

# *The System and How Does It Work: Some Curricular and Pedagogical Characteristics of the Finnish Comprehensive School*

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*In the PISA (Programme for International Student Assessment) 2000 study, Finnish students showed significantly higher reading achievement than students of any other country/region. Finland also ranked among the best five countries in mathematical and scientific literacy. In Finland, the gap between high and low performers was relatively narrow, and the variation between schools was the second smallest among OECD (Organisation for Economic Co-operation and Development) countries/regions. The Finnish comprehensive school seems to be quite successful in reaching both high quality and equity at the same time. There is not a single explanation for the results. Rather, the outstanding performance of Finnish students is attributable to a web of interrelated factors, including comprehensive pedagogy, students' own interests and leisure activities, the structure of the education system, teacher training, school practices, and the Finnish culture. This article will illustrate how these factors may have contributed to Finland's performance by analyzing the results of PISA and highlighting some characteristics of the Finnish education system and cultural heritage.*

The outstanding performance of Finnish students in the Programme for International Student Assessment (PISA) has been a great joy but at the same time a somewhat puzzling experience to all those stakeholders in education in Finland. PISA has transformed the conceptions of the quality of work at its comprehensive schools and laid the foundation for

Finland's future civilization and development of knowledge. Traditionally, Finns are used to think that models for educational reform have to be brought from abroad. For a long time, they have been turned to Germany for these models. More recently, however, the models have mainly been brought from its Nordic neighbors, especially Sweden. Today the situation seems to have changed suddenly, with Finnish schooling and Finnish school practices becoming the focus of international attention.

The Finnish comprehensive school started its implementation throughout Finland in the 1970s, but it reached the entire age cohort only recently, in the 1990s, when also mentally handicapped children were included (Sarjala, 2002). In the 1970 Comprehensive School Curriculum, the ideas of pluralism, pragmatism, and equity were stressed. In the early stages of its implementation, equity was seen as the equal access to education. More recently, it has been seen also as equal opportunities for learning within the school.

In Finland, student's family background does not affect the selection of schools in basic education because all children go to similar comprehensive schools, most likely to the ones nearest to their residences, although since the 1990s, parents have been allowed to select schools for their children. Thus, the socio-economic status of parents has little effect on the selection of schools at the stage of basic education (at the age of 7–16). The results of PISA study showed that the influence of family background is less marked in Finland than the OECD (Organisation for Economic Co-operation and Development) average (Linnakylä, 2002; OECD, 2001).

In the long term, the development of the Finnish comprehensive school is supported by broad cultural and political consensus about the main lines of national education policy. Throughout the twentieth century, educational services were developed evenly all over the country and in accordance with the needs of different population groups and regions. Today, high-quality education — largely thanks to high-quality teacher training — is provided at every school and equally in all regions of the country. This, again, is reflected in Finland's below-average variation in educational outcomes at both the individual and system levels between schools (Vattaja, 2002; Välijärvi, Linnakylä, Kupari, Reinikainen, & Arffman, 2002).

## **The Finnish Education System and Its Resources**

Efforts have been made to provide equal learning opportunities for all population groups and among different regions of the country. The school network covers the whole country. For the 5.2 million inhabitants in Finland (the average age cohort being 64,000), there are 4,300 comprehensive schools, almost 500 upper secondary (academic) schools, and a lot of vocational and adult education institutes.

Children generally start schooling at the age of 7. Before studying in comprehensive schools, children may participate in one-year pre-school education. Nowadays, 95% of children take part in this kind of one-year program before receiving formal education. Finland provides nine years of compulsory schooling. Usually, children are taught by a class teacher for the first six years of comprehensive school and by specialized subject teachers for the subsequent three years. All students learn the same core subjects and similar curriculum of these subjects. However, about 20% of classroom hours are reserved for elective studies that students and their parents may have a choice (National Board of Education, 2002).

Finland's educational expenditure had declined from 6.3% to 5.8% of GDP during the years 1995–1999, with the decrease for tertiary education being 0.1% and for other levels of education altogether 0.4%. This decrease was largely due to the rapid growth of GDP during the years while the expenditure growth of the public sector was less strong (Centre for Educational Research and Innovation, 2002).

Finland's regular education system is financed almost entirely by public funds. Comprehensive school and education leading to a qualification has traditionally been free of charge to students. The funding for education is transferred via the tax system. Students receive free tuition, free instructional materials, warm school meals, health and dental care, and, if necessary, transport and accommodation at the primary and lower secondary levels. At the higher levels, some of the social costs of education are paid for by the students themselves, but the government has, by means of student grants and support for accommodation, sought to assure equal access to education for all. The proportion of private funding has been insignificant.

Although the salary of Finnish teachers reaches only the level of international average, young people still find teaching a quite attractive occupation. Thus, those applying for teacher training usually are an

outstanding, highly motivated and selected group; for instance, in classroom teacher programs only 12% of the candidates are admitted (Luukkainen, 2000). Teacher training attracts especially multi-talented students who are good not only at academic subjects but also at arts, music, and physical education. Concerning secondary education (Grades 7–9) that is run mostly by subject teachers, the overall situation is not so positive because there is a growing shortage of teachers in subjects like mathematics, science, and English (Linnakylä, 2004).

### ***Coping With the Heterogeneity of Students***

The heterogeneity of students is heeded in the Finnish education system, but they are not streamed into different types of schools during the stage of compulsory schooling. By the age of 16, practically all students have completed education in comprehensive schools, which gives them eligibility for further studies at senior secondary level. Throughout the years in comprehensive schools, there is no tracking or streaming of students into courses of different levels. Only less than 2% of students are studying in special schools for disabled children.

The pedagogy in comprehensive schools differs considerably from the pedagogy applied in systems characterized by explicit tracking and streaming. Heterogeneous groups necessitate highly educated teachers and genuine experts in pedagogy. Heterogeneous grouping, as shown by studies conducted in the 1970s and the 1980s, when comprehensive schools were still under construction, and as confirmed by PISA data more recently, appears to be of greatest benefit to the low performers. In contrast, there seems to have no significant difference for high performers irrespective of how groups are formed (Välijärvi et al., 2002, pp. 40–41).

Special education has always played an important role in catering for students who have problems in following regular teaching. Special needs education is usually closely integrated into mainstream teaching, which is highly inclusive by nature. At the primary level (Grades 1–6), where class teachers have the main responsibility for instruction, special education focuses mainly on reading and writing skills along with mathematics skills. At the lower secondary level, a student with problems in a certain subject or subjects typically has the opportunity once or twice a week to study in a small group of 2–5 students or even individually with a special teacher. The special teacher may,

alternatively, also attend regular classes. A student's right to special needs education is stipulated in the Finnish school laws.

Every student also has the right to student counseling. Schools are to provide students with guidance in study skills, choice of options (e.g., elective courses) and, planning of post-compulsory studies. At Grades 7–9, every school has a student counselor providing individual guidance to students.

## **Teacher Education**

Historically, teacher training in Finland has taken shape gradually and separately for each school type and even for each individual type of teaching assignment. However, the idea of academic training for all teachers has a long tradition. The new decree for teacher training was issued in 1978 and led to the development of degree programs for class teachers and subject teachers of comprehensive schools, as well as subject teachers of upper secondary schools. Programs for teachers of special needs education and student counselors were also developed as postgraduate studies. Nowadays, students of kindergarten education complete the Bachelor of Education degree of 120 credits. The degree program is allowed to be completed in three academic years.

The training of class teachers emphasizes the theories and methodologies of multidisciplinary educational science and school subjects as well as their practical applications, and all students complete the Master's degree. The objective is to link teaching and learning to scientific research in order for students of class teaching to become capable of independently analyzing and solving educational problems and developing their work through research. The main subject in class teacher training is education. It will provide the theoretical foundation for discharging teaching duties. The scope of the Master's degree in education is 160 credits (minimum 5 years of studies) and students with the degree are eligible for postgraduate studies in education.

Subject teacher training includes studies in one or two teaching subjects and in pedagogy. The training will lead to a Master's degree. A teaching subject is a subject included in the curriculum of basic education, upper secondary school, or some other educational institutions. Studies in a teaching subject therefore mean the studies that promote the command of the subject as required by teaching work. This consists of advanced studies in one subject with a minimum scope of 55

credits, and in a possible second subject with a minimum scope of 35 credits. The training is divided into two tracks: the faculties of education are responsible for some training, while another part of the training is carried out in cooperation with teacher education departments and different subject departments. Students may apply directly for teacher training of a specific subject (such as training for subject teachers in mathematics, physics, chemistry, or religion). In addition, it is also possible to graduate as a subject teacher by taking pedagogical studies separately upon completion of a university degree.

In Finland, teachers are obliged to participate in in-service training with a minimum scope of three workdays outside school hours per school year. The responsibility for funding such training rests with the employers of teachers — mainly local authorities. A recent survey (Luukkainen, 2000) indicates that there are considerable differences in the amounts of continuing education received both in regional terms, between different teacher groups, and between individual teachers.

## **Educational Policy, Goals and Evaluation**

The government determines the national objectives and the number of classroom hours allocated to each subject. Traditionally, educational aims not only emphasized the cultural heritage but also intellectual activities of individuals for promoting the culture of the community and the whole nation (*Basic Education Act 1998*).

In the 1990s, the Finnish educational policy began to put more emphasis on individuality and freedom of choice. Since 1992, textbooks have no longer been examined and approved by the National Board of Education, which was the case in the earlier decades. Schools got the freedom to include optional subjects and contents in their curricula (National Board of Education, 1994). Consequently, schools started to develop school-based syllabi that were based on the framework of government policy but constructed in collaboration with teachers, students, and parents of their own school. The school curricula were often uploaded to the school's website as well, open not only to the school staff and students but also to parents and other interested parties. As a result, the websites of Finnish schools contain exceptional amounts of curricular descriptions (Pelgrum & Anderson, 1999).

The legislation relating to state subsidies was amended and the new provisions took effect at the beginning of 1993. State education

subsidies — up till then had been based on expenditure and educational tasks — was supplanted by grants that have no longer been earmarked in advance (i.e., designated to a particular field of municipal duties). The municipalities were free to decide for themselves how to use the appropriations received. At the same time, the responsibility for collecting data for inspection was lessened even though the government was required to monitor and to report on the implementation of the reform in 1995. This called for a demand for reforming the assessment and evaluation system (Laukkanen, 1995; Norris, Aspland, MacDonald, Schostak, & Zamorski, 1996).

In the Finnish model of evaluation, the main idea is to develop and support, not to control, schools. Interaction between the bottom-up and the top-down evaluations has been emphasized. On the other hand, it is equally important to monitor, at the national level, the development in terms of between-school differences so as to enable timely intervention to prevent possible deterioration of equal educational opportunities.

In Finland, there have never been nation-wide examinations or final tests to be arranged during or at the end of comprehensive schooling for all students in a given grade. In order to safeguard the equality of students coming from different schools and to enable fair and just treatment as regards using their school marks in further student selection, the National Board of Education prepared uniform evaluation criteria for each compulsory subject. These criteria serve basically as recommendations defining the skill and knowledge levels that a student should master at the end of comprehensive schooling (i.e., 9th grade, at the age of 16) so as to get the mark 8 (good) on the school grading scale 4–10.

Under the new educational legislation, educational institutions are obligated to evaluate their own operations and effects. The aim of self-evaluation is to help those working in institutions to form an integrated idea of the operations and to make all activities transparent to external interest groups (Kankaanranta, 1998, 2002). Having the knowledge of one's own situation provides better opportunities to face and cope with the challenges coming from the surrounding environment. Even though the dimensions and criteria for self-evaluation have been defined, their significance in practice is not unquestionable. Self-evaluation surely has functioned in making school work visible and served as a development tool for schools; however, it has not yielded an adequate basis of reliable and valid data for educational indicators.

At the national level, the task of educational authorities is to evaluate the realization of education policy, such as the implementation of structural reforms, as well as their outcomes and effects. In addition, the authorities are responsible for evaluating the achievement of equality and basic security in education. The sampling-based assessments and evaluations of student achievements have nonetheless been diverse, comprehensive, and intensive from the very beginning of the introduction of comprehensive school (*Basic Education Act 1998*).

The methods, materials, and results of the national and international evaluations are open to public. However, the results of individual school evaluation are restricted only to the school concerned. Other schools, the local authorities or the media have no access to the specific information of individual schools, but have the means and averages instead. This is a fundamental principle in the Finnish evaluation culture, to which schools and teachers adhere tightly. This principle also helps ensure mutual trust and cooperation between schools and evaluators as well as high response rates.

## **Equity and Quality Side by Side**

In the PISA 2000 assessment, Finland showed the highest performance in reading literacy; its performance is significantly higher than that of most other participating countries/regions. Nevertheless, this was not a big surprise because the performance of the Finnish students was also excellent in some earlier studies on reading literacy (Linnakylä, 1995; Lundberg & Linnakylä, 1993). Besides, in Finland, the high overall reading literacy performance seems to be in parallel with the comparatively high equality of the results. This is evidenced from the fact that the standard deviation ( $SD = 89$ ) in Finland, which is illustrative of the variation in student performance, is among the smallest in OECD ( $SD = 100$ ) countries.

A comparison of the three subscales of reading literacy displays the relative strengths and weaknesses of Finland's performance. In the light of the national mean scores, Finnish students scored especially high on two subscales — retrieving information (556 points) and interpreting texts (555 points). On these two subscales, Finnish students significantly outperformed all the other participating countries/regions. In the subscale “reflection and evaluation,” on the other hand, Finland (533

points) ranked fourth together with Ireland, with Canada and the United Kingdom ranking first and second respectively.

In the combined OECD area, an average of 10% of students reached the highest proficiency level (i.e., Level 5 in reading literacy). In Finland, this level was attained by 18% of students, which was the second highest percentage among the participating countries/regions, with New Zealand at the top (19%). High percentages of top readers were also found in Australia (18%), Canada (17%), and the United Kingdom (16%).

A total of 79% of Finnish students, the percentage being the highest among OECD countries/regions (the combined OECD area averaging 61%), reached Levels 5, 4, or 3 and seem to have acquired the literacy skills needed to cope with the demands of learning and work posed by today's knowledge societies. Next to Finland, high percentages were also achieved in Korea, Canada, and Japan. The next proficiency level, Level 2, was achieved by 14% of Finnish students, the corresponding figure for the OECD being 22%. And finally, proficiency at or below Level 1 (i.e., poor reading skills) was attained by 7% of Finnish students, as compared to the OECD average of 18%.

In international comparison, Finnish students proved to have high-quality reading literacy skills. The number of poor readers in Finland is remarkably low by international standards, yet young persons with deficient reading skills risk getting marginalized from further schooling, cultural activities, and active citizenship in a society cherishing knowledge, skills, and lifelong learning (Linnakylä & Sulkunen, 2002).

The findings of PISA suggest that Finland has managed to achieve both high quality and high equality of reading literacy outcomes. In guaranteeing gender equality, however, Finland has been less successful as evidenced from the fact that in PISA the gender gap (51 points) in reading literacy in Finland was the widest, with the OECD average being 32 points. If compared to previous international reading literacy assessments, the gender gap, on the whole, seems to have widened not only in Finland but also in other countries/regions.

In the PISA assessment of mathematical literacy, only two content areas — “change and growth” and “space and shape” — were examined. Finland clearly ranked among the best quarter with its 536 points displayed the fifth highest mean performance. Of the top performing countries/regions, only Hong Kong and Japan outperformed Finland significantly, and seven countries were on the same level while all the

other 31 countries/regions had performances significantly lower than that of Finland.

Finland's performance in mathematical literacy also showed high equality. The standard deviation for student scores was the smallest (80) among countries/regions. Also, other countries/regions with the smallest differences between students were clearly above the OECD average. The results suggest that high average performance can be achieved by providing all students with similar opportunities for mathematics instruction rather than through explicit differentiation at an early age (Kupari & Törnroos, 2002; see also Kupari, Reinikainen, Nevanpää, & Törnroos, 2001).

In mathematical literacy, only 8% of Finnish students had the least proficient level of performance compared to 16% of students in the combined OECD area. The Finnish percentage equals that of the other best performing countries/regions. The proportion of top performers, in contrast, was higher in Finland when compared to the OECD average, yet remained below the proportions found in Hong Kong, Japan, New Zealand, Korea, Switzerland, Belgium, Australia, and the United Kingdom.

As regards scientific literacy, Finland's performance, as revealed by the mean scores of PISA assessment, proved high quality. The only country outperforming Finland, in fact, was Korea. The tasks used in the PISA assessment of scientific literacy emphasized the skills to recognize and tackle scientific questions, select relevant information from competing data, relate this information to knowledge acquired previously, and based on all this information to draw valid conclusions and communicate them to others.

The tasks were distributed along three areas: science in earth and the environment, science in life and health, and science in technology. The applications covered by the tasks included, among other things, atmospheric change, biodiversity, chemical and physical change, earth and the universe, ecosystems, energy transfer, genetic control, and human biology. Finland's performance was above the OECD average in all three areas. This was especially true in the area of science in life and health, where Finnish students showed the highest proportion of correct answers among the participating countries/regions. In the areas of science in earth and the environment and science in technology, Finnish students likewise performed 4 to 5 percentage points above the OECD average (Reinikainen, 2002).

Student performance in scientific literacy varied less than in most of the other countries/regions, with the standard deviation for student scores being 86 points, the second smallest next to Korea. Korea and Finland thus seem to be the two countries which have best managed to combine high levels of scientific literacy with low disparities in performance. Moreover, as was the case in reading literacy and mathematical literacy, the least proficient Finnish students, in international terms, also did relatively well in scientific literacy. On the other hand, Finnish top performers correspondingly scored clearly lower than their counterparts in Japan, the United Kingdom, and New Zealand.

## **Why Such a Success?**

The results of PISA reveal that there is no single factor behind the high reading literacy performance of Finnish students. Rather, Finland's good performance seems to be attributable to a constellation of interrelated factors. As shown by correlation analyses of the PISA data, students' own attitudes and activities, notably "engagement in reading" and "interest in reading" (accounting for 22% and 18% of the variance respectively), appear to be the most significant factors explaining the variation in reading literacy performance among Finnish students. The other strong factors have to do with family background (e.g., cultural communication between parents and children, possessions related to classical culture at home, and parental occupational status), but their explaining power was much smaller. Students' self-concept in reading likewise accounts for a significant part of the reading literacy performance of Finnish students.

Engagement in reading and interest in reading thus proved the major determinants of the reading literacy performance of Finnish students. In Finland, these factors turned out to be more important than family background, which, for its part, proved more influential in several other OECD countries/regions. This is an indication that the Finnish comprehensive school has managed to arouse students' interest in reading and, hence, to even out the impact of socio-economic background. Optional subjects combined with a flexible school curriculum play an important role in encouraging students to take up and keep up their own interests, not least reading (see also Willms, 2003).

Among the participating countries/regions in PISA, Finnish students displayed the highest level of interest in reading and the third highest

level of engagement in reading. In Finland, 41% of students reported reading was one of their favorite hobbies; for girls the figure was 60% and for boys 21%. In a similar vein, in Finland, three out of four students declared they spent some time reading for enjoyment each day; those reporting not reading for enjoyment at all, in contrast, accounted for 22% of the students. On average across OECD countries/regions, the proportion of students not reading for enjoyment was much higher (32%); the highest percentages were found in Japan (55%), Belgium and Germany (42% each). In other Nordic countries, the proportion of students not reading beyond school was somewhat higher when compared with Finland: in Denmark it was 27%, in Iceland 30%, in Norway 35%, and in Sweden 36% (OECD, 2002).

Finnish students and students from other Nordic countries read highly diverse materials. Finnish students read newspapers, magazines, comic books as well as e-mails and Web pages more frequently than do their fellow students in the other OECD countries/regions on average. However, the proportion of students reading fictions and non-fictions, in contrast, remains at or below the OECD average.

Finnish students' engagement in reading is supported by a comprehensive network of libraries, which generally also have separate departments for children and youth. No wonder, Finnish students tend to use libraries more often than students from other OECD countries/regions. The results of PISA study show that in Finland 44% of students borrowed books from libraries — school libraries or community libraries — at least once a month, compared to the OECD average of 26%. Girls were clearly more active than boys in borrowing books. In Finland, community libraries are widely used. The use of school libraries, in contrast, remains well below the OECD average. Similarly, due to the comprehensive network of community libraries, Finnish home libraries tend to be only medium-sized by OECD standards.

The national results of PISA show, somewhat surprisingly, that active users of computers are also active readers. They also show that moderate use of computers relates positively to reading literacy performance. Heavy computer users, on the other hand, scored lower in the reading literacy assessment when compared with their more moderate counterparts, whereas those who did not use computers at all proved the poorest readers of all.

Cultural communication explained reading skills to a similar extent in Finland as the OECD average. Cultural communication, as defined in PISA, referred to the frequency with which parents interacted with their children in the following areas: discussing political and social issues; discussing books, films, and television programs; and listening to classical music. Possessions related to classical culture, in contrast, proved a minor determinant of reading literacy performance in Finland than in other OECD countries/regions. In PISA, possessions related to classical culture were taken to include classic literature, books of poetry, and works of art in students' homes.

Students' own cultural activities turned out to be a less important determinant of reading skills in Finland than on average across OECD countries/regions. In PISA, these activities covered visiting a museum or art gallery, watching live theatre or attending an opera, ballet, concert or sports event.

Self-concept in reading explained more of the variation in reading literacy performance in Finland than it did on average across OECD countries/regions. Not surprisingly, the higher the self-concept of the Finnish student, the better the student's reading skills. It is to be noted, however, that self-concept in reading did not explain the variation in reading literacy performance between countries/regions. A country/region where students expressed a high self-concept in reading, therefore, did not necessarily have the best performance. The self-concept of Finnish girls, for instance, lay at the level of the OECD average, while that of Finnish boys even remained significantly below it.

A high self-concept in mathematics was strongly and positively associated with performance in mathematical literacy in all participating countries/regions. Hence, those confident of their mathematical abilities also scored high in mathematical literacy. It has to be noticed, however, that self-concept in mathematics did not explain the variation in mathematical literacy performance between countries/regions. The self-concept of Finnish students, again, was slightly above the OECD average. Interestingly enough, Finnish students also tended to be much more confident of their mathematical abilities than of their reading skills, even though in international terms, they performed lower in mathematical literacy than in reading literacy. In all PISA countries/regions, including Finland, boys displayed a higher

self-concept in mathematics than girls. In Finland, however, there was no difference between the genders in mathematics performance.

Students' learning strategies also have some impact on reading skills both in Finland and in other OCED countries/regions. In Finland, competitive learning, for example, was found to be most positively related to the reading skills of the best performers. Elaboration strategies (i.e., relating new materials to prior knowledge and experience and applying them in other contexts) related most positively to the performance of moderate readers and highly proficient readers. Control strategies or the management of learning, again, tended to be most positively associated with the performance of moderate readers. Achievement press caused by the teacher, in contrast, consistently had a negative impact on the reading literacy performance of both high and low achievers (see also Willms, 2003).

There is a factor that undoubtedly contributes to Finland's high performance in mathematical and scientific literacy: the national LUMA program (LUMA is an acronym for the Finnish *luonnontieteet ja matematiikka*, "science and mathematics"). The program, launched in 1996, aims at developing knowledge and skills in mathematics and science at all levels of schooling. Great effort has accordingly been put in the program in the following areas: updating computer hardware and software as well as science laboratory equipment and materials at schools; enhancing teacher training in both subject and pedagogical studies; and increasing experimental activities. Even though it is not possible to establish numerically a causal link between the LUMA program and Finland's mathematics and science performance in PISA, the program has undeniably opened new educational opportunities and, above all, aroused new faith in and enthusiasm for the development of Finnish mathematics and science instruction.

## **The School and Classroom Level: Pedagogical Concepts and Practices**

The Finnish comprehensive school is not only a system, but also a pedagogical philosophy and practice at the school and classroom level. An intrinsic part of comprehensive school philosophy is the principle of equity, on which Finnish education practice has been largely premised.

### ***Homogeneity Between Schools***

In the PISA study, the between-school difference in Finland proved to be the smallest among the participating countries/regions. While this difference accounted, on average, for 36% of the variation in students' reading literacy performance in OECD countries/regions, in Finland only 5% of the variation was due to this factor. In fact, small between-school variation is a characteristic of all Nordic countries. This is largely because these countries have non-selective education systems where all students are provided with the same kind of comprehensive schooling. In contrast, between-school variation tends to be more pronounced in countries where students are enrolled into different kinds of schools at an early age. The results show that small between-school variation is a key predictor of high student performance. Countries with the highest performance in reading literacy usually display comparatively small differences between schools (Schleicher, 2003; Välijärvi & Malin, 2003).

In the light of PISA findings, the Finnish comprehensive school system stands out as exceptional in that in Finland even the least successful schools attain a relatively high level of reading literacy when compared with other OECD countries/regions. In Finland, the lowest performing schools (10th percentile) scored almost 100 points higher than the OECD average. The same trend applies to the highest performing schools (90th percentile), although the difference was only 10 points. The high overall performance of the Finnish comprehensive school is further evidenced by the fact that of the Finnish schools taking part in PISA, only seven (4.5%) scored below the OECD average. In this respect, the high quality and equality of Finnish schools proved quite unique within OECD countries/regions.

From the viewpoint of the goals of Finnish comprehensive schools, however, the differences found between Finnish schools are not without significance. Even in Finland, the best 10% of schools scored, on average, 97 points higher in reading literacy than the poorest 10% of schools. On the PISA scale of reading literacy, which consists of five proficiency levels, this represents a difference of one and a half proficiency levels. This poses a true challenge to the equity of learning opportunities in the future. The challenge is made no less important by the fact that in OECD countries/regions the difference between the two extreme groups was 204 points.

### ***Equality Related to Family Background***

Students come to school from widely differing family backgrounds. This is the case both in Finland and in other PISA countries/regions. Family background, as shown by the results of PISA, still has an impact on student performance. In Finland, however, this influence is less marked than on average across OECD countries.

Of the factors related to family background, the socio-economic background of students, measured by parental occupational status, was the one most strongly associated with reading literacy performance in all participating countries/regions. Students whose parents had the highest occupational status significantly outperformed those with lower socio-economic backgrounds. This was especially the case in German and some other Central European countries. The difference was considerable in Finland as well, yet remained clearly below the OECD average. In Finland, even students whose parents belonged to the lowest socio-economic quarter performed above the OECD average.

In the participating countries/regions, the impact of parental education and family wealth on reading literacy performance proved less pronounced than that of parental occupational status and varied across the countries/regions. In Finland, these factors had a lesser impact on reading literacy than in most other countries/regions.

The cultural background of the family also exerts considerable influence on reading literacy skills in both Finland and the other participating countries/regions. In Finland, cultural communication accounted for student performance as much as the OECD average. Possessions related to classical culture and participation in cultural activities, in contrast, explained reading literacy performance to a lesser extent in Finland as compared to the OECD average.

### ***Instructional Practices***

The instruction and pedagogy at Finnish schools have been structured to fit heterogeneous student groups. For example, Finnish teachers know that no student can be excluded and sent to another school. Students' own interests and choices are likewise taken into account at schools when planning the curriculum and selecting contents, textbooks, learning strategies, methods of teaching, and assessment devices. All this calls for a flexible, school-based, teacher-cum-student-planned

curriculum along with student-centered instruction, counseling, and remedial teaching (Väljärvi et al., 2002, p. 40).

This, of course, means that a lot of resources have to be invested in teacher education. Teachers have also been trusted to do their best as true professionals of education. Therefore, Finnish teachers have been entrusted with considerable pedagogical independence in the classroom and schools have likewise enjoyed substantial autonomy in organizing their work within the constraints of the national core curriculum.

In fact, teachers have got the experience of teaching heterogeneous groups early during their teaching practicum. Student teachers realize from the outset that one or two teaching methods will not suffice in the classroom and they need to know the theoretical and practical premises and outcomes of different methods. Teachers need to adapt their teaching methods, select the materials, and design the tasks according to their students' needs, capabilities, and interests. Hence, teaching often varies even within the same classroom to cater for different learning groups. Moreover, in Finnish classrooms, it is more typical to group students on the basis of their interests rather than their cognitive capacity (Lundberg & Linnakylä, 1993). Especially when using mother tongue as the medium of instruction, learners' own interest plays an important role, for example, in selecting reading materials, designing speech, discussion, and writing assignments. Assessment can also be differentiated to allow for students' personal differences. Using portfolios, for instance, as a means of evaluation favors and promotes individuality, which is seen desirable rather than something standardized.

Recent studies show that the new competence requirements, which arise from societal changes, emphasize teachers' ability to work with children, young people and their parents, as well as colleagues, both of who are cooperative partners. Teachers cannot cope with the pressures resulting from the increasing requirements on their own. A well-functioning multicultural school works as a community, and the results depend on its ability to employ the students' individual and special skills to benefit the common good. As a result of the increase in social problems and in the number of students who need special attention, teachers need both pedagogical and social knowledge and skills to work together in solving problems at school (Luukkainen, 2000; Väljärvi, 2000).

As for the teacher training in both basic and continuing education, competence in special pedagogy should be an important part because it

plays a significant role in teaching work and in the school community as a whole. This concerns all teachers, not just special education teachers. The same need is equally valid for class, subject and vocational teacher training. Special pedagogy is needed at all levels of teacher training. Likewise, facing multiculturalism should also be a part of all teacher training. Teachers need to be capable of working in multicultural environments (Luukkainen, 2000; Välijärvi, 2000).

### ***How to Develop Instructional Practices: Some Examples***

In the PISA study, the gender gap between the achievements of boys and girls was the widest in Finland. However, the findings showed that the gender gap disappeared when the four activity and interest factors (engagement, reading of fictions, self-concept in reading, effort and perseverance) were controlled at the same time. In light of these findings, it is apparent that interest and engagement in reading as well as reading of fictions are seen as features of the feminine culture. If boys' attitudes toward reading are truly so negative that they do not read anything unless they have to, and that they consider reading just a waste of time, there is certainly a need for cultural change. In pedagogy we should invest heavily in attitudinal development, and in school we should favor such literature and other reading materials that would interest boys as well (e.g., science fictions and fantasy literature). Ideally, this would lead also boys to realize that reading fictions can be enjoyable and interesting. Besides, parents should be involved and informed about the significance of reading, and with special regard to fathers, the role model of a reading man should be discussed. We should get young people to think that even "a real man" reads books, including fictions (Linnakylä & Malin, 2003).

### **“Reading Finland” (Luku-Suomi)**

Reading Finland is one of the prime projects of the National Board of Education for enhancing mother tongue teaching in 2001–2004. The project is targeted at the comprehensive school and upper secondary school students and aims to improve their literacy skills and knowledge of literature. The professional organizations of mother tongue and classroom teachers support the project. Actually, it involves a network

of schools and libraries, which organize training and exchange of information both on a national and regional basis. The Reading Finland network covers more than 100 municipalities, in terms of schools and libraries (for more details, see National Board of Education, 2001).

### **Book Packages for Schools**

In 2002, the National Board of Education has contributed to the addition to school libraries' collections by sending packages of 21 books to 100 schools. The packages include a few literary classics but especially new books appreciated by young people in general and favored by boys in particular.

### **Netlibris**

Studying literature in virtual groups has become very popular in Finland. Netlibris (<http://www.netlibris.net/english/intnet/englintro.htm>) is becoming a "brand name" for this pedagogic method of teaching literature. Netlibris schools collaborate in offering an enriched literature program to selected groups of students. The Netlibris Web site contains information about the reading program and a collaboratively published online magazine.

The core of the Netlibris method consists of literature discussion which takes place as an asynchronous threaded discussion among the group members. Each group has a tutor and 10–15 students from 3–4 different schools. While reading the books, the students keep journals to reflect their ideas and feelings and then share their impressions with other members in the Netlibris discussion forum. Meeting face-to-face is also essential. Most circles meet 4 to 8 times a year to discuss goals and book selections or to evaluate the work. They can also meet authors, learn more about literature, reading and the use of information and communication technology (ICT). It is important also to enhance the sense of togetherness and to celebrate.

Netlibris attracts students from across Finland. Although most are located in the south, there are participating schools from areas as far as 170 kilometers north of the Arctic Circle. Literacy growth and appreciation is at the heart of Netlibris, but ICT skills are also developed through participation in the project. Some literature circles even connect

schools across Finland using video conferencing for face-to-face contacts.

In seven years the concept has spread not only geographically, but also from the primary school level to the secondary and upper secondary school levels, and from the gifted students to all levels of readers. In the academic year 2000–2001, there were about 50 teachers and 900 students involved, with some 32,000 messages posted. Now there are more than 100 teachers and over 2,000 students, including also groups for struggling readers. Some discussions are open to all. “The Visiting Author” is a forum where popular Finnish writers discuss with their readers. “Book Talk” is a platform to recommend good books for other readers.

Netlibris is also an active network of teachers, librarians, and teacher educators. The pedagogic discussion forum is very actively involved in developing the methodology. The professional development of teachers is carried out through meetings, seminars, and special courses with the support of the participating municipalities and the National Board of Education.

Teachers work as tutors by participating in the discussion as other readers modeling the different ways of responding to the text. Tutors form colleague teams and work collaboratively in sharing the responsibilities of planning, tutoring, and evaluating. Each team has one mentor who has more experience or training for the work.

## **Book Hints**

Libraries have been giving book hints and arranging training events for teachers since the early 1990s. In the training events, they have introduced new books for children and youth and distributed lists of favorite books of these groups of readers. There have also been presentations by researchers as well as visiting authors. Today, book hints are offered to all age groups and from dozens of theme areas through the Internet (<http://tiekko-info.ppnet.fi/kirjakantaa/>).

## **Newspapers in Education**

The Finnish Newspapers Association has been active in promoting reading of, and raising interest toward newspapers by supporting a

number of projects under the theme “Newspapers in education.” These projects have sought to find, together with teachers and students, teaching methods and contents that would best allow for instructional use of newspapers. Journalists have been invited to schools and students have keenly participated in their practice at newspapers’ editorial offices. Students’ newspaper articles have also been published in local papers.

## **Conclusions**

The results from the first round of PISA studies show quite convincingly that educational quality and equity go side by side. Ensuring equal educational opportunities for all children and young people enables excellence as well. A particular feature shared by many of the high-achieving countries in PISA was that their lower-end groups of students in the literacy of reading, mathematics, and science showed still excellent performance. The results also show that students’ self-perception about their capabilities of learning is so crucial that it strongly influences their school achievements. If a student finds himself a loser (e.g., in mathematics), he often behaves accordingly, regardless of his true learning potential. Thus, how education is arranged becomes crucial. This was already the main argument when Finland implemented the comprehensive school in the 1970s.

An important prerequisite for effective and efficient learning in comprehensive school with heterogeneous teaching groups is the high-quality teachers and teacher education. Today all Finnish teachers are educated in universities and have university degrees, and all programs, except the pre-primary teachers’ program, lead to a master’s degree equivalent to any other academic master’s degrees.

An essential part of the Finnish way to foster equality is the close proximity of schools to students. Finland has, therefore, a great number of schools and also a dense network of lower and upper secondary schools with respect to its population and geographical aspects. Thus, educational quality assurance becomes especially important when the schools are often small and located in more remote areas. The Finnish education policy has sought to give special support to those schools that are located in economically disadvantaged regions where the environment may provide lesser support to educational efforts. Finns have never been really enthusiastic about making schools competitive

with each other, although parents may now freely choose the school for their child. Different schools have quite various competitive capacities.

Quality assurance in Finnish education is largely based on trust. It is strongly believed that academically educated teachers are the best experts to design their teaching in practice, within the fairly loose frame of national curricula. This sounds quite idealistic, but in view of the PISA results, at least, the teachers do deserve this trust. Educational legislation obligates education providers, which in the Finnish setting means mostly the municipalities, to evaluate the schools and the education provided. The role and significance of standards in Finnish education is determined largely in relation to teacher's work and pedagogical development. There are subject-specific national standards for good mastery. Their purpose is, above all, to help schools and teachers plan their own work. These standards are not binding because their realization would not be specifically controlled or evaluated. Rather, the standards are seen as aids and tools that schools and teachers may use at their discretion.

In discussions on the future of Finnish education, the interdependencies between education, individual, and society are gaining emphasis. Raising the quantity and quality of education is seen as a prerequisite for sustained economic growth and the nation's competitive development. It is therefore considered that all investments in young people's education for some occupation are well justified also in terms of national economy. This is a demanding challenge to the Finnish education system. At present, about 10–15% of the youth in Finland remain without any professional qualification. Most of them are boys, as are most of the low-performing students in PISA, too

Modern educational thinking regards learning and studying as a lifelong process. The capability and willingness to flexibly update one's competencies are increasingly relevant assets in the labor market. Basic education can no longer equip students with skills and knowledge that would stay valid throughout their lives. Instead, and more importantly, its task is to develop students' learning skills and promote their positive attitudes toward learning and studying. In this sense, all traditional education systems are faced with great challenges. All too many teenagers get bored and alienated, and just learn to hate learning. According to the PISA results, this is the case also in Finland. The development of a learning culture and climate in schools is a challenging task for all working in the educational sector.

We seek to ensure that each student will have an adequate basis for further studies and learning independently or in another educational establishment. In a technologically advanced society, this is ultimately an advantage. The main message from PISA is that equality and high quality go hand in hand. Understanding and realizing this connection will be increasingly important as regards the future development of successful education systems as well as competitive society.

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