounds of snow and the various buildings of Jyväskylä University. There, I would meet with the director of an institute for executive training of schoolteachers and principals from Finland as well as from around the world. The director was Dr. Jukka Alava, and we had a long, informative talk.

[39] More information is available on the webpage for the National Institute of Public Health, at: http://www.ktl.fi/portal/english/public_health_monitoring___promotion/monitoring___interventions/nutrition_in_finland/catering_and_meal_patterns (May 21, 2008).

[40] To see menu examples in the Helsinki school district, consult: http://www.hel.fi/hki/opev/en/What_s+new/School+menus (January 25, 2010).

[41] More information regarding Finland's school meals, as well as the culture of food in this fascinating country and the history of school meals, can be found at: Finnish National Board of Education, 2008.

[42] https://www.jyu.fi/edu/laitokset/rehtori/en (February 3, 2010).

I learned that the institute began with a program for preparing school principals in 1996. The programs and ideas of the University of Jyväskylä led to a change in Finnish legislation associated with the qualifications required to become a school principal. It turns out that prior to the change in legislation, applicants were required to take an administrative exam. Now, a university education can also be the path toward obtaining the necessary qualification. According to Jukka, "since then, many teachers who want to be principals and others with different goals come to the Institute to be trained through our programs."

In line with the new legislation, someone who aspires to a principal's position and who meets the established requirements can access certification through the previous system, that is, by taking an administrative exam, or through the new option of a university education program. Many students working toward a teaching degree decide on the school leadership program as an area of specialization for their minor study program, and it directs them toward leadership tasks.

In Jukka's opinion, this is a program that emphasizes leadership abilities more than management skills in school administration. These are leadership abilities associated with culture, values, ethics, and changes in organizations. The alternative route, taking the administrative exam, emphasizes administrative abilities.

In order to be certified as a principal, one must first be a certified teacher, or in other words, have graduated from a university as an elementary teacher or a subject teacher. Then, the applicant must sit the above-mentioned exam or successfully complete the university training.

Still, according to Jukka, "we don't find a high demand for filling the position of school principal. A principal's job is increasingly more difficult and demanding."

Jukka then moved from educational leadership to pedagogical leadership:

> Within educational leadership we find pedagogical leadership, as reflected in the curriculum. If we speak about the history of pedagogical leadership, we become disconnected with what is called instructive leadership in the United States, specifically, teachers instructed to instruct. In Finland, teachers are qualified for pedagogical leadership. This means that teachers are prepared to administer the freedom granted to them in the school curriculum. However, beyond the curriculum is the school culture. Here, the school principal should take the lead in cultural changes, because if he/she does not do so, the culture will develop on its own, without direction. And a vision is needed for this: in what direction do we want to take schools in the coming 25 years, for example? Without a particular vision, there will be many paths and goals, because each teacher has his/her own ideas: The goal of schools is related to the following question: Why do we exist? And also: Why are we necessary? Vision and mission grow out of these questions. And both vision and mission must be discussed under leadership. All of this comes together in a broad-based definition of pedagogical leadership, which intersects all the other elements of administration, finances and personnel.

After this talk on school and pedagogical leadership in Finland, Jukka gave me a paper he had written, with an extraordinary, thought-provoking title: "Quality is not accidental." It refers to the integration and maturation of his institute for leaders-to-be.

We ended our conversation with Jukka's opinion regarding the factors of Finland's school educational success:

> There's no single reason. We're a nation that holds education very high. Our teachers and the contents of our education are very good. Every year 2,000 people apply to be accepted in this university, and only 300 are accepted. So, those who enter are the best. The number of applicants is an indication of the value we place on education. And this has historical roots. For example, after surviving the Second World War, we had to pay a large debt in kind to the Soviets. In reality this burden was transformed into an opportunity. In order to pay, we had to quickly build 1,000 locomotives. To build them, we had to develop a skilled labor force, and thus we urgently needed new and better vocational schools and labor training. To accomplish this, we developed a good system of labor training in a short amount of time. Also, after the war we had an "explosion of babies," and this generation grew up with the idea and the need for more and better education. Consequently, in order to satisfy this demand, we had to educate many more teachers for general education, and this served as a trampoline for education. We had a president, Urho Kekkonen,[43] who decided that there should be a school in each and every rural community in the country. This decision was made because he had come from a rural community.

Jukka continued on a more personal note:

> The value placed on education comes from people like my parents who survived the Second World War. They thought that the secret for getting ahead was education. But this history dates back to 1921 with the so-called law of equalization. Other historical reasons are the following: (1) School principals had an important role in their communities in the 1940s, 1950s and 1960s. They were also highly valued in large cities. (2) The same thing happened in rural communities with a thousand or less inhabitants and only one or two schools. School principals were also teachers. They were usually women, people thought very highly of them, and they lived in the schools. They became "maternal" figures for the entire community. (3) We have a habit of reading. Finnish people generally read a lot. We have an excellent system of libraries—something identified in the studies by Jouni Välijärvi since 2003. (4) We're a culture of a different breed: isolated, quiet, trusting and trustworthy, responsible and serious, workers, not extremely ambitious. With these attributes, how is it that we have something like Nokia? Well, it's the same as for PISA. There's no single reason.

Welfare State and Fairness

As we have seen in some references to the reasons for success, and as we constantly hear in conversations with experts, principals, and teachers, a crucial topic in the narrative on education quality is equity in all aspects of Finland's social, economic, and educational life. The final word on the causal relationship between equity and quality of education has not yet been written. Still, from the conclusions of the OECD studies on the PISA tests, it can be said that equity is required to have a strong influence on quality. I share this vision and I would sum it up with the following phrase: "The path to quality is equity."

In the cafeteria of Building C in the Jyväskylä University complex, I talked with a renowned Finnish researcher, Pirjo Linnakylä. With respect to equity and its re-

[43] A political leader in Finland for over 30 years, first as prime minister from 1950 to 1956 and then as president from 1956 to 1982.

lationship with quality, the professor answered directly: "We know now, thanks to PISA, that quality of education is a function of equity."

And this equity is promoted by a strong welfare state—a feature of all Nordic countries. The topic is not, therefore, exclusive to Finland. And equity is not only promoted by the government during the school stage, but rather its beginnings can be found in families' services and mothers' care. Also, the attention and care given to children by their mothers and fathers from the first day of life are admirable.

Maternity leave in Finland can last as long as 3 years, although it is common for this absence from work to be shorter. What is interesting, however, is that on the one hand, maternity leave can be shared alternately with the father, and on the other hand, the government provides financial assistance to mothers who care for their children. This childcare system began in Sweden and then extended to the other Nordic countries.

In Education, *Quo Vadis* Finland?

It is very difficult to be a fortuneteller on topics related to human behavior. It is even more difficult when the specific topic is education. However, there is a significant volume of scientific research conducted by different epistemic groups that points to the importance of learning as a process and not only as an outcome. It is impossible to think of teaching, without taking learning into consideration. And learning is a complex function with many factors: from cognitive and noncognitive, to those involving the socioeconomic status (cultural and social capital) of students' families and schools.

It was clear at the end of the second millennium that profound changes were necessary in education. For example, it was emphasized in 1967 at the International Conference on the World Crisis in Education, held in Williamsburg, Virginia (Coombs 1968), that once again very important changes were required. Changes in world education, at least in the role of the programs of different governments around the world, are the order of the day. These changes are associated with an acknowledgment of learning within education. This acknowledgment has involved, among other things, significant modifications to school curriculums in at least the countries with high academic performance—which point the way for the others following behind them. Transformations in curriculums include what are referred to as twenty-first century programs, which are strongly influenced by aspects of technology, science, reading, and mathematics. And entering into the debate is the position held by those who think teaching should be comprehensive and universal, and those who conceive of the development of human beings as a matter of learning for life. Finland is not far removed from this last tendency—in fact, it is spearheading it.

Alongside these changes, a demand for education results has emerged. This has signified that measurement and evaluation instruments in the field of education have been designed and disseminated around a concept of competence that originated in the business world, and that is known as accountability. Educators or education-

alists are not those pressuring for this type of accountability-based measurement. Those involved in the coercion toward this tendency come from worlds and interest groups associated with government bureaucracies, politicians, business people, and communication media who believe the formulas from business and political life can be transferred to the world of education. The bottom line is that the enormous force of these two major tendencies—the pedagogy of learning and evaluation based on standardized, accountability-focused measurement schemes—seems to be on a collision course.

How is this tension expressed in Finland? Where exactly does the pressure for standardizing, measuring, and assigning responsibility come from? How will all of this impact the future of education in Finland and around the world? To respond to these questions, I sought the opinion of an education sociologist at the University of Jyväskylä, whose current research is oriented toward these and other similar questions.

Thus, my next interview, on September 19, 2008, was with Prof. Tapio Aittola. We had a long, extended conversation on one of the topics of his research: How do people learn? The emphasis was on the point where formal learning connects with informal learning and also on the pressure for changes in Finland's education.

Here are some of his comments:

> In Finland politics and education systems have been part of a national project based on a very traditional society. But there are symptoms that indicate things are changing. Transformations are being caused by modern pressures for greater competition, and by neoliberal thinking that brings more individualist ideology into schools and threatens to break up group cohesion. This ideology has also brought ideas that reduce the amount of resources allocated to education. However, not everything is negative. Some positive things are derived from these phenomena and these forces, for example, the freedom to choose. On the other side, however, this ideology leaves individuals on their own: "it's your problem."

He emphasized the following:

> Discussion around changes in economic systems in favor of neoliberalism places everything in measurable terms. Thus education policy should be measured and should be accountable in order to demonstrate that it is effective. The old days of a system based on trust is disappearing. Municipalities and schools receive money, and the way this money is administered must be oriented by results and not trust. This is the clearest, most obvious change in people's thinking. Before, everything was based on trust, but now, it must be demonstrated that everything is subject to a strict administrative system. At the level of schools, we find that teachers and students continue to trust in each other, but we are beginning to see some changes. The relationship between teachers and students has become more informal. The hidden curriculum, that is, when and how, and rituals, too, are changing. The ways in which students raise their hands, move freely about classrooms, and speak to teachers are changing. Some new teachers are very good at adapting to these changes. But older teachers are finding it difficult to adapt. This means that the younger generations are able to work in changing environments and with a number of situations at the same time. In the end, the new system that demands results is very stressful for both children and young people. In the old system the focus was not on high performance, so children had time to relax. Now, we have changed to a system oriented toward performance. All of these are symptoms involving changes and we do not yet know where they will take us.
>
> Therefore, both the questions and the answers are still open—with positive and negative aspects at the same time. Some changes are good, such as responsibility, but others are not

> so positive, such as increased stress and decreased trust. What will happen in the end? We do not know. The school system is under the same type of pressure and turmoil as the economy, due to the connection to the labor market. Not even highly educated people are sure they will keep their jobs. Young people know this very well. And they are thinking: "I'm not sure I can get a job with the abilities I can get in the university." This has perhaps caused inflation in the education of our young people. It's likely that we are over-educating them.

Things will change—no doubt about that. But how will the tangled mess we have created unravel as the twenty-first century progresses? This is a question for which I do not have an answer. But it is indeed a great topic for reflection.

References

Aho, E., Pitkänen, K., & Sahlberg, P. (2006). Policy development and reform principles of basic and secondary education in Finland since 1968. *Education Working Paper Series 2*. Washington, DC: World Bank. http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079967208/Education_in_Finland_May06.pdf. Accessed 3 May 2010

Ahtee, M., Pehkonen, E., & Lavonen, J. (2007a). Closing: The evolution of the Finnish success story. In E. Pehkonen, M. Ahtee, & J. Lavonen (Eds.), *How Finns learn mathematics and science* (pp. 269–270). The Netherlands: Sense Publications.

Ahtee, M., Lavonen, J., Parviainen, P., & Pehkonen, E. (2007b). Influential factors outside of school. In E. Pehkonen, M. Ahtee, & J. Lavonen (Eds.), *How Finns learn mathematics and science* (pp. 99–106). The Netherlands: Sense Publications.

Coombs, H. P. (1968). *The world educational crisis: A systems analysis*. New York: Oxford University Press.

Eurostat. (2007). *Cultural statistics*. Luxemburgo: European Commission. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-77-07-296/EN/KS-77-07-296-EN.PDF. Accessed 27 May 2009.

Finnish National Board of Education. (2004). National Core Curriculum for Basic Education 2004: National core curriculum for basic education intended for pupils in compulsory education. Helsinki: Author.

Finnish National Board of Education. (2008). *School meals in Finland: Investing in the future*. Helsinki: Author. http://www.oph.fi/instancedata/prime_product_julkaisu/oph/embeds/47657_school_meals_in_finland.pdf. Accessed 25 Jan 2010.

Fuegi, D., & Jennings, M. (2004). *International library statistics: Trends and commentary based on the Libecondata*. http://www.libecon.org/pdf/InternationalLibraryStatistic.pdf. Accessed 24 Jan 2010.

Gamerman, E. (2008, February 29). What makes Finnish kids so smart? *The Wall Street Journal*. http://online.wsj.com/article/SB120425355065601997.html. Accessed 14 July 2008.

Havu-Nuutinen, S., & Ahtee, M. (2007). Teaching and learning science in primary school. In E. Pehkonen, M. Ahtee, & J. Lavonen (Eds.), *How Finns learn mathematics and science (, pp. 229–242)*. The Netherlands: Sense Publications.

Hellstrom, M. (2009, October 5). The secret of the quality of Finnish teachers? (PowerPoint slides for "World Teachers' Day" at UNESCO, Paris).

Kirby, D. (2006). *A concise history of Finland*. Cambridge: Cambridge University Press.

Lehto-Vahtera, J. (2007). *Mikael Agricola: A man of his word*. Turku: Finepress Oy.

Linnakylä, P., Välijärvi, J., & Arffman, I. (2010). Finnish basic education: When equity and excellence meet. Manuscript submitted for publication.

Niemi, H., Toom, A., & Kallioniemi, A. (Eds.). (2012). *Miracle of Education: The principles and practices of teaching and learning in Finnish schools*. Rotterdam: Sense Publishers.

Opetus-ja, kulttuuriministeriö. (2010). *Perusopetus 2020—yleiset valtakunnalliset tavoitteet ja tuntijako*. http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2010/liitteet/okmtr01.pdf?lang=En-US. Accessed 14 July 2010

Organization for Economic Cooperation and Development (OECD). (2001). *Knowledge and skill for life: First results from PISA 2000*. Paris: Author

Organization for Economic Cooperation and Development (OECD). (2004). *Learning for tomorrow's world: First results from PISA 2003*. Paris: Author.

Organization for Economic Cooperation and Development (OECD). (2007a). *PISA 2006 Science competencies for tomorrow's world. Vol. 1: Analysis*. Paris: Author.

Organization for Economic Cooperation and Development. (2007b). *PISA 2006. Science competencies for tomorrow's world. Vol. 2: Data*. Paris: Author.

Organization for Economic Cooperation and Development (OECD). (2007c). *Education at a Glance 2007: OECD indicators*. Paris: Author.

Organization for Economic Cooperation and Development (OECD). (2008). *Education at a Glance 2008: OECD indicators*. Paris: Author.

Organization for Economic Cooperation and Development (OECD). (2009). *Education at a Glance 2009: OECD indicators*. Paris: Author.

Organization for Economic Cooperation and Development (OECD). (2010). *PISA 2009 Results: What Students Know and Can Do: Student performance in reading, mathematics, and science. Vol. 1:* http://dx.doi.org/10.1787/9789264091450-en. Accessed 7 Dec 2010.

Ropo, E., & Välijärvi, J. (2010). School-based curriculum in Finland. In E. Hau-fai Law, & N. Niveen (Eds.), *Schools as curriculum agencies: Asian and European perspectives*. Unpublished manuscript submitted for publication.

Sahlberg, P. (2011). *Finnish lessons: What can the world learn from educational change in Finland?* New York: Teachers College Press.

Scott, C. J. (1998). *Seeing like a state: How certain schemes to improve the human condition have failed*. New Haven: Yale University Press.

Statistics, F. (2007). *Statistical Yearbook of Finland 2007*. Helsinki: Author.

Statistics, F. (2008a). *Statistical Yearbook of Finland 2008*. Helsinki: Author.

Statistics, F. (2008b). *Statistics. Education: Comprehensive schools had 561,100 pupils in 2008*. http://www.stat.fi/til/pop/2008/pop_2008_2008-11-14_tie_001_en.html. Accessed 25 Jan 2010.

Statistics, F. (2009a). *Education in Finland: Pocketbook 2009*. Helsinki: Author.

Statistics, F. (2009b). Statistics Koulutus: Pupils in comprehensive schools and with leaving certificates from comprehensive school 1990–2009. http://www.stat.fi/til/pop/2009/pop_2009_2009-11-13_tau_001_en.html. Accessed 25 Jan 2010.

Trant, A. (Ed.). (1999). *Status of vocational education. In A. Trant, J. Branson, C. Frangos, F. Geaney, D. Lawton, R. Makinen, T. Moerkamp, D. Ó Donnabháin, P. Vuorinen, E. Voncken, & P. Walsh, Reconciling liberal and vocational education (pp. 19–48). Report of the European Union, Leonardo da Vinci Research Project on Promoting the Attractiveness of Vocational Education (PAVE)*. Dublin: Curriculum Development Unit.

Vuorinen, P., & Makinen, R. (1999). *Double qualifications by co-operation between academic and vocational upper secondary schools in Finland. In A. Trant, J. Branson, C. Frangos, F. Geaney, D. Lawton, R. Makinen, T. Moerkamp, D. Ó Donnabháin, P. Vuorinen, E. Voneken & P., Reconciling liberal and vocational education (pp. 160–187). Report of the European Union, Leonardo da Vinci Research Project on Promoting the Attractiveness of Vocational Education (PAVE)*. Dublin: Curriculum Development Unit.